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The following file is part of the John E. Kinnison mining collection

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JEK Blackwater file  
3-11-20

Asarco And Dowell To Try Leaching Experiment On Deposit Near El





AIR RECONNAISSANCE

JEK file  
Blockwater  
3-11-20

March 16, 1971

Leave Freeway Airport at 1:03 p.m. Weather calm, visibility good. Object is reconnaissance in the vicinity of Florence and the Santan Mountains. Pilot--Stanley Moose. Airplane--Cessna 182. John Kinnison recording, accompanied by Melville See.

At 1:15 p.m., approaching the Owl Head Buttes to the north. One churn~~er~~ drill hole is operating about a half mile southwesterly of the Owl Head Butte. On<sup>to</sup> the north of the Owl Head Buttes and the northwest--no sign of other drilling. Correction, one possible drill site on the east side of a little volcanic know, lying somewhat south of a larger knob called the Huerfano. Passed over the old North Star workings--red area with several surface open cuts along fissures. These cuts being about fifteen feet deep and eight feet wide.

On course, above England's grain-processing plant. Approaching the west side of Posten Buttes. No evident drilling to the immediate south of Posten Butte and east of the grain plant. No drilling evident immediately west of Posten Butte, north of the railroad. No drilling to the east. Correction, circle the east side of Posten Butte. ~~P~~Passing England's grainery. Numerous drill <sup>sites</sup> ~~sites~~ in the farmed area south of the main canal from England's <sup>farm</sup> ~~Two~~ rigs operative at this time. Regular pattern. The drill pattern appears to ~~terminate~~ about where the railroad swings north from the Hunt Highway; i.e., a line south of the swing north. One drill, which looks like a rotary, is north of the canal and northwest of the principal area of close-spaced Continental Company drilling. Other sites in this same area, but on an irregular spacing. One diamond drill just southwest of England's house and north of the canal. This is near the area of the drilled-out grid.

Set course toward Cholla Mountain. Paralleling the abandoned railroad grade to the southwest, lying about half a mile south of the railroad grade. Heavily farmed area, but no sign of drill sites. Approaching the railroad cuts at the south<sup>end</sup> of Cholla Mountain. Mel observed that Cholla Mountain at the south end appears to exhibit a northeasterly grain or color-streaked zone. Swing north toward Walker Butte, approximately above the Powerline Road. On the Powerline north of Walker Butte, turned east. Correction, turned northeast. Flying over the drill-site area where Mel examined the core. No evidence of more than one drill site. Paralleling the railroad grade southwest toward Cholla Mountain. Flying the east flank of Cholla Mountain, circle the south side of Cholla Mountain again. Relatively little color tones--mostly grey with a few brown streaks. Observing the area along the Powerline north from the Cholla Mountain area, west of Walker Butte--there are no appreciable color zones in the flat area of granite. Flew up to Mineral Butte and then southwest along the streaked-out, patchy, altered areas for Mel's observation. Flying southeast, approaching the south <sup>tip</sup> of Cholla Mountain. South<sup>end</sup> of Cholla Mountain, the farming areas all lie about three quarters of a mile south, and south of the Gila River bed. Following the abandoned railroad grade, northeast, overlooking ploughed fields, no sign of drilling, no evidence of drilling north of the abandoned railroad grade. A further comment on the Continental drilling pattern. It appears to be diagonally-controlled--approximately on sixty-degree angles. The spacing may be on the order of five-hundred feet. I count forty drill sites in the area of major drilling--scattered sites on the east and north. The abrupt termination on the west could suggest property-boundary limitation.

*any less grainy overhauled  
by rock very hard  
of - 600 ft.*

This concludes this reconnaissance. The plane is now returning to Freeway Airport at Tucson. Time 2:05 p.m. Land Freeway Airport 2:33 p.m.

NOTES

March 12, 1971

At Posten Butte, northwest of Florence, Continental still has drill rigs in the area on England's or McFarlane's farms-- possibly about the boundary of the two. Two diamond drills and one probable rotary drill. A third diamond drill with a mast folded down in process of moving, or in process of moving off the property.

Talked with the people at the Pinal County Historical Museum headquarters, and they know of no private agreements regarding the Posten Butte National Park, between the Historical Society and any mining company. They are aware that the land is withdrawn from mineral entry. They are apparently unaware that Continental has filed claims on the area and perhaps drilled a drill hole.

JEK/b1

Blackwater  
Aug  
12/1/70

Arizona  
1500 acres Cu land located NE  
60 core holes of Rodney's land  
1% Cu below 6' Blackwater  
Maricopa - Pinal

will send  
Data

J.E.K.

Note: DEC. 22 1970

I talked with this man again in late Oct or early Nov, by telephone, again requesting data on Blackwater. He said he would be in Tucson within a week, and would deliver the data.

Later, Sam and myself talked to Norwelder in the field drilling on Rodney's ground north of Mineral Butte, and they state on inquiry that they have never heard of Grebner.

At the date of this notation, we have still heard nothing.

BL

V J.E.K. Blackwater  
General

KAISER EXPLORATION AND MINING COMPANY

✓ KEM  
file Belcher  
- POSTER BUTTE  
GENERAL

PROPERTY SUBMITTALS  
Basic Information

Date Oct. 13 1970

Office Visit \_\_\_\_\_

By   *JS*  \_\_\_\_\_

Telephone Call   *✓*  \_\_\_\_\_

1. a. Name, address, and telephone of caller or visitor(s):

*Texas Pacific Oil & Gas*  
*Mr. Gebauer* (303) 287-5945 *Denver*

b. Group Spokesman:

c. Name of owner, address, telephone, and relationship of agent to owner:

2. a. State:

b. County:

c. Mountain Range:

d. Which Side of Mountain:

e. Nearest Town and Direction and Distance:

f. Mining District:

g. Other:

*I haven't yet  
received requested  
data - JSK  
J. E. K.  
OCT 13 1970*

3. Name of Property or Claims:

a. Is it an old Mining Property? Yes \_\_\_\_\_ No \_\_\_\_\_  
Former Names:

b. Names of one or two Nearby Mines (if present):

4. What Metals?

5. Vein or Disseminated Deposit?

Note: Refer all properties outside of Arizona, New Mexico, Southern California, West Texas, Utah, and Nevada to Dr. T. F. O'Neil, Oakland. Colorado is provisional.

(We also process all Northern Sonora and Northwest Chihuahua in Tucson, and screen Northern Mexico in general.)

Blackburn

1913

Wells School  
Birmingham  
1913

Arizona

1200 acres A. land

60 core holes

170 ft. below 6'

Muricops - P. ins

located NE  
of Rodney's land

Blackburn

will send  
Data soon

F I E L D T R I P

John Kinnison and Mel See  
October 27, 1970

At Poston Butte, observed five drill rigs southwest of Poston Butte in the vicinity of the old AS&R drill holes with better copper values. A geologist, Roman, for Continental Oil, identified the drill rigs as those of Continental's. Antagonistically, he attempted to run us off from the old Number 1 drill site at Poston Butte. New sludge there indicates that they may have drilled a hole at this site. This quarter section was previously withdrawn as a historical monument due to the presence of Poston Butte. Continental, however, apparently holds--or believe they hold--valid federal claims in this area. After some discussion, Roman cooled down, and we remained to inspect the rest of the prospect

A single drill hole, located on the far west projection of the Poston Butte mineral zone, is being sunk by AS&R at this time. Tony Dalavista, is supervising. Drill spacing on the Continental holes, judging by present drill-rig locations, and also by evidence of old hole locations, is down to 400' or 500'.

JEK/bl

F I E L D   T R I P

John Kinnison and Mel See  
October 28, 1970

Noranda has a drill rig, operated by the Mettler brothers, in the alluvium north of Mineral Butte. Drill appears to be somewhat on the strike of the breccia zones and mineralized fractures which strike about N 45° E from the center of Mineral Butte. The drill rig is perhaps 500' out from bedrock contact with alluvium. The operators are Noranda, under Ron Carvinin. A geologist operating as a landman for Noranda, met us, his name being Rene Moulinet.

JEK/b1

Change to Sub at 538

59 at 525

Sample at 575-80

Took sample from Sludge pond.  
(Combined 2 samples for assay)

"England No 1" water well.

"England No 2"

Subsides at 397, w/ Tr. line.  
at beginning.

Drilling at 435 Granite and  
por. fragments. P<sub>2</sub> w/ Tr. Co  
films.

