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Copy JEK

J. E. K.

NOV 14 1967

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

November 6, 1967

To: J. H. Courtright

From: J. D. Sell and J. R. Wojcik

New Jersey - Newmont Drilling
Reward Prospect, Vekol Mountains
Pinal County, Arizona

The subject area was visited on November 2, 1967, to check their drilling pattern and collection of core chip samples. For expedience the photos taken after termination of drilling were used for plotting the information. The photos were also checked by stereoscopic examination and the unvisited drill sites were marked on the overlay.

Of the 321 drill hole sites shown on the overlay (Attachment A), the following breakdown is suggested:

105 - Sludge piles seen/or examined.
71 - Site visited but was not drilled.
135 - Sites not visited but probably drilled.
10 - Sites not visited and probably not drilled.
321 Total sites by stereoscopic examination.

The approximate scale is 1"= 1000' giving a drill spacing of 200 feet for the most part. However, when paced on the ground the spacing appeared to be closer to 175 feet.

Although much of the central portion was not visited there is little doubt that all the sites were drilled. On the fringes it was noticed that in some instances they doubled the drill spacing and also that they apparently rotaried some holes but did not core them. By personal communication from the drilling contractor's foreman, most of the holes in the latter part of the program were completed with a down-the-hole hammerdrill primarily for assay information and secondarily for correlation.

As shown by the attached sack of core chips, the area has a very high pyrite content, some of it as veinlets, with a high percentage as extremely fine particles within the diabase. Chalcopyrite is next in abundance in the observed chip specimens and only one specimen (5 mo) was found that contained molybdenum.

The four photos taken by Cooper Aerial Surveys are in the files along with the mylar overlay of photo FL 1-2.

