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James Doyle Sell Mining Collection

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AMERICAN SMELTING AND REFINING COMPANY  
Tucson

Arizona

*J.H.C.*  
BTD J.H.C.

August 27, 1965

~~FEK~~ ~~FDS~~ AUG 27 1965

READ AND RETURN .....

PREPARE ANSWERS ..... HANDLE .....

FILE ..... INITIALS .....

TO: R. J. LACY

FROM: W. G. FARLEY

I. P. - Resistivity Depth Probe  
North Picketpost Mountains  
West of Superior  
Pinal County, Arizona

The attached map shows the location of a I. P. - resistivity depth probe on the Bonanza Claims staked by Carouso, Wilson, Kame and Sparks. (Memo by Devere, June 28, 1965) In personal communications from Spraks to J. Kinnison, Mr. Sparks claims to have encountered sulphides in a 220 foot diamond drill hole collared in the Blue Basalt. J. Sell, in his memo dated July 27, 1965, states that he examined the drill hole and found no sulphides in the sludge pits.

A East - West I. P. - resistivity traverse had been planned across the drill hole to test for sulphides but the location of power lines prevented this. A depth probe was therefore run over the drill hole with expansion North - South to minimize the a. c. noise from the power lines. I. P. readings were taken with four different "a" spacings with surprisingly little noise problems. Below are the readings obtained.

<u>Electrode Separation</u> <u>("a")</u>	<u>I. P./ov</u> <u>(m.v.l.v.)</u>	<u>Resistivity</u> <u>(ohm.feet)</u>
100 feet	1.8	194
200 feet	2.1	202
400 feet	2.0	193
800 feet	2.0	280

The I. P. readings are to be compared with the original ASARCO standards with a response of about 2-1/2 m.v.lv. above background for each 1% of near surface sulphides. Normal background is about 2-1/2 m.v.lv in shallow bedrock areas and about 5 m.v.lv. in deep bedrock area. There are no indications of sulphides to a depth of investigation of about 500 or 600 feet. Resistivity indicates a uniform rock type to a depth of several hundred feet. The geophysics indicates that the 200 foot diamond drill hole did not penetrate the volcanic-conglomerate sequence.

*Wayne G. Farley*  
WAYNE G. FARLEY

WGF/pjc

cc: CPPollock

JHCourtright✓

WESaegart



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August 11, 1965

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FILE INITIALS

J. H. C.

AUG 11 1965

W.E.S.

AUG 23 1965

TO: J. H. COURTRIGHT

FROM: J. D. SELL

NORTH PICKETPOST MOUNTAIN  
GEOCHEMICAL SAMPLES  
SUPERIOR, ARIZONA

Seven water samples from springs and wells, and two drill sludge pit samples were collected in the project area. The samples were run by Hawley & Hawley of Tucson. Results are given below:

H&H Code	Sludge	PPM Cu	PPM Mo
DDH	Bonanza diamond drill hole	20	5
CDH	Nod churn drill hole	125	5
	Water	PPB Cu	PPB Mo
S-10	Happy Camp Spring	5	<10
S-18	Thompson Arboretum well	5	<10
S-12	Herron's windmill	30	<10
S-9	Section 11 windmill	10	<10
S-17	Rice Water windmill	40	<10
S-14	Benson Spring	5	<10
S-11	Bear Tank seep	5	20

Notes:

Happy Camp Spring, SW $\frac{1}{4}$  SW $\frac{1}{4}$ , Sec. 28, T1S, R12E. Sample from pond near galvanized pipe outlet (200 feet of pipe).

Thompson Arboretum well, NE $\frac{1}{4}$ , NE $\frac{1}{4}$ , Sec. 7, T2S, R12E. Water from top in greenhouse which is one-half mile from well in Arnett Creek.

Herron's windmill, SE $\frac{1}{4}$ , SW $\frac{1}{4}$ , Sec. 1, T2S, R11E. Water from hose at windmill. Depth of well is 50 feet.

Section 11 windmill, NE $\frac{1}{4}$ , SE $\frac{1}{4}$ , Sec. 11, T2S, R11E. Water from standpipe at the well.

Rice water windmill, SE $\frac{1}{4}$ , SE $\frac{1}{4}$ , Sec. 31, T1S, R12E. Water from end of 60 foot galvanized pipe.

Benson Spring, NE $\frac{1}{4}$ , SE $\frac{1}{4}$ , Sec. 35, T1S, R11E. Algae covered but replenished water area.

Bear Tank seep, SE $\frac{1}{4}$ , SW $\frac{1}{4}$ , Sec. 25, T1S, R11E. Seep area with additional recent rain water.

Material from the two drill holes was panned and concentrated. The Bonanza diamond drill hole contained only hematite-magnetite with

Mr. Courtright

-2-

August 11, 1965

a few epidote and sphene pieces. The material represents that found in volcanics, such as the Blue basalt. The Nod churn drill hole contained typical conglomerate material: well rounded pieces of magnetite-hematite, sphene, epidote, quartz (clean), iron-stained quartz, feldspars, and other detrital material. The material reflects the Gila Conglomerate type.