2 samples.

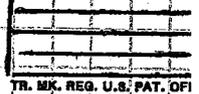
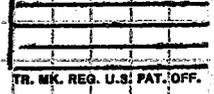
A- 430-35

B- Sludge pile

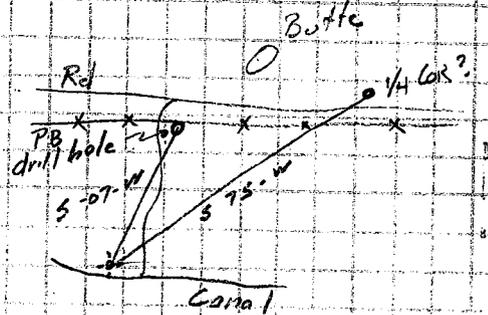
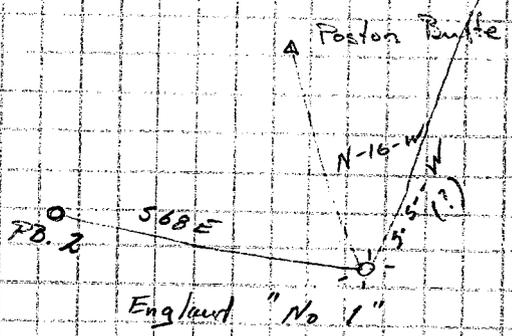
Water Cost

March 95 200 gal McRay  
12 000 Pinal

April 97 600 gal Pinal  
109,600

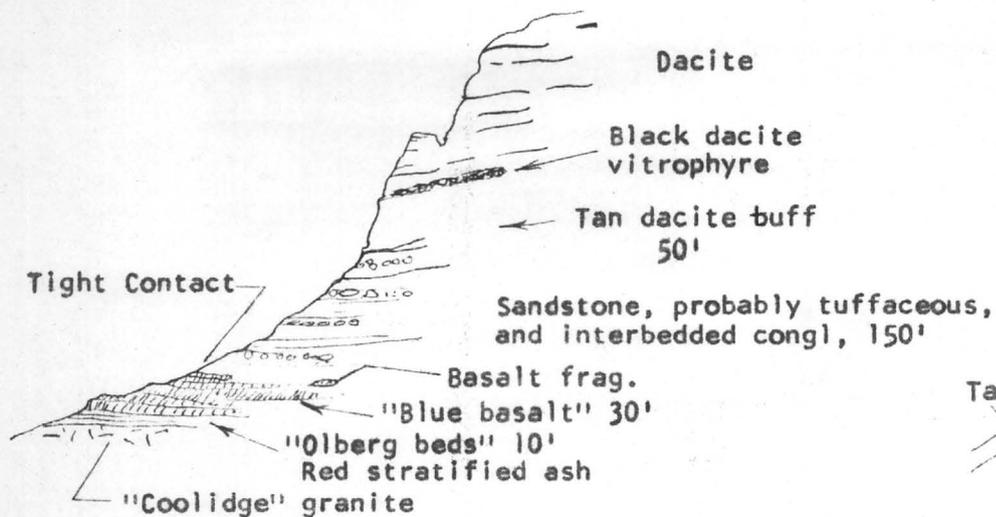


Assay & Sludge .02 Cu

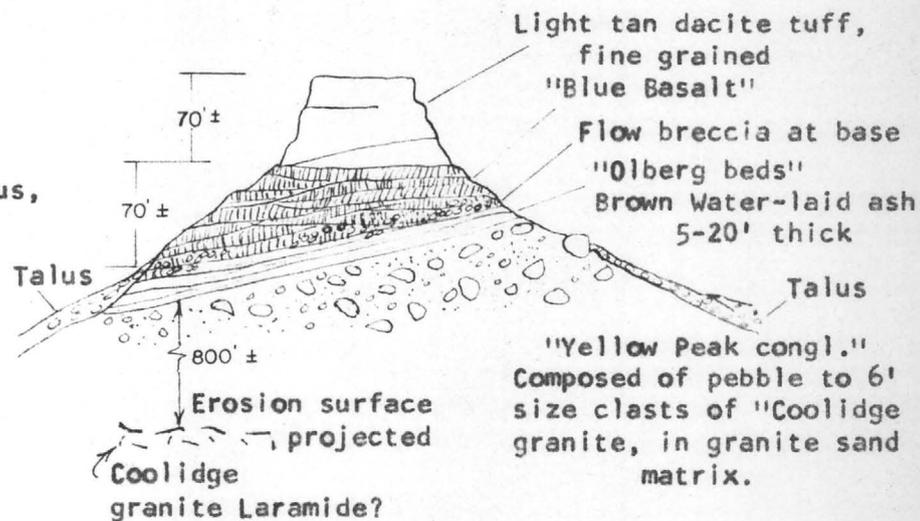


England No 2  
Assay 2A Tr  
2B .02

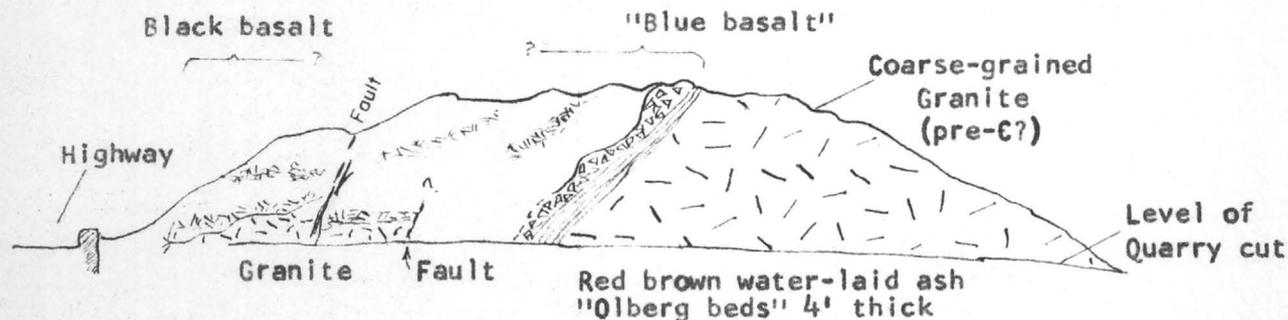
Note: The Above BRGS ARE NOT  
PHOTOING WITH GCS CLOSURE ON ABB Drilling Map  
PLOT No 2 W of Rd. USE Kimpadits Drilling Map for NS 1



THROUGH PART OF LUMPY BUTTE  
 1 MILE WEST OF ROCK PEAK  
 Looking North



THROUGH TOP OF YELLOW PEAK  
 SAN TAN MOUNTAINS  
 Looking North

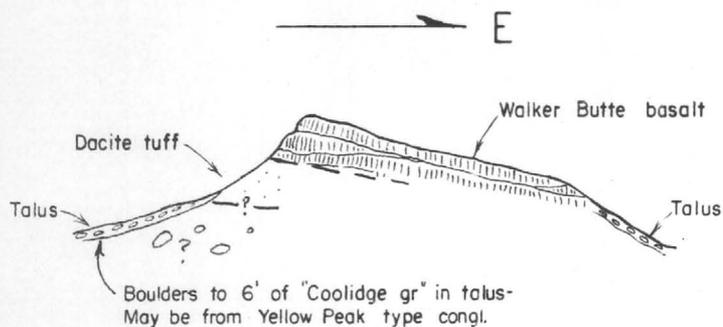


THROUGH OLBERG HILL, THE SMALL HILL AT OLBERG STATION,  
 SAN TAN MOUNTAINS  
 Looking North

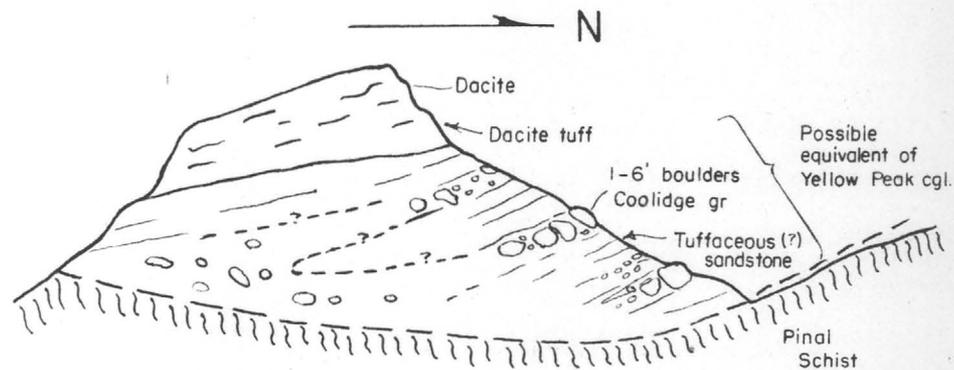
Note: Black basalt resembles the post dacite "Walker Butte" basalt. This outcrop may consist of Walker basalt overlying the "Blue Basalt". The contact is not apparent, however.