J. D. Sell

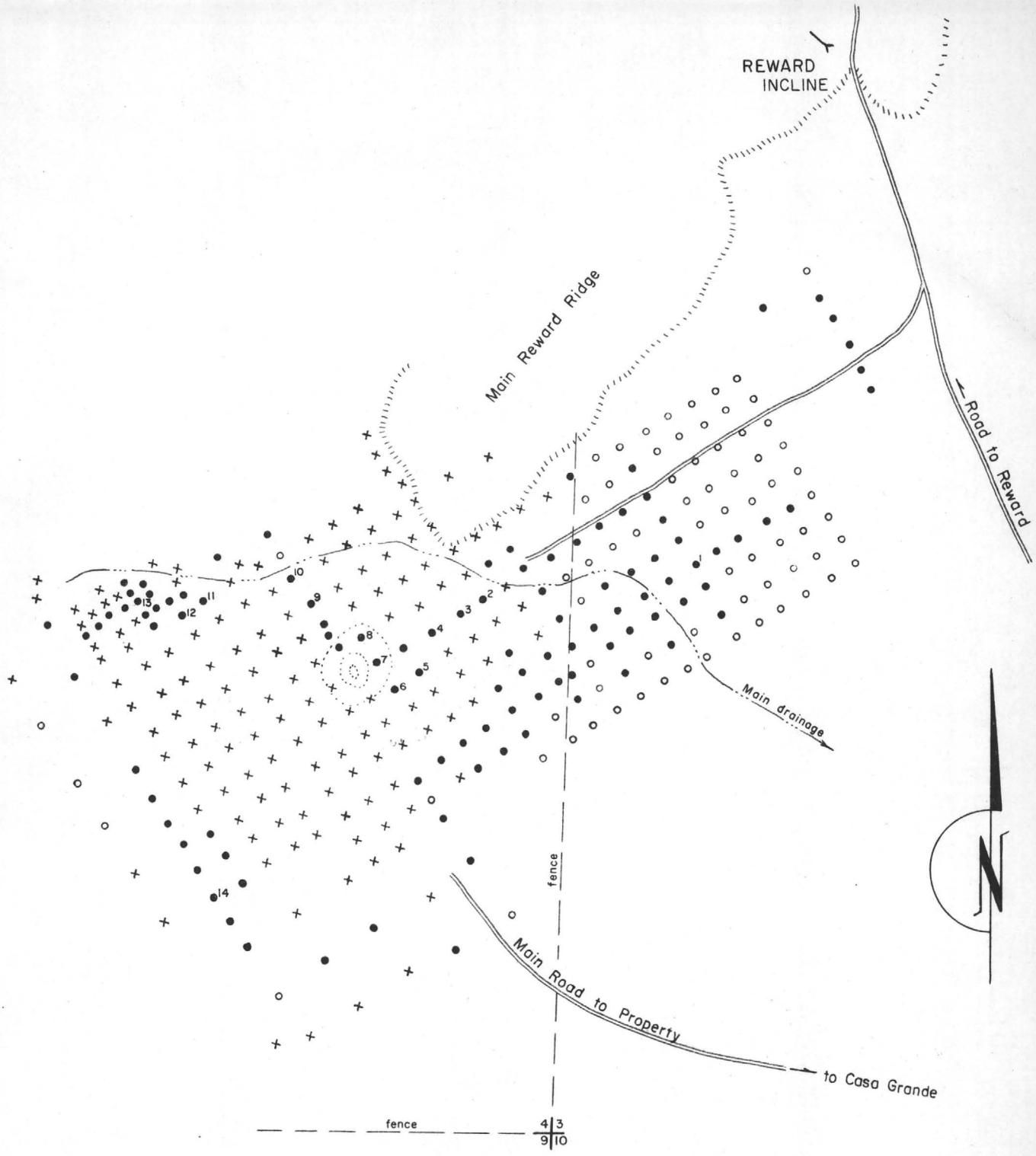
J. R. Wojcik

JDS:kc
Attachment

ATTACHMENT A

Cooper Aerial Surveys

Photo: FL 1-2, 10-20-67



- ● Drilled Hole
- o Hole NOT Drilled
- x Drill Site Not Visited
- "Outcrop Hill"
- ●5 Drill Hole with Core Specimen Number

Approx. Scale
1" = 1000'

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

June 2, 1966

Mr. K. E. Richard, Chief Geologist
American Smelting and Refining Company
120 Broadway
New York, N. Y. 10005

Dear Sir:

Enclosed is Mr. Kinnison's memorandum on the Newmont copper prospect in the Casa Grande District and a map showing the position of this prospect and the Lake Shore in the pattern of porphyry copper belts.

Reportedly, the first hole cut 100' of .9% Cu in Mescal limestone underlying Troy quartzite. There is a small outcrop of quartzite but no outcrops of mineralized Mescal in the vicinity. Recently, Mr. Kurtz did some reconnaissance in the area and reported that the quartzite contains traces of copper mineralization.

Apparently a magnetic anomaly was the principal exploration guide. Anomalous induced potential response was reportedly obtained over barren ground as well as over the area of concealed mineralization.

Yours very truly,

J. H. COURTRIGHT

JHC/kw
Enclosure
cc: WESaegart
JEKinnison

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

J. E. K

APR 22 1966

April 22, 1966

TO: J. H. COURTRIGHT

FROM: J. E. KINNISON

NEWMONT PROSPECT
VEKOL MOUNTAINS
CASA GRANDE DISTRICT
PINAL COUNTY, ARIZONA

This will supplement our recent conversations re the subject property. I was at the Arizona Bureau of Mines Office in Tucson 4/19/66, and obtained the following information from Bob O'Hare. He had in his possession a sketch which someone had drawn for him, freehand, on a piece of writing paper. The attachment (sketch) is one which I made from memory after leaving his office. The reliability of the data and its source is unknown to me.

The attached sketch is based largely on the one which O'Hare had, with a few additions based on reconnaissance in this general vicinity by myself some years ago, and by Jim Sell more recently. The Reward Mine, as we all here know, is a bedded replacement in paleozoic limestone--probably pennsylvanian--consisting largely of sphalerite with some chalcopyrite in a garnet host. The general environment is suggested of a porphyry copper-type but there are no direct leads toward the covered areas near the Reward Mine and the tactite zones are rather narrow.

