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Extra CopyAMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

August 7, 1968

TO: Mr. J.H. Courtright

FROM: Mr. J.D. Sell

White Property
Copper Basin District
Yavapai County, ArizonaSummary and Conclusions

A brief examination was conducted in the north side of Copper Basin where free gold has been placered for many years. Free gold was also reported in cuttings from rotary drill holes bottoming in sulfides.

Fifteen samples were taken from surface samples and rotary cuttings. These samples have been analyzed for copper, lead, moly, silver, and gold. The silver and gold results are low (less than \$0.40 combined) but anomalous copper and moly values were reported.

Published mapping shows the sampled area to include a prong of Tertiary quartz monzonite. A half dozen or more conical hills were noted in the northern area and they may represent the breccia-pipe development as known to the south. If so, this suggests more widespread Tertiary intrusive activity than is indicated by the maps.

The occurrence of anomalous copper-moly geochem values, general alteration of all rock types, quartz-sericite development, high pyrite content, and the probable occurrence of additional breccia-pipes in the northern area suggests that additional rock sample studies be conducted in the northern area. Further reconnaissance is intended within the next several weeks.

General

The Copper Basin district was visited during reconnaissance studies of basin areas of the Bradshaw Mountain region.

A "General Minerals Corporation" of Texas presently (July 17) has a diamond drill rig in the central part of the main mining area but reportedly does not have signed agreements with all the private land holders. Phelps Dodge had also been in the area the previous week contacting the private land holders for possible lease-options.

The northern area (Attachment A) is controlled by Mr. L.B. White who is a long time resident of the area and presently lives there. Attachment C shows the claim group as submitted by Mr. White. Attachment B is the general geology of the entire basin area.

During the visit no attempt was made to study the various rock types, but conical hills were noted in the northern area, and they show a slight color anomaly. Such hills, to the south, represent Tertiary breccia-pipe development. In the sampled area the rocks are generally altered and some contain abundant quartz, sericite, jarosite, and pyrite. The general surface rocks exposed are highly oxidized and leached but the oxidation, according to Mr. White, rarely exceeds forty feet in depth. In a few of the deeper canyons sulfides were noted which supports his observation.

Table 1 and 2 are the descriptions and geochemical results of fifteen samples collected in the area. Eight samples are oxide, one a mixed oxide-sulfide, another a sulfide outcrop, while the remaining five were grab samples (mostly sulfide) from rotary drill hole sludge piles.

Mr. White has made several very good gold finds in the basin and is presently looking for another pocket of free gold. He collects mainly residual alluvium and disintegrated bedrock and collects the heavy particles by a modified sluice box and then pans the concentrate. Conversation with him suggested that low-grade values of gold might be present in sufficient quantities to warrant open-pit operations. A clear to cloudy heavy mineral was noted to lag in the sluice concentrate and pan. Unable to identify it and hopeful that it might possibly be an economic mineral such as monazite, a sluice concentrate sample was submitted to the Arizona Bureau of Mines. They identified the lag mineral as being prismatic crystals of wulfenite.

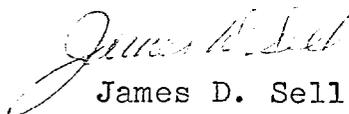
The geochemical results (Table 2) show low silver and gold values in the samples taken. Apparently, little precious metal value is found in the abundance of veinlets and rocks sampled. The copper and moly values are anomalous and, coupled with the alteration effects and the limonite and jarosite development, further work is intended to be conducted in the northern part of the basin area.

A discerning note, however, is the apparent fact that most of the highest anomalous copper values came from rotary cuttings samples. The five rotary samples average 0.12% copper whereas, the surface oxidized samples show less than 0.06% (discounting the one high oxide sample of 0.36%). How close the result of 0.12% (or the range of 0.02-0.23%) approximates the protore of the northern end is unknown, but apparently there is little chance that chalcocite enriched ore will be found in any abundance.