DIAGRAMMATIC CROSS SECTIONS  
 SAN TAN MOUNTAINS  
 Showing Some Stratigraphic Relationships of Tertiary Volcanics and Sediments

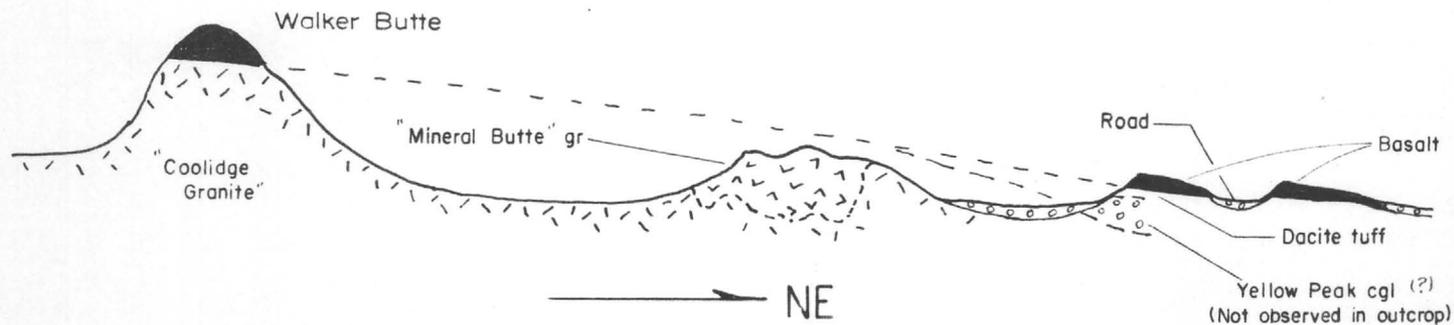
A. G. Blucher Reconnaissance  
 J. E. Kinnison February, 1960



1 1/2 miles NE of Walker Butte  
Looking North



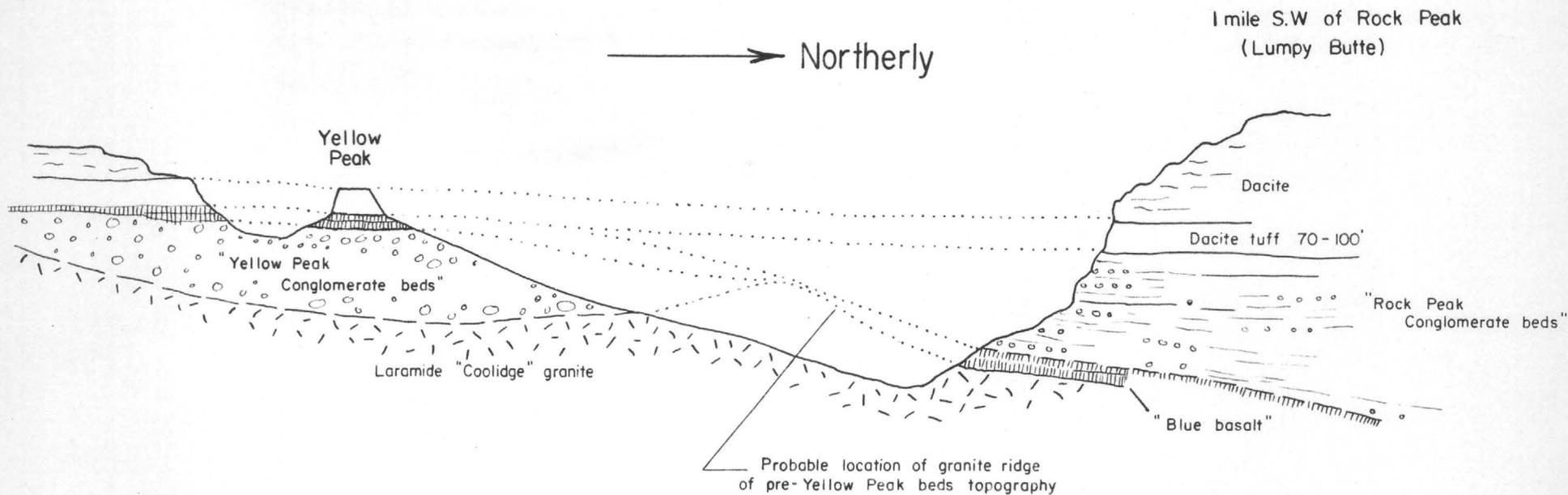
Dacite Capped Butte  
1/2 mile west of bomb craters along  
power line road, SE of Mineral Butte  
Looking West



Length of section about 2 miles  
Looking N.W.