According to O'Hare there is an outcrop of troy quartzite only 25 feet wide, which occurs in alluvium south of the hills in which the Reward is located. The quartzite there contains a few stringers of copper silicate.

Hunting--who had the three year exclusive option on the Papago country--outlined a magnetic anomaly which affectively encompasses the ore zone. I. P. lines were anomalous over this region, but they also were even more anomalous in the alluvial covered area west of the magnetic anomaly. The drilling sites which Mr. Collins and I saw from the air are grouped principally within the magnetic anomaly as it was shown on O'Hare's sketch. I am told that the first hole was collared on or nearby the outcrop of troy quartzite, and that beneath this the mescal limestone carried about .9% copper as chalcopyrite. This intercept was 100 feet long. Subsequent drilling has established that the mescal is the best host rock.

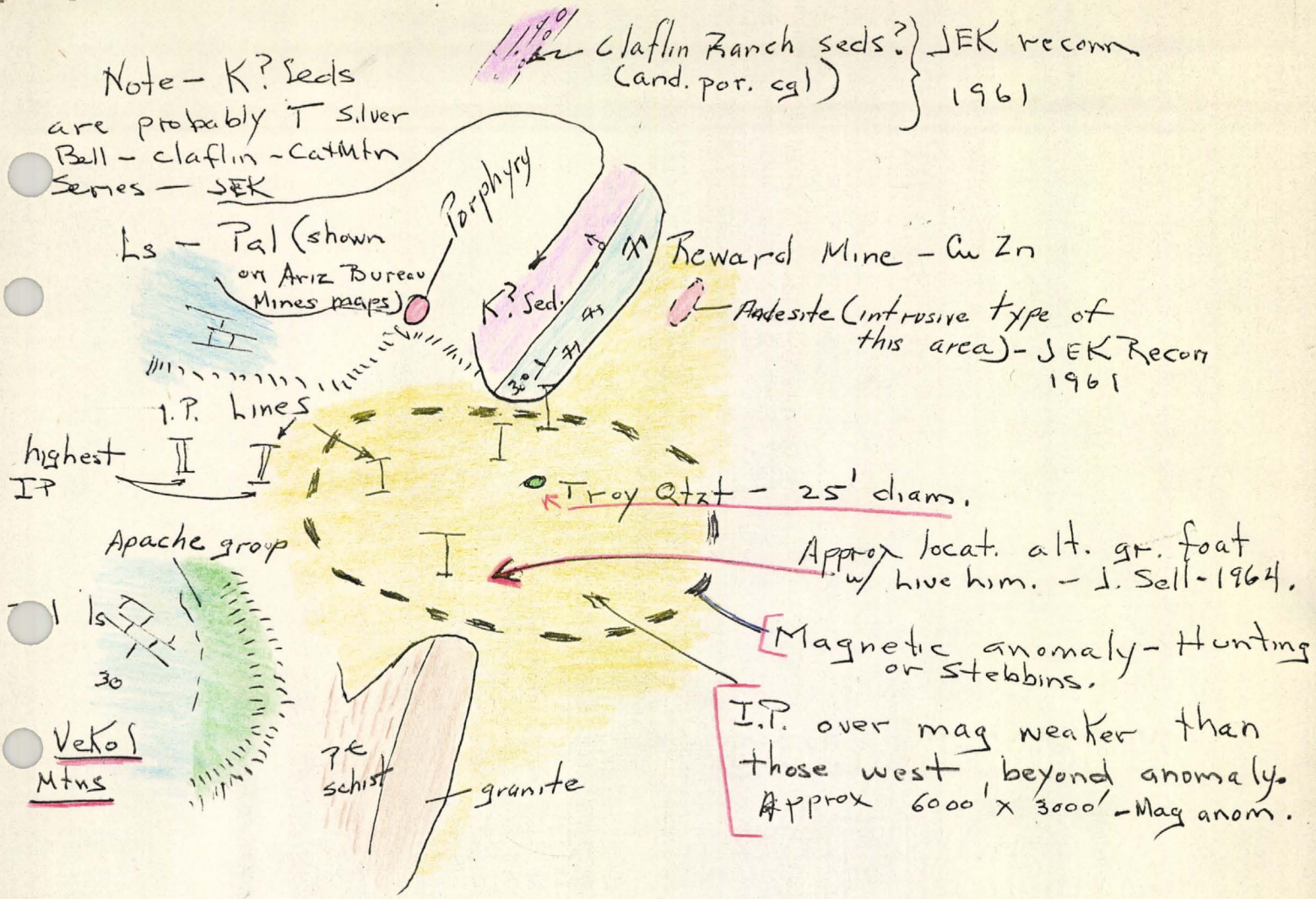
The sediments at the Vekol area dip 25 or 30 degrees, and so if the mescal were the only mineralized bed, there would be little tonnage potential. We may expect that the paleozoic overlies the troy and is likewise mineralized. Porphyry is exposed a little to the north of the mineralized zone and is fresh--whether or not there is any porphry within the mineralized zone itself was not stated.