As shown in Table 2-b, two sets of samples were taken showing the oxide zone and its probable underlying sulfide zone. CBW-11 and CBW-12 were taken in a deep wash and are essentially a long vertical cut. CBW-14 and CBW-15 are from the same location with the sludge pile representing the sulfide zone. In both cases a slight increase in copper values is shown for the sulfide zone sample.

Mr. White has been rotary drilling (maximum depth 300 feet) the past several years for claim assessment work. However, he does not systematically sample the cuttings, but only pans zones (generally near the surface) which he thinks might carry free gold. I suggested to Mr. White that ASARCO might be interested, in exchange for the information, in placing a sampler on any deep hole he might drill in the future.

A Mr. Neil Gambell is presently working on a MS degree in geology in Flagstaff. He is studying the heavy mineral content of an area of 1,000' x 1,200' using a 100' sample grid. The study area is essentially centered on the Golden Treasure claim. A study of the sluice concentrate by the Arizona Bureau of Mines shows hematite-magnetite, zircon, wulfenite, pyrite, chalcopyrite and gold plus minor amounts of an unidentified black opaque mineral.


James D. Sell

JDS:ir

TABLE 1

SAMPLE IDENTIFICATION

<u>Sample Number</u>	<u>Material</u>	<u>Claim Area</u>
CBW-1	Surface, Oxide	Silver Queen 10, Central
-2	RDH (110') Cuttings	Silver Queen 10, Central
-3	Surface, Oxide	Silver Queen 10, Central
-4	RDH (100') Cuttings	Golden Treasure #1, N. Central
-5	Surface, Oxide	Golden Treasure, NE Sideline
-6	Surface, Oxide	Golden Treasure, SE Sideline
-7	Surface, Oxide-Sulfide	Hazel, east side
-8	RDH (300') Cuttings (West)	Golden Treasure, SW Sideline
-9	RDH (100') Cuttings (Central)	Golden Treasure, SW Sideline
-10	Surface, Oxide	Queen of Sheba, SE Sideline
#11	Surface, Oxide	Queen of Sheba, SW Corner
-12	Surface, Sulfide	Queen of Sheba, SW Corner
-13	Surface, Oxide	Hard Luck
-14	Surface, Oxide	Queen of Sheba, N Endline
CBW-15	RDH (100') Cuttings	Queen of Sheba, N Endline

NOTES:

- 1). Rotary drill hole (RDH) cuttings contain py, cp, moly, and often galena. Gold has been panned from the cuttings. All samples are grab samples from dug pits in cuttings pile.
- 2). In areas of RDH, depth of oxidation rarely exceeded 40 feet.
- 3). Samples #11 and #12 are from vertical cut in large wash.
- 4). Sample #14 is surface above Sample #15/

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CHEMICAL ANALYSIS CERTIFICATE

Date July 27, 1968

Page 1 of 2

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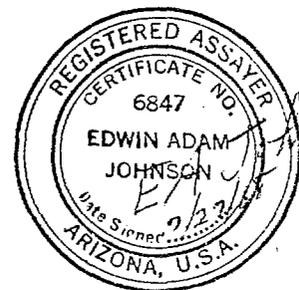
Submitted by J. Sell
Date Letter 7/18/68

Report on 15 Rock & Drill Cuttings Samples

Analysis COPPER, LEAD, MOLYBDENUM, SILVER, GOLD

Remarks Cu, Ag, Au, done by Atomic Absorption methods.
Pb, Mo, done by Colorimetric methods.
All results given in parts per million.
The minus (-) sign is read "less than".
Precision is about + or - 10% of the given value.
Sample pulps to be returned.

cc: encl.
file



All values are reported in parts per million unless specified otherwise. A minus sign (-) is to be read "less than" and a plus sign (+) "greater than." Values in parenthesis are estimates. This analytical report is the confidential property of the above mentioned client and for the protection of this client and ourselves we reserve the right to forbid publication or reproduction of this report or any part thereof without written permission.