## Diagrammatic Cross Sections EAST SIDE SAN TAN MOUNTAINS

→ Northerly

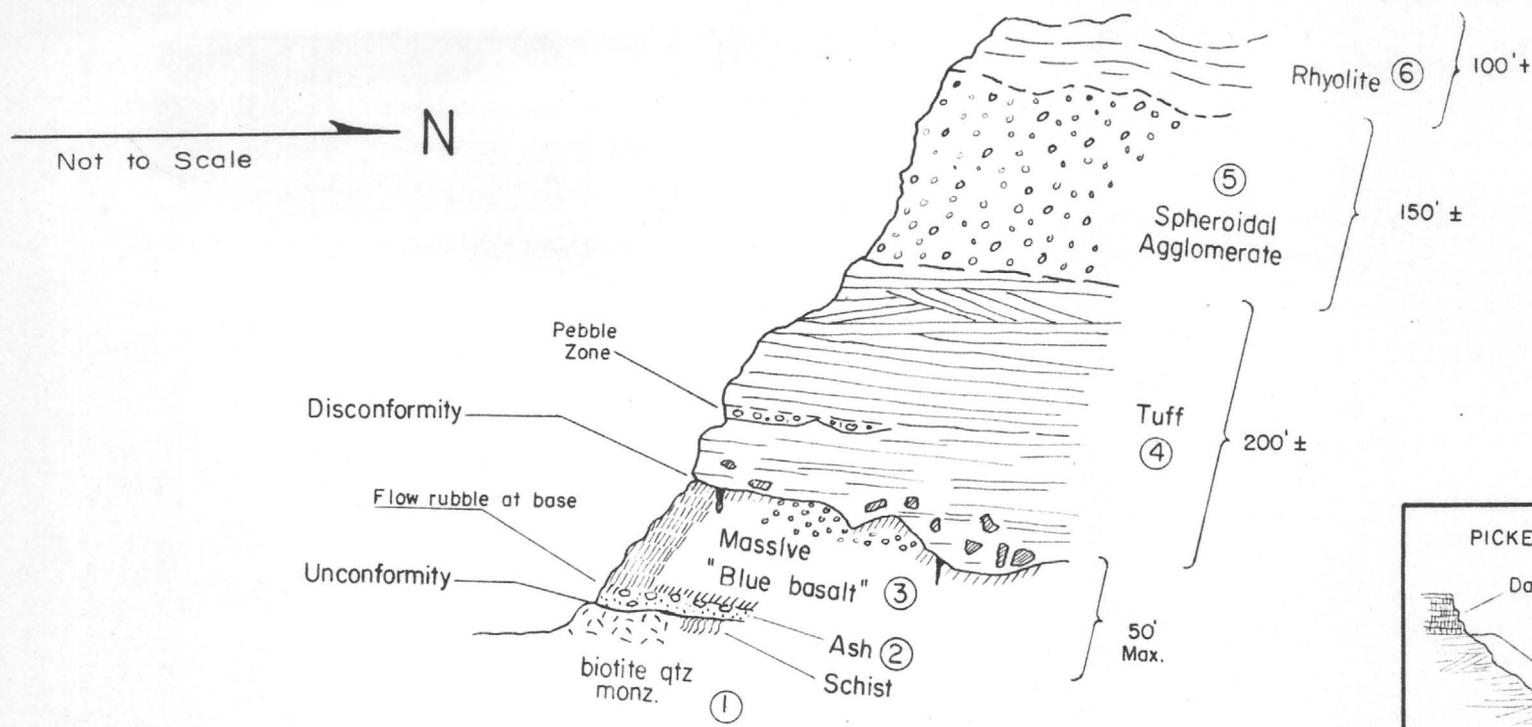


Looking Easterly  
Length of section about 1 1/2 miles  
Not to Scale

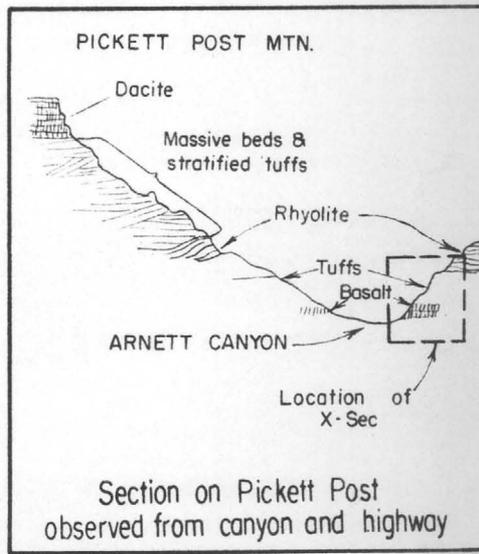
DIAGRAMMATIC CROSS SECTION  
Showing Interpretation of Tertiary Conglomerate  
Depositional Basins  
SAN TAN MOUNTAINS ARIZONA

A.G. Blucher  
J.E. Kinnison

Reconnaissance  
February, 1960



1. "Laramide" intrusive; qtz monz. Intrudes Pinal schist.
2. Brown to red-brown ash and tuff-agglomerate, probably water laid. Contains fragments of (1). Probably equivalent of "Olberg beds."
3. "Blue basalt" Massive blue-black basalt with altered red crystals. Vesicular toward top locally. Contains 1-5' zones of hematite-red flow breccia. Probably equivalent to Blue basalt in San Tan Mtns.
4. Tan water-laid tuff. Cross-bedded and generally thin-or-medium-bedded. Deposited on eroded surface of blue basalt. A pebble zone 20' above base contains basalt cobbles.
5. Dacite or rhyolite agglomerate with siliceous spheroidal nodules, few black obsidian pellets. This is probably the perlite zone
6. Brown flinty rhyolite with wavy flow bands.



DIAGRAMMATIC CROSS SECTION  
 ARNETT CANYON  
 North base of Pickett Post Mountain  
 LOOKING WEST

N 30 E  
Well 573N  
2100  
DD 22 set up  
not started  
3/1  
DD 22  
Cave box in Cab  
labeled 666

Mineral  
rights

N 17 W  
N 2 1/2 W  
BW 549 NE  
1/1/60



- Poston Butte -

From K.R. Quarterly Report, Dec 5, 1962

" Drilling .... terminated ..... with hole No 22 on Nov. 30. At the start, the showings on this prospect consisted of only four or five mineralized outcrops no more than a few feet in diameter. Drilling proved the existence beneath surrounding alluvial cover of a porphyry copper zone 4000 feet wide and 12,000 feet long. Although primary copper mineralization ran as high as .45% in places, it was for the most part below .2% and enrichment proved to be generally weak or absent. "

Core chips  
Bear Creek DDH's.

Blackwater

TR. MK. REG. U.S. PAT. OFF

ORIGINAL OFFR. 16 BY A. C. PARKER

No's as given by  
field checks and plotted on  
map.

No's 5, 6, 7 in order as  
first 3 holes drilled.

1 - No sulfide chips. Some definite  
chips of capping. Weak to mod  
alt schist. Llm w/ py box wks.

2 - wk - mod ser cap. w/ Red hm  
and some lhm? Schistog preserved.  
Sulf. - wk alt or fresh w/ py.

3 - Mod to st alt in cap. Yellow &  
Red fog & wd. hm. Some lhm in  
sch. Both gr & sch.  
No Sulfide.

4 - St and wk alt in capping, good  
Llm w/ st alt. Fog w/ wk alt. Sch  
wk - Rock type? st. pass grs  
Sulf. Chloritic Black porphyry  
w/ py. St. Si/Co sch? w/ py.  
Some py is mixed w/ its oxid.  
prod - py box wks in pseudo Llm -  
a little more red than usual.

LEFAX, PHILADELPHIA 7, PA. MADE IN U.S.A.

I checked these locations 10/20/62. Locations pits dug.  
 No other sign of recent activity.

No sign of validation of Rodney's  
 claims in allusion of location pits — John E. Kinnear

**NOTICE OF LOCATION**

NOTICE IS HEREBY GIVEN That the Arlene #1 Mining  
 Claim was located by James D. Mancuso A Citizen of the United States  
 on this April day of 1962, for mining purposes. Said claim  
 is 1500 feet in length along the vein or deposit of mineral-bearing rock in place and 300 feet in width on each side of the  
 center of said vein or deposit, from end to end of said claim. The general course of this claim is East-West  
 and is situated in the Blackwater Mining District  
Pinal County, Arizona, about 1/2 mile north of Mineral  
Butte

(Write on above lines the distance and direction the claim is from some permanent and natural object, such as a mountain,  
 peak, stream, etc.) 225 South and  
 This claim runs from the discovery monument, or stake on which the notice is posted, about 50  
 feet in a Westerly direction to the West center  
 end monument, or stake, and about 1450 feet in a Easterly direction from  
 the aforesaid monument, or stake, to the East center end monument  
 or stake, and is also marked by two corner monuments, or stakes, at each end of said claim, one on each side of and 300 feet  
 from the center end monuments, or stakes, making the claim in the form of a parallelogram.

**West End Location**

James D. Mancuso  
James D. Mancuso  
 Locator.

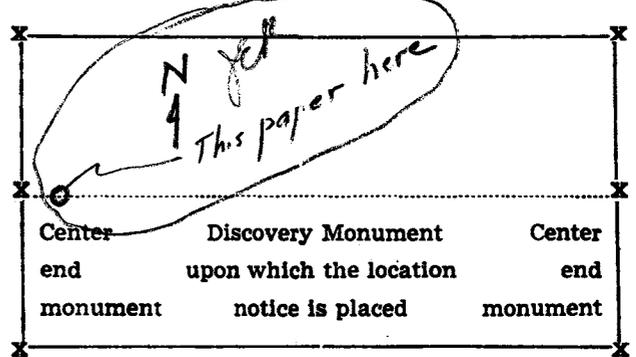
How to fill out a location notice:

**NOTICE OF LOCATION**

Notice is hereby given that the...COPPER KING...  
 Mining Claim was located by...JOHN DOE AND RICH-  
 ARD ROE...on this the...11th...day of...June... 1946,  
 for mining purposes. Said claim is 1500 feet in length  
 along this vein or deposit of mineral-bearing rock in  
 place, and 300 feet in width on each side of the center  
 of said vein or deposit from end to end of claim. The  
 general course of this claim is...NORTH AND SOUTH  
 and it is situated in the...WRIGHTON...mining district  
 ...SANTA CRUZ... County, Arizona, about ...TWO  
MILES...SOUTHEAST FROM ROCK PEAK... This  
 claim runs from the discovery monument or stake,  
 upon which the notice is posted...750...feet in a  
SOUTHERLY... direction to the ...SOUTHERLY...  
 center end monument, or stake, and ...750... feet in a ...  
NORTHERLY... direction from the aforesaid location  
 monument, or stake, to the ...NORTHERLY... center  
 end monument, or stake, and is also marked by two  
 corner monuments, or stakes, at each end of said  
 claim, one on each side of and 300 feet from the center  
 end monuments, or stakes, making claim in the form  
 of a parallelogram.

JOHN DOE,  
 RICHARD ROE,  
 Locators.

How to fill out a location notice:



Stone monuments must be three feet high. Stakes must be four feet above ground and substantial, no thickness is specified.

You can record as soon as you locate if you desire to, and do your location work at any time within 90 days from date of location.

*J. E. Harrison*

**AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona**

March 14, 1963

**Mr. C. P. Pollock, Exploration Manager  
American Smelting and Refining Company  
120 Broadway  
New York 5, New York**

**BLACKWATER PROSPECT  
PINAL COUNTY, ARIZONA**

**Dear Sir:**

The attached file memorandum by Mr. Saegart indicates that Bear Creek has finally acquired all of the property they need and have started drilling. We will attempt to keep track of where their holes are drilled. By studying the sequence and pattern of their drilling, we may learn something about the correctness or error in some of our own geological and geophysical interpretations.