This information is intended only to fill the gap between this time and next week when we may have a map and additional information available.

John E. Kinnison

JOHN E. KINNISON

JEK/pjc
Attachment
cc: WLKurtz



Note: No 1 drill hole on Troy outcrop – shows weak stringers of Cu silicate. Drillhole penetrated 100 ft, .9% Cu, in Mescal ls below the Troy qtzt. Drilling confirms Mescal best host.

Source: Sketch map drawn on peice of writing paper, Bob O'Hare's files, Ariz. Bureau of Mines. (Copy from memory) JEK

I.P. lines diagramatic.

Sketch of NEWMONT PROSPECT VeKol Mtns, Pinal Co, Ariz.

Not to Scale, but Approx. 2" = 1 mile

J. E. K.

APR 19 1966

APR 19 1966

J. E. K.

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

April 8, 1966

TO: J. H. COURTRIGHT

FROM: J. E. KINNISON

NEWMONT PROSPECT
VEKOL MOUNTAINS
PINAL COUNTY, ARIZONA

In regard to the subject property I have obtained the following information from Jack Clark of Bear Creek Mining Company in Tucson. This will supplement the memorandum of 3/1/66 by Mr. Collins, in which he describes the location of this property as determined by an aerial reconnaissance which he and I made February 22.

The drilling to date has outlined a copper deposit, probably in sediments (tactites ?), which is larger than the I. P. anomaly above it. The grade is quoted as being 1% plus, and the tonnage as being large and having significant vertical extent. Clark does not know whether chalcocite enrichment is an appreciable factor, but he understands that much of the copper occurs as chalcopyrite.

The prospect is reported to result from an I. P. anomaly located by the Stebbens group, formerly Hunting--which passed the prospect directly to Newmont at the end of their Papago investigation. The I. P. anomaly was described by Clark as originally "open" on one end, and completely covered by alluvium. I. P. response over bedrock outcrops (which we already knew to be barren) is described as negligible; but that the anomaly in the alluvial basin was significant with respect to background. Subsequently Newmont made more I. P. surveys and closed the open end.

Newmont has been drilling in this area approximately 8 months. This time can be fixed because I was at the Lake Shore mine last August, when the caretaker discussed selling water to Newmont with Mr. Freemen, Manager of the Lake Shore. The spacing of the drill holes which Mr. Collins and I observed from the air, bears out the fact that they have prospected a rather large area in the alluvial basin south of the old Reward Mine. The Reward, as you will recall, is of the tactite type--although it is there restricted to narrow bands of zink and copper sulfides, rather than being pervasive.