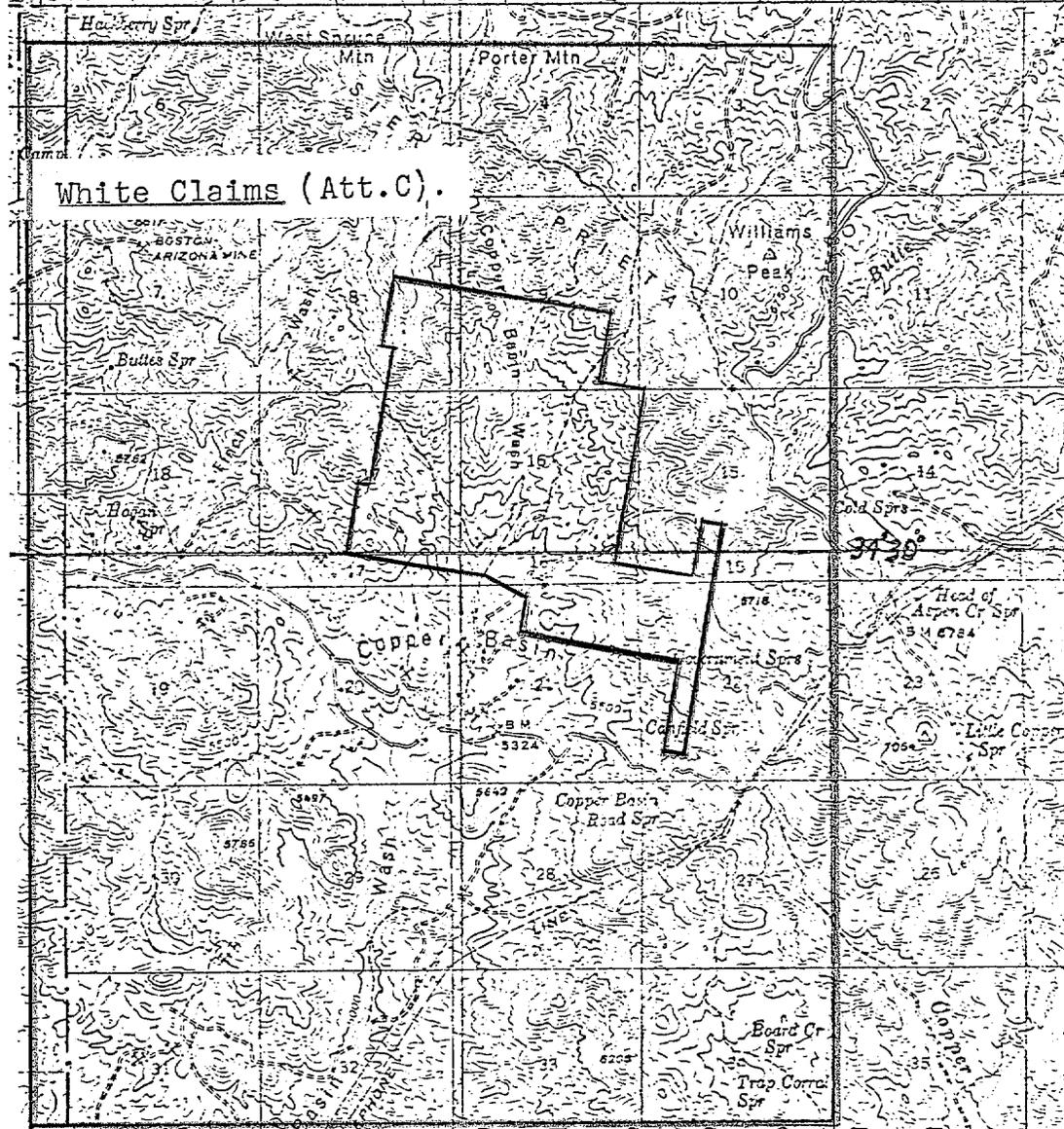
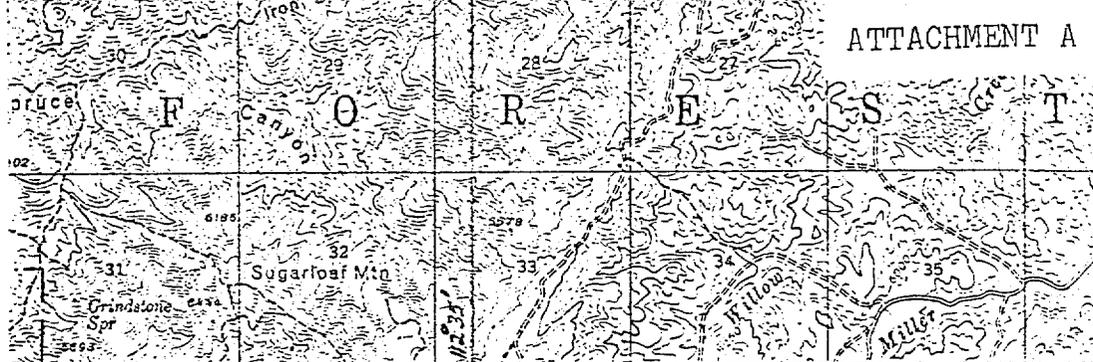
North Side, Copper Basin District
 Rock & Drill Cuttings Samples
 (All results given in parts per million.)