You will recall that we had an I.P. anomaly extending north-eastward under alluvium, but we backed off because we could not make reasonable deals with Vance or Ellsworth. Possibly we were overly cautious in our thinking at that stage of the game.

Yours very truly,

**KENYON RICHARD**

**KR/lw  
Attachment  
cc: DJPope, w/att.**

AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona

March 14, 1963

FILE MEMORANDUM

BLACKWATER PROSPECT  
PINAL COUNTY, ARIZONA

I learned the following information in a conversation with a Bear Creek Mining Co. geophysicist last Saturday.

Bear Creek has now acquired options on all the claims and privately owned land of Messrs. Vance and Rodney (presumably also the Ellsworth land) in the subject district. Bear Creek has completed an induced polarization survey of the area and recently moved two drill rigs on to their holdings. They plan to drill on the Indian Reservation as well as their claims and private options to the north. The results of their I.P. survey were "very encouraging."<sup>11</sup>

W. E. SAEGART

VES/law  
cc: 6 extra

AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona

October 16, 1962

Mr. Arthur G. Blucher  
Compania American Smelting  
Casilla 6-D  
Santiago, Chile  
South America

Dear Art:

Thank you for your personal letter, to which I will reply in due course. I am not a good correspondent but will make a real try at this one.

My purpose now is concerning the old Poston Butte drill holes you supervised. I believe I have found the rejects of crushed core, but they are identified only with your sample numbers. It is desired to make core boards for these holes, and no one here can find the shift reports, or your sample notebook, or anything to de-code the samples. Could you let me know as soon as possible if you have a recollection as to where these are filed.

By the way, things there are really turning sour. Too bad! Sacaton also.

Best regards,

JOHN E. KINNISON

AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona

February 1, 1961

MEMORANDUM FOR K. E. RICHARD

POSTON BUTTE PROJECT  
Diamond Drilling  
Pinal County, Arizona

Diamond drill hole PB 1 at Poston Butte has been stopped at a depth of 410.4 feet. With the exception of a 22 foot section of diabase at about 300 feet and  $3\frac{1}{2}$  feet of andesite or diabase at about 400 feet it has been drilled in coarse-grained granite throughout. It encountered about 200 feet of leached capping. Beneath this was about 70 feet of secondarily enriched sulphides with an average grade of about 0.35% Cu. Beneath this zone mineralization consisted of disseminated and veinlet pyrite and occasional very weak chalcopryrite with an average grade of about 0.07% Cu. Below 350 feet partly oxidized ground was again encountered and at about 360 feet a lower chalcopryite-pyrite zone was penetrated. This enriched zone was about 30 feet thick and resembled the upper zone in having a tenor of about 0.20% Cu with a few higher grade samples bringing the average grade to about 0.30% Cu. The hole was bottomed in altered diabase or andesite containing less than 0.02% Cu.

Although there were occasional short intercepts of intense alteration, most of the rock above 390 feet shows only slight to moderate alteration; i.e., most orthoclase feldspars are fresh, plagioclase feldspars are partly sericitized, biotite is moderately altered or fresh. Below 390 feet the granitic textures are for the most part obscured by silicification and chloritization and there appears to be a sharp increase in pyrite.

At 50 feet, 250 feet, and 400 feet there were encountered thick, gougy fault zones. These appear to be pre-mineral structures with post-mineral movement and in most cases they mark changes in alteration and mineralization. The higher grade segments of the hole coincide with some of these faults.

The calculated per cent of total sulphide based on Fe, Cu, and S assays of two composite samples was 6.5% and 3.9%. A third composite of all sulphide samples was assayed for gold, silver, and molybdenum and showed Au Tr, Ag 0.1 oz, and 0.002% Mo. The water level in the hole stood at about 150'.

A total of 12 drilling shifts was required for this hole with an average footage drilled per shift of about 30 feet. Wire line drilling with a swivel type core barrel and a conventional NX diamond was used for much of this footage. In poorly coring ground a face discharge bit was substituted for the conventional bit. Core recovery averaged about 70%. The total direct cost of this hole was about \$2735.

A. G. BLUCHER

AGB/ds

cc: CPPollock  
D.J.Pope  
T.A.Snedden  
R.L.Lacy  
W.E.Saegart

T5 S R9 E

6 ①	5 H ①	4 H ①	3	2	1
7	8 H ②	9 H ①	10 H ①	11	12 H ①

Sec 4

① NE, SE, SW

Rept 341' casing perf 100-310

Clemmans Cattle Co

log sand, clay and gravel to 320

320-340 congl

- 341' hard red sandstone

Sec 5

Clemmans Cattle Co

① SE $\frac{1}{4}$ , SE $\frac{1}{4}$ , SW $\frac{1}{4}$  - slight disprop. over SE or SW of SW. loc.

355' Rept.

log Allow to 355'

Sec 6

① NE, NE, NE - first NE? maybe SW

J.H. England

Roscoe Moschler

Report 504 TD, but with quarry ~~at~~ 504?

log 0-197 various alluv.

197-504? clay

streaks of gravel at 390' and 493'.

Sec 8

① SE, NE, NE

Klemm's Cattle Co

Drilled 1951 Rept 621'

log allow to 585'

decomposed granite 585-621'

② Boswell Co SE, SW, SE

R. Moss driller

500' TD all in allow.

Sec 9

① Attaway SE, NE, SE

406' in TQal

Sec 10

E.W. McFarland R. Moss driller

SE, SW, NE

550' TD all in TQal

Some confusion about this being in

Sec 11 SE, SE, NW

Sec 12

① M.S. Indian Serv.

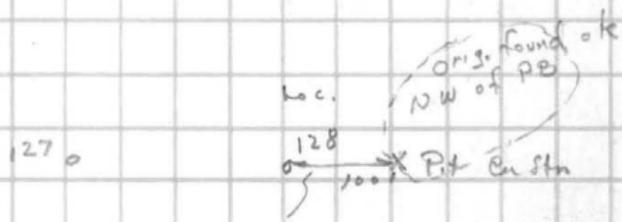
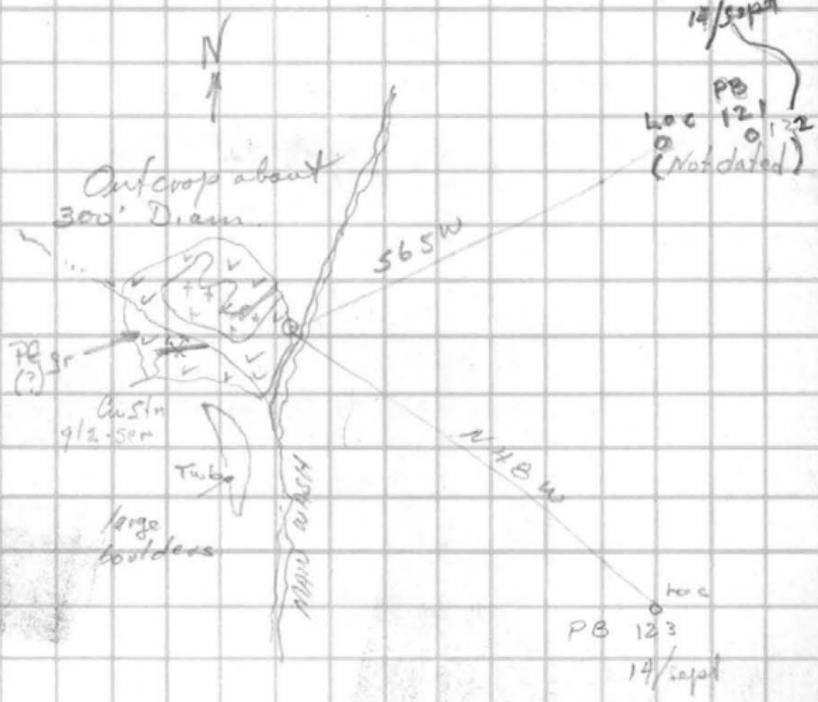
SW, NW, NW

316' in TQal

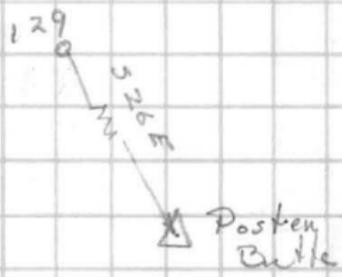
TD ?