ORIGINAL SIGNED BY
JOHN E. KINNISON

JOHN E. KINNISON

JEK/pjc
cc: JJCollins

Hudgins Air charter

Plot Stan McGue

Leave Freeway Airport 10:00 AM
weather — Thin cloudiness
windy. — with dust in air

~~for J Collins~~

Fly over Silver Bell 10:15 AM 4500 ft elev. ± 90 mph.

Cruising 5400' 120 mph over ~~Silver reef~~ Santa Rosa Mtns.

10:25 — Pass between Jackrabbit and Slate Mtns due ahead. 270° Azimuth mag. (± S66W)

10:30 passed qtz tite quarry and road from Casa Grande.

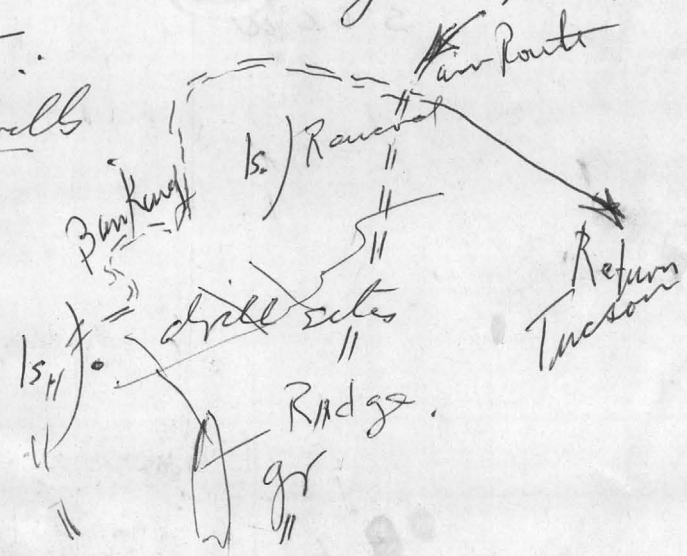
10:33 Turn so pass E of Reward.

See Drill sites between Reward and Vekol
6100', 110 mph. Az 180°. (due S±)

Broad turn around ~~E~~ edge Vekols. — Rocks look like p€ gr.

counted 5 drills
10:40

Drill sites spread out 600 - 1000'.



John Collins
Counted couple dozens sites

Return to Freeway — left drill site 10:40
Land 11:10 AM.

Total flight time 10:00 - 11:10 is 1:10 hr + charge to Municipal Hudgins

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

March 1, 1966

FILE MEMORANDUM

Pinal County, Arizona
Flight Over Vekol Mtns.
February 22, 1966

This morning John Kinnison and I took off from Freeway Airport, Tucson, in a charter flight to check on the reported drilling by Newmont in the Vekol Mountains near the Reward Mine south of Casa Grande. Apparently Newmont has graded a good road from the highway to the drilling area. We counted two doxen probable drill sites according to the road pattern in the wash south of the Reward Mine, extending east - west for a distance of about a mile. I counted three drilling rigs for sure, plus some miscellaneous equipment at two sites. These latter may have been drilling rigs in the process of moving.

From our altitude of 2000 or 3000 feet above the ground, it was difficult to judge the drill-hole spacing but it might have been 500 and 1000 feet. The current drilling is at the easterly end of their road network, and it is in the area of closest spaced drilling. No drill sites are located east of the Reward Mine in the broad valley. The drilling is in an area of shallow (?) alluvial cover and no geologic reason was evident. A charter photo flight utilizing various films and filters (as I contemplate) should provide more specific information.

Flying time was an hour and ten minutes. We passed along the south side of the Silver Bell Mine going out and returned along the north aide. The air was smooth most of the trip but the lateral visibility was limited by the dust storm. We flew southerly down the east side of the Vekol Mtns. past the Reward Mine then turned west up the main gulch and curved around north over the mountains and flew back easterly along the north side of the drilling pattern and over the Reward Mine. No other recent prospecting activity was evident on this trip.

JOHN J. COLLINS

JJC/pjc
cc: JHCourtright
JEKinnison