SAMPLE NO.		COPPER	LEAD	MOLYBDENUM	SILVER	GOLD
CBW-1	ox	3600	15	75	2	0.3
CBW-2	Sludge	1200	15	27	$\frac{1}{2}$	-0.1
CBW-3	ox	550	5	1	$-\frac{1}{4}$	-0.1
CBW-4	Sludge	250	5	2	$-\frac{1}{4}$	0.2
CBW-5	ox	120	5	190	$\frac{1}{4}$	-0.1
CBW-6	ox	700	5	21	$-\frac{1}{4}$	-0.1
CBW-7	ox-sulf	675	5	300	$-\frac{1}{4}$	0.1
CBW-8	Sludge	1400	5	50	$-\frac{1}{4}$	-0.1
CBW-9	Sludge	2300	5	85	$\frac{3}{4}$	-0.1
CBW-10	ox	115	30	150	$2\frac{1}{4}$	-0.1
CBW-11	ox	500	10	40	$\frac{1}{4}$	-0.1
CBW-12	Sulf	700	5	26	$-\frac{1}{4}$	-0.1
CBW-13	ox	1150	15	27	$\frac{1}{4}$	0.1
CBW-14	ox	925	15	6	$-\frac{1}{4}$	-0.1
CBW-15	Sludge	975	320	20	$\frac{1}{4}$	-0.1