NN of  
Posten Butte.  
By Florence

TR. MK. REG. U.S. PAT. OFF.



Sept 9  
bottom date  
line not filled  
in



AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona

December 23, 1960

Mr. C. P. Pollock, Exploration Manager  
American Smelting and Refining Company  
120 Broadway  
New York 5, New York

POSTON BUTTE  
Pinal County, Arizona

Dear Sir:

Our interest in this area as an exploration target is based on two sets of evidence:

(1) Porphyry copper type of alteration and mineralization of moderate strength is exposed by a few cuts and pits in a small area on the west slope of Poston Butte. This showing is surrounded by post-mineral cover rocks, and the only observed limit lies well to the north; in other words, the size of the mineralized zone is not limited by direct observation. It lies directly on the trend of a pronounced zone of regional structure which localizes the Ray and other mining districts. Beyond these geological facts, it can be stated only that this showing could reflect a buried ore zone, but the possible grade and size are not subject to prediction.

(2) Mr. Saegart's report of December 20 on the results of the geophysical surveys, which I presume is by now in your hands, indicates an area of 4000 by 4500' which should contain, according to the moderate IP response, about 5% disseminated sulphides.

We have an area here, then, which is smaller than first thought. (As explained by Mr. Saegart, most of the larger area of IP highs is due to some polarizing effect of material related to the Gila river channel, rather than due to sulphides.) And the indicated sulphide content is somewhat low. Notwithstanding, the area could contain an orebody, and we believe it should be tested in a preliminary way by seven drill holes.

Based on an analysis of his survey results, Mr. Saegart recommends the positions of three holes. For calibration purposes we would first drill a hole close to the mineralized exposures. The remaining three holes would depend on the results of these first four. The depths to bedrock should be variable but less than 300'. It is estimated that expenses, including roads, site preparation, sample handling and logging, would be as follows:

1600' of alluvium drilling,	\$ 3.50/ft	\$ 5,600.00
1500' of bedrock coring,	\$ 10.00/ft	<u>15,000.00</u>
	Total	\$ 20,600.00

If you approve, would you please ask for authorization for this amount.

Yours very truly,

Original Signed By  
K. Richard

KENYON RICHARD

KR/ds  
cc: DJPope

File Copy routed to:

TASnedden      ACHall  
JHCourtright      KvdSteinen

1. Can see the degree to which veinlets and schistosity are cross-cut.
2. Can see nature of mineral occurrence - diss. - vms, attitudes of veins, thickness of vms - more clearly
3. Better analyze recovery, loss (and dilution not explicit) and probably get better recovery.
4. Cheap cost of drilling through all.
5. Determine thickness of hard calcite
6. Determine structure - if there is any
7. Locate Bx areas, if any

{ i. Small hole diam.

C.D.H.

{ i. Larger hole diam.

{ all advant. of D.D.H. above, are lacking and therefore disadvantages

of C.D.H.

+ lots of s.l.c. schist, at ~~incl~~ steep L, off vertical, may tend to deflect hole, then must be straightened

Drilling speed and cost in both about same.

Since zones are, in general 1 to 4', are an echelon in plan suggesting they also may be so in vertical, a small hole will have ~~great~~ <sup>good</sup> chance to cut representative rock. C.D.H. advantage, although present, is not great in this respect. D.D. offer so many other advantages that it is preferable

Inclined hole out because of <sup>probable high</sup> cost of penetrating all.

90/26  
11/20/55

Poston Butte —

Warrants: 1. Property investigation —

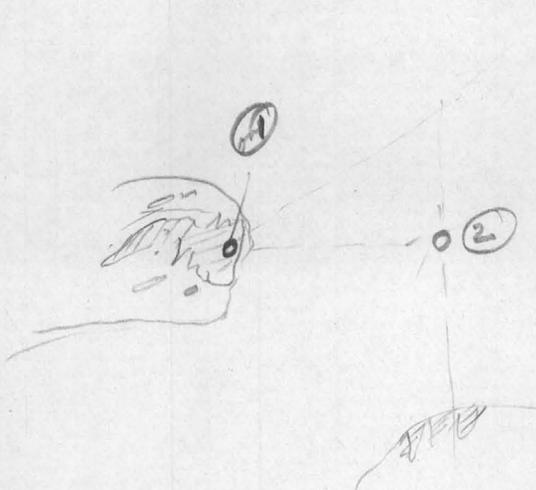
2. Magnetic survey —

From this a tentative property acquisition program could be outlined.

3. Whether or not any property is then acquired, the I.P. should be run wherever it can be.

4. If no anomalies are found, and property is not open at essentially no expense - drop it. If <sup>significant</sup> anomalies occur, property should be acquired up to \$100,000 cost initially.

— Mineral Butte —



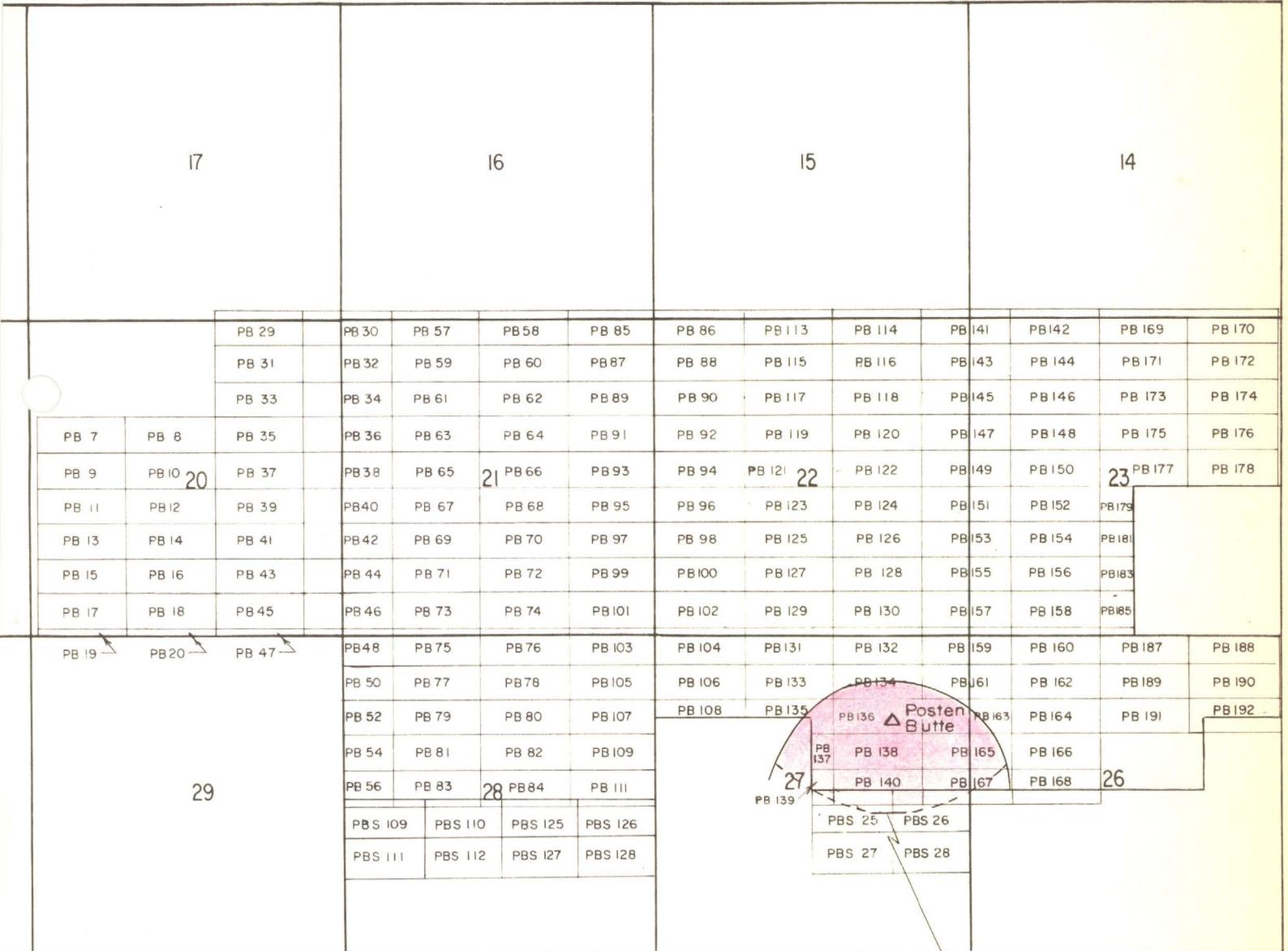
Three holes minimum  
D. D. H.