*Kw*  
J. D. SELL

JDS/kw

AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona

July 27, 1965

J. H. C.

JUL 27 1965

TO: J. H. COURTRIGHT

FROM: J. D. SELL

NORTH PICKETPOST MOUNTAIN  
WEST OF SUPERIOR  
PINAL COUNTY, ARIZONA

W.E.S.

JUL 30 1965

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PREPARE ANSWERS .....HANDLE .....  
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Summary and Recommendations:

The following is a progress report on mapping north of Picketpost Mountain, Superior, Arizona. The purpose of the mapping is to determine areas of shallow post-mineral cover along the trend of the Globe-Miami-Superior mineral belt.

As shown on the attached geologic map, numerous areas of Blue basalt are found which could be shallow cover over the pre-mineral rocks (assuming no deep Whitetail filled basins). Also, two drill holes were found in the area.

Based on prior ASARCO interest, the large area of Blue basalt coverage and the interesting copper-molybdenum values in Blucher's quartz monzonite, it is recommended that limited geophysical work be performed in the vicinity of the two drill holes for further aid in evaluating the area, coupled with continued mapping of the area.

General:

Blucher, in his mapping of the Globe-Superior region (Aa-7.7.0: Porphyry Copper Reconnaissance, 1958) discovered a small outcrop of biotite quartz monzonite in the north central part of Section 7 (T2S, R12E).

Blucher and Kinnison (Field Trip 2/12/60) visited the area and constructed a diagrammatic cross section through the outcrop in Arnett Creek. The basal unit of the post-mineral sequence, at this point, is a massive "Blue basalt" which often has a basal member of brown to red-brown ash and tuff agglomerate. The Blue basalt was overlain by tuff, spheroidal agglomerate, and rhyolite. As shown by their section on Picketpost, the foregoing units overlie the massive beds and stratified tuffs and the dacite proper. *underlie - J.E.K.*

Peterson (D. W., 1962: Mineral Investigations Field Studies Map MF-253. Preliminary Geologic Map of the Western Part of the Superior Quadrangle, Pinal County, Arizona) mapped a unit (Tr, rhyolite) underlying the dacite. The rhyolite unit is lava flows composed of rhyolite and perlite obsidian and includes minor deposits of tuff, tuff breccia, and flows of andesite and trachyte. Thickness, 0 to about 2000 feet.

From the description, it is probable that Blucher's sequence is equivalent to Peterson's rhyolite (Tr).

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As pointed out by Blucher and Kinnison, the important point is that pre-mineral rocks may be found a short distance below any exposure of Blue basalt as its observed thickness is less than 100 feet. However, Peterson places the Whitetail Conglomerate under the rhyolite, and thus it is possible to have some thickness of post-mineral Whitetail under the Blue basalt.

The present progress mapping is shown on the attached topographic-geologic map of a portion of the Picketpost (7 $\frac{1}{2}$ ') quadrangle. The sequence of post-mineral units, in ascending order, is: 1) Whitetail Conglomerate (Tw), 2) Olberg beds, reddish cinder tuffs (ob), 3) Blue basalt (bb), 4) tan tuff units (t), 5) spheroidal agglomerate, 6) rhyolite, 7) massive tuffs, 8) dacite, and 9) Gila Conglomerate (QTg).

Several geochemical samples were taken in or near the Laramide quartz monzonite. The results by the Salt Lake City Lab are given below.

GOC-AC-1	1375 ppm Cu	12 ppm Mo
GOC-AC-2	387 ppm Cu	4 ppm Mo
GOC-AC-3	125 ppm Cu	12 ppm Mo

Sample 1 contained only the iron-stained, altered veinlets whereas sample 2 is only the fresh portions of the monzonite. Sample 3 is a sample cut in a one-foot wide altered and iron-mineralized shear-veinlet zone in the Pinal Schist 2000 feet southeast of the monzonite.

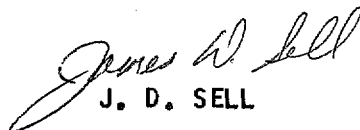
Schist (Pinal) is exposed in numerous areas as shown on the attached map. They are all essentially fresh.

Overlying the schist in two areas are remnants of the Whitetail Conglomerate. Elsewhere Olberg beds and Blue basalt rest on the Pinal. Nearer Picketpost and west of the Arboretum the tan tuff units rest on Pinal Schist, attesting to the relief in the pre-mineral rocks.

Large areas of the Blue basalt are exposed affording relatively thin cover over the pre-mineral rocks.

Two drill holes were located. A churn drill hole in south-central part of unsurveyed Section 25, T1S, R11E. The hole is 110' deep (Fred Coates, location signee, Nod Group, June 18, 1965), collared in Gila and finished in Gila (based on cuttings in sludge pit).

The second drill hole is a diamond drill hole (NE $\frac{1}{4}$ , Sec. 1, T2S, R11E) reported to be 220 feet deep (personal communication from Sparks to Kinnison). No sulphides were noted in the sludge pits, and it is possible that they did not penetrate the volcanic-conglomerate sequence, although Sparks says he will submit a piece of core with sulphides. The diamond drill hole is on the Bonanza claims, staked by Carouso, Wilson, Kame and Sparks (memo by Devere, June 28, 1965).

  
J. D. SELL