Im no show - drops.

Mineral Butte itself -- No drilling,

but acquire

R 9 E



Southern Limit of Geophysical Coverage

 Zone of Intermediate Intensity Induced Polarization Response (not delimited to the south)

TO ACCOMPANY Letter  
 DATED 9-23-60  
 BY K Richard

CLAIM MAP  
 POSTEN BUTTE PROSPECT  
 SCALE 1" = 1/2 MILE

AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona

October 20, 1960

FILE MEMORANDUM

POSTON BUTTE  
Water Wells

The following notes were abstracted from water well records of the U.S.G.S. groundwater branch in Tucson. In addition to these wells, a map prepared by the groundwater branch shows a well 415' in gravel in the SW 1/4 of Sec. 25, 4S, 9E, in the Gila River channel. This was a wildcat oil well designated as "Schoenheit-Moorehouse No. 1". The source of this information is not known, and is not recorded in U.S.G.S. files.

All the following sections are in T4S, R9E.

Sec. 25

- 1) El 1485' 300' TD in Tqal, good log  
SW, NW POW camp
- 2) SE, NW, 1488' El 312' TD in Tqal POW camp
- 3) NE, SE, SW R. H. Moorehouse  
250' TD Tqal drillers log

Sec. 26

- 1) SW, NE Tom Rankin  
200' TD Tqal drillers log. Refers to "gravel and mountain rock" at 2 depths.
- 2) NW, SW, SW U.S. Indian Service  
212' TD Drillers log - 0 - 198 various gravels and silt  
(Roscoe Moss) 198 - 212 "Clay and decomposed gravel-hill"
- 3) SW, NW, SW Tom Rankin Sr.  
258' TD Tqal drillers log

Sec. 27

- 1) NW, SW, SE Cecil England  
290' TD Drillers log 0 - 270 Gravels  
(Roscoe Moss) 270 - 290 "Hill formation"

Sec. 28

- 1) NW, SW, SW U.S. Indian Service  
254' TD Drillers log (Roscoe Moss) Tqal to bottom.

Sec. 28 - continued

- 2) NW, SE, SW Ernest W. McFarland  
272' TD drillers log (Roscoe Moss)  
0 - 272 gravels and clay  
272 "Possibility of Hill formation"
- 3) SE, NE, SE U.S. Indian Service  
259' TD in TQal drillers log (Roscoe Moss)

Sec. 29

- 1) NW, SW, SW U.S. Indian Service  
290' TD Drillers log all TQal (Roscoe Moss)

Sec. 31

- 1) NE, NW, NW Chandler & Chandler  
320' TD Drillers log (Roscoe Moss)  
0 - 345 gravels  
345 - 368 "Malapi"  
368 - 382 "Granite"

Sec. 32

- 1) NE, NE, NW J.B. & Beatrice Espinoza  
346' TD in TQal, Drillers log
- 2) NE, SE, NW Virgil & Eugene Chandler  
193' TD, Drillers log in TQal
- 3) NE, NE, SE Ernest W. McFarland  
250' TD TQal Drillers log (Roscoe Moss)
- 4) NE, SE, SE V. & E. Chandler  
203' TD TQal Drillers log.

Sec. 34

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1) SE, NE, NE Cecil England<br/>270' TD Drillers log (Roscoe Moss)<br/>0 - 264 Various gravels<br/>264 - 270 "Hill formation"</li> </ol> | <ol style="list-style-type: none"> <li>2) SE, SE, NE -- location not certain,<br/>as pencil revisions on USGS files<br/>are not clear. C.H. Robertson<br/>184' TD Drillers log (Pisler)<br/>0 - 180 Various gravels<br/>180 - 184 "Solid Rock"</li> </ol> |
|---|---|

Sec. 35 or 36

Willie K. Pearson & Kellner C. Ellington  
Tenant Wood K. Claypool  
NE, NE, NE, Sec?  
270 or 290' in TQal Drillers log

Sec. 36

SE, SW  
1490' El. Arizona Edison Company  
375' TD in TQal Drillers log.

JOHN E. KINNISON

cc: KRichard, WESAegart, AGBlucher

NOTICE OF MINING LOCATION  
Lode Claim

TO ALL WHOM IT MAY CONCERN:

This Mining Claim, the name of which is the \_\_\_\_\_ Mining Claim, situate on lands belonging to the United States of America, and in which there are valuable mineral deposits, was entered upon and located for the purpose of exploration and purchase by \_\_\_\_\_, a citizen of the United States, the undersigned, on the \_\_\_\_\_ day of \_\_\_\_\_, 1960.

The length of this claim is 1500 feet, and I claim 1450 feet, in an easterly direction and 50 feet in a westerly direction from the center of the discovery shaft, at which this notice is posted, lengthwise of the claim, together with 300 feet in width of the surface grounds, on each side of the center of said claim. The general course of the lode deposit and premises is from the east to the west.

The claim is situated and located in the Blackwater Mining District, in Pinal County, in the State of Arizona, about 4 miles in a northwesterly direction from Florence.

The surface boundaries of the claim are marked upon the ground as follows:

Beginning at a post at a point in a westerly direction 50 feet from the discovery shaft (at which this notice is posted), being in the center of the west end line of said claim; thence northerly 300 feet to a post, being the northwest corner of said claim; thence easterly 1500 feet to a post, being at the northeast corner of said claim; thence southerly 300 feet to a post at the center of the east end of said claim; thence southerly 300 feet to a post being at the southeast corner of said claim; thence westerly 1500 feet to a post at the southwest corner of said claim; thence northerly 300 feet to the place of beginning.

Dated and posted on the grounds this \_\_\_\_\_ day of \_\_\_\_\_, 1960.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOTICE OF MINING LOCATION  
Lode Claim

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Dated and posted on the grounds this \_\_\_\_\_ day of \_\_\_\_\_, 1960.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Excerpts from the Mining Laws of the State of Arizona

Title XXXIV of the Revised Statutes of 1923, Chap. 1, and Amendments thereto.

Section 4038. Such location shall be made by erecting at or contiguous to the point of discovery a conspicuous monument of stone not less than three feet in height, or an upright post, securely fixed, projecting at least four feet, above the ground, in which monument of stones or on which post there shall be posted a location notice which shall be signed by the name or names of the locator or locators.

Sec. 4030. From the time of the location of a mining claim, as above specified, the locator shall be allowed ninety days within which to do or cause to be done the following things:

\* \* \* \* \*

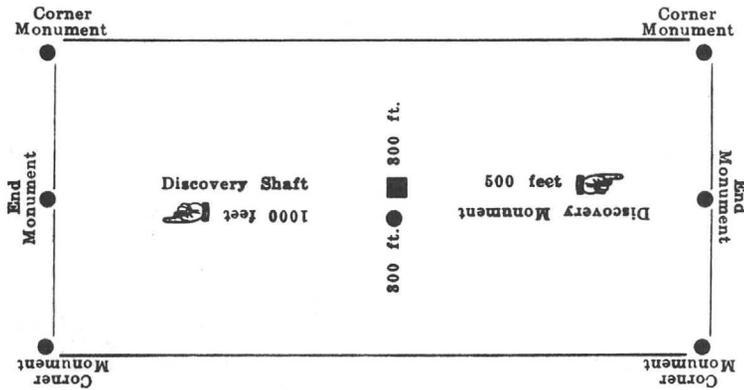
2. To sink a discovery shaft in the claim to a depth of at least eight feet from the lowest part of the rim of the shaft at the surface, and deeper, if necessary, until there is disclosed in said shaft mineral in place.

\* \* \* \* \*

Sec. 4032. Such surface boundaries shall be marked by six substantial posts projecting at least four feet above the surface of the ground, or by substantial stone monuments at least three feet high, to-wit: One at each corner of said claim and one at the center of each end-line thereof.

Provided, however, that when the point of a monument of a mining claim is at the same point, and coincides with a monument of the survey of the United States, the monument of such government survey shall be and is hereby declared to be a mining claim monument of claims heretofore or hereafter located.

Sec. 4034. Location notices may be amended at any time and the monuments changed to correspond with the amended location; Provided, That no change shall be made that will interfere with the rights of others.



This diagram is to give locator a general idea of plan of location under the new law. The Discovery Shaft can be in the center of claim or any distance from either end desired. In the diagram it is placed 500 feet from one end, and 1000 feet from the other. Commence description of claim at a center end monument, giving its distance and direction from center of Discovery Shaft; thence bound the claim in either direction. In description be careful to state locality of claim with reference to some natural object, or permanent monument, as will identify the claim.



Excerpts from the Mining Laws of the State of Arizona

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\* \* \* \* \*

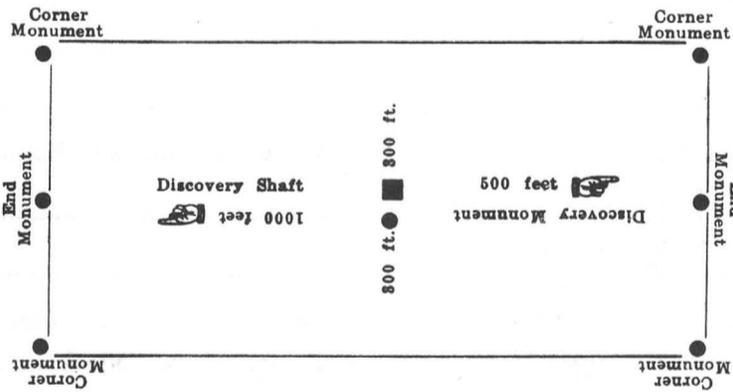
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\* \* \* \* \*

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Mineral Butte  
Pinal County, Arizona  
Duval Drilling

February 3, 1988

Mr. J. D. Lowell  
RR 3, Box 197  
Nogales, Arizona 85621

Dear Dave:

As you requested, I looked for information re the subject copper deposit on the Gila Indian reservation, but was unable to get more than a little sketchy information. However, the average grade reported by Bob Metz appears too low to be of commercial significance.

I contacted the following:

1. Robert Metz, formerly of Duval, who provided the most information.
2. Dean Lynch, formerly Duval, who couldn't recall anything.
3. The Arizona Department of Mineral Resources, who had no modern data.
4. The Arizona Bureau of Mineral Technology, who turned me on to a U.S.G.S. Bull., with an outline of the deposit sketched on a geochemical map. ("U.S.G.S. Bull. 1278-D, 1976, by Maurice A. Chaffee: Geochemical exploration techniques based on distribution of selected elements in rocks, soils, and plants, Mineral Butte Copper deposit, Pinal County, Arizona")
5. My own files furnish the geologic base map included herein.

According to Metz, Pennzoil removed all the old Duval files to Houston, except those related to gold/silver. The U.S.G.S. had a man who monitored the drilling, and were furnished all the information that Duval had. These data are presumably filed with the U.S.G.S. in Denver, and no doubt the B.I.A. or the Tribal Council would have copies, although you have told me the Indians don't seem to have knowledge of this information.

According to Metz the deposit occurs mostly on the flats SW of Mineral Butte, but extends partly up the flank of the butte. It has a long axis trending southwest, about 3/4 miles in length, and is very irregular in outline although the overall shape is elliptical. As shown by the attached copy of Fig. 4 from Bull. 1278-D, this corresponds well to Metz's description, except that the long axis is more like 1/2 than 3/4 miles in length.

Mr. J. D. Lowell  
Page Two

Metz states the deposit consists entirely of oxides, beginning in places at the surface. It is tabular, and extends to various depths, some reaching to 100-150 feet. Small grains of pyrite and rarely chalcopyrite were seen in the cuttings. The drill pattern should be readily seen from the air, as the drill sites were not reclaimed.

In regard to reserves, Metz recalls (very vaguely) about 20 million tons in the range of 0.25%-.35% Cu. Using the approximate dimensions shown by Fig. 4, and assuming an average thickness of 100 feet, 20 mill. tons is the right order of magnitude. Dean Lynch, although unable to recall anything specific, did say that if the grade had been in the .4% Cu range, Duval would have done more with the deposit.

The origin is a bit puzzling. Most of the deposit is in pre-Cambrian granite that is essentially unaltered and fresh, and apparently no sulfides of significance were found in depth. It might be an exotic copper occurrence.

Bull. 1278-D describes anomalies of PH, Cu, Co, F, Au, Pb, Mo, Ag, and Zn. The copper anomaly most closely reflects the position of the deposit as known by drilling.

I hope this information is sufficient for the present time.

Yours very truly,

  
John E. Kinnison

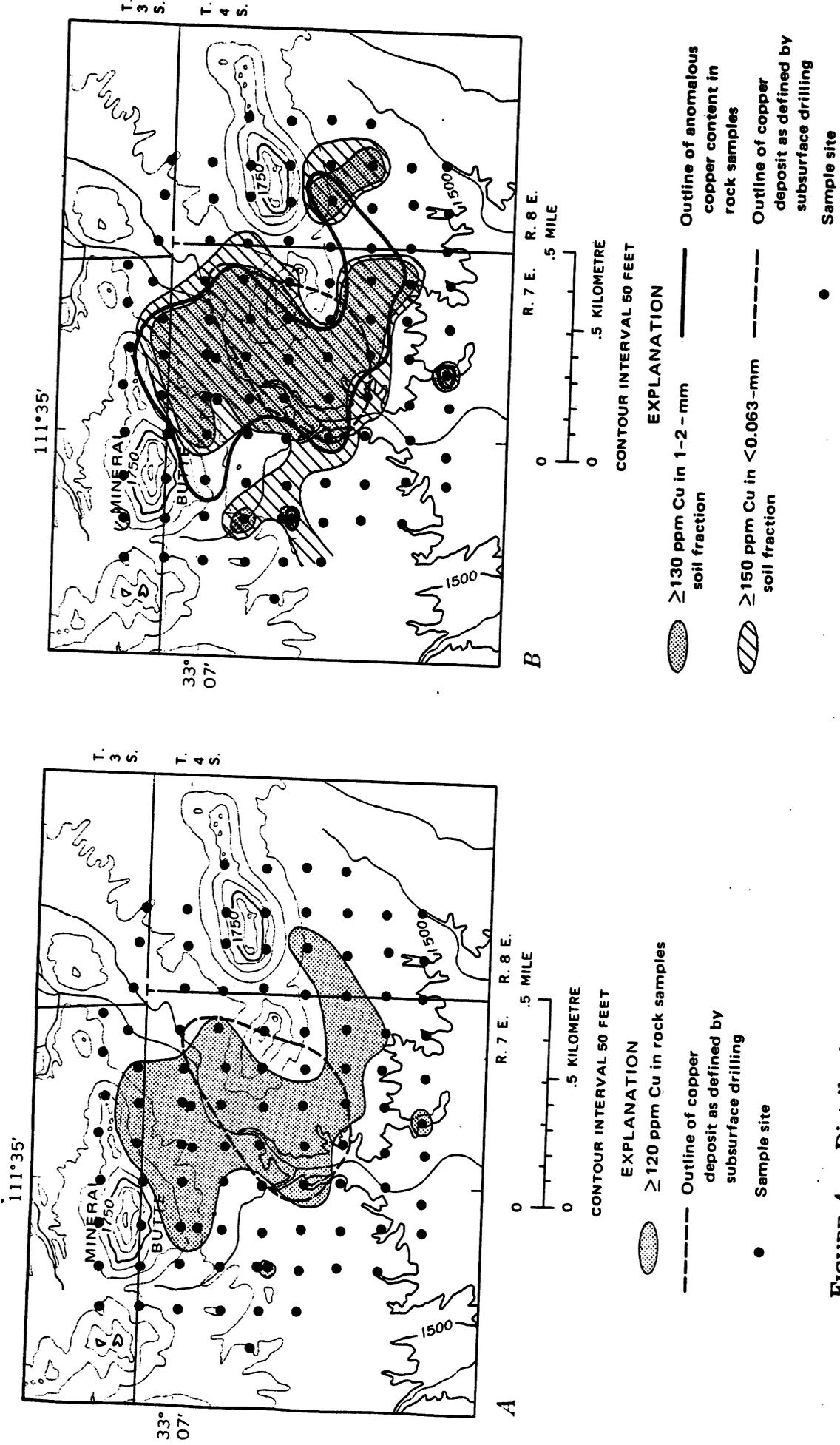


FIGURE 4. — Distributions of copper in (A) rock samples and in (B) soil fractions, Mineral Butte area.