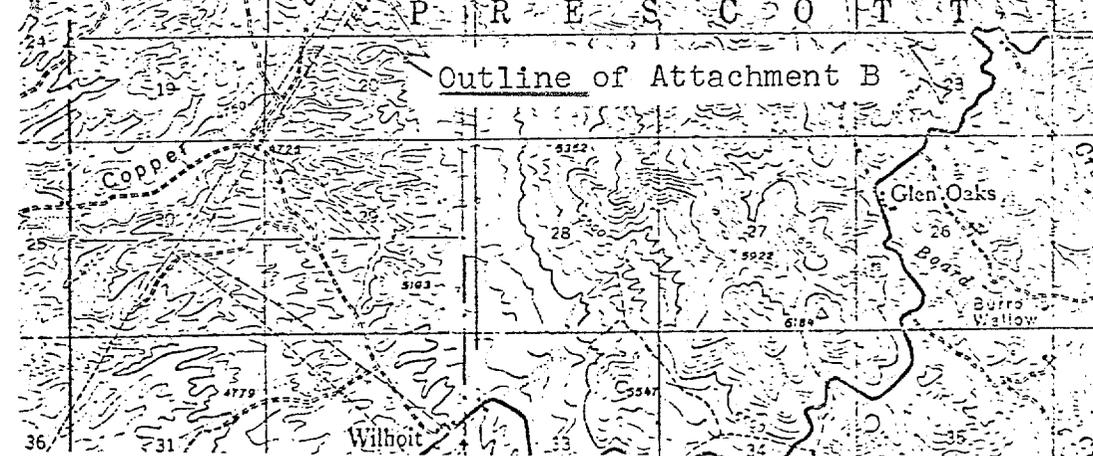
ox- Oxide zone

Sulf-Sulfide zone

Sludge- RDH Cuttings

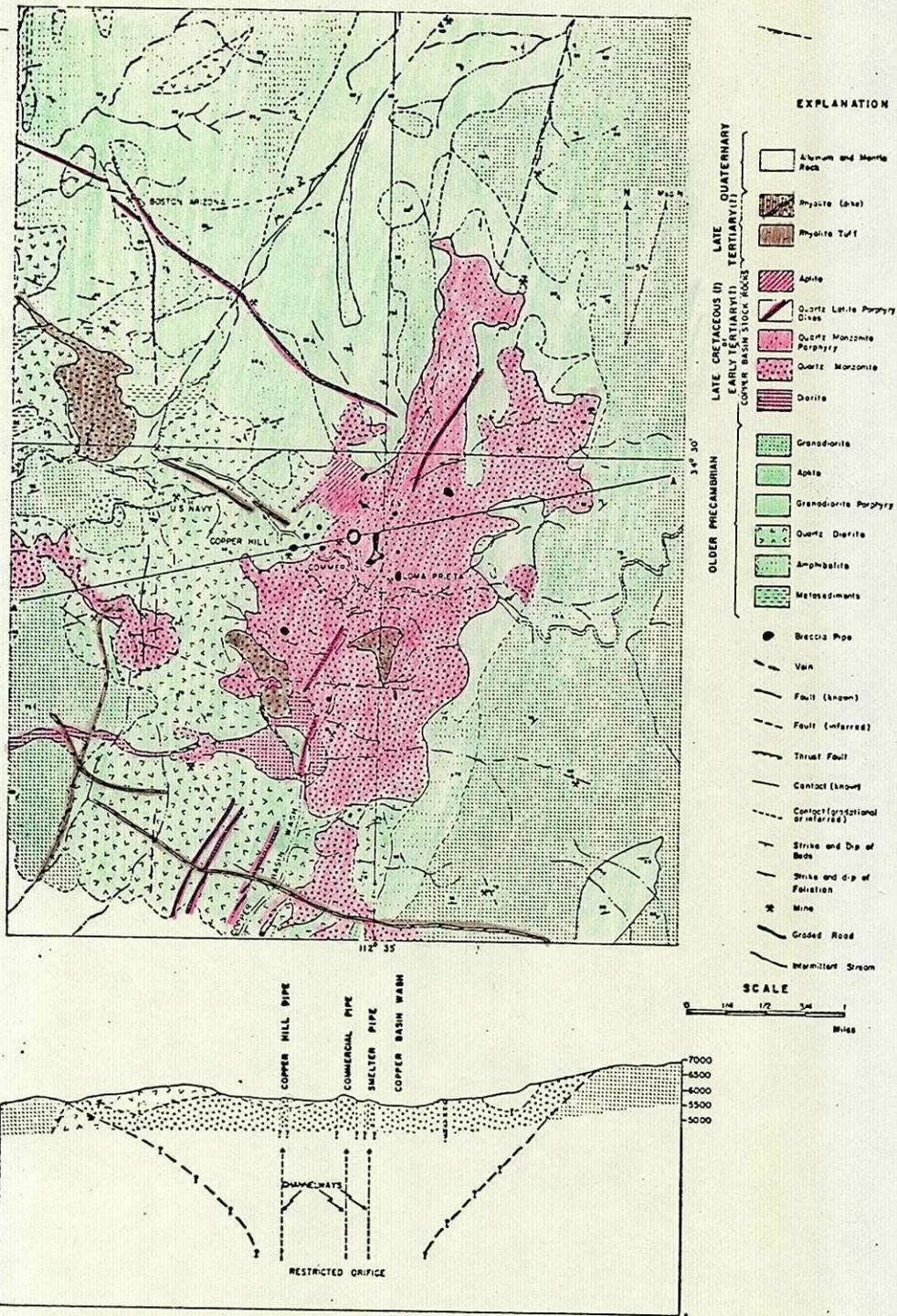


Copper Basin
Area
T13N, R3W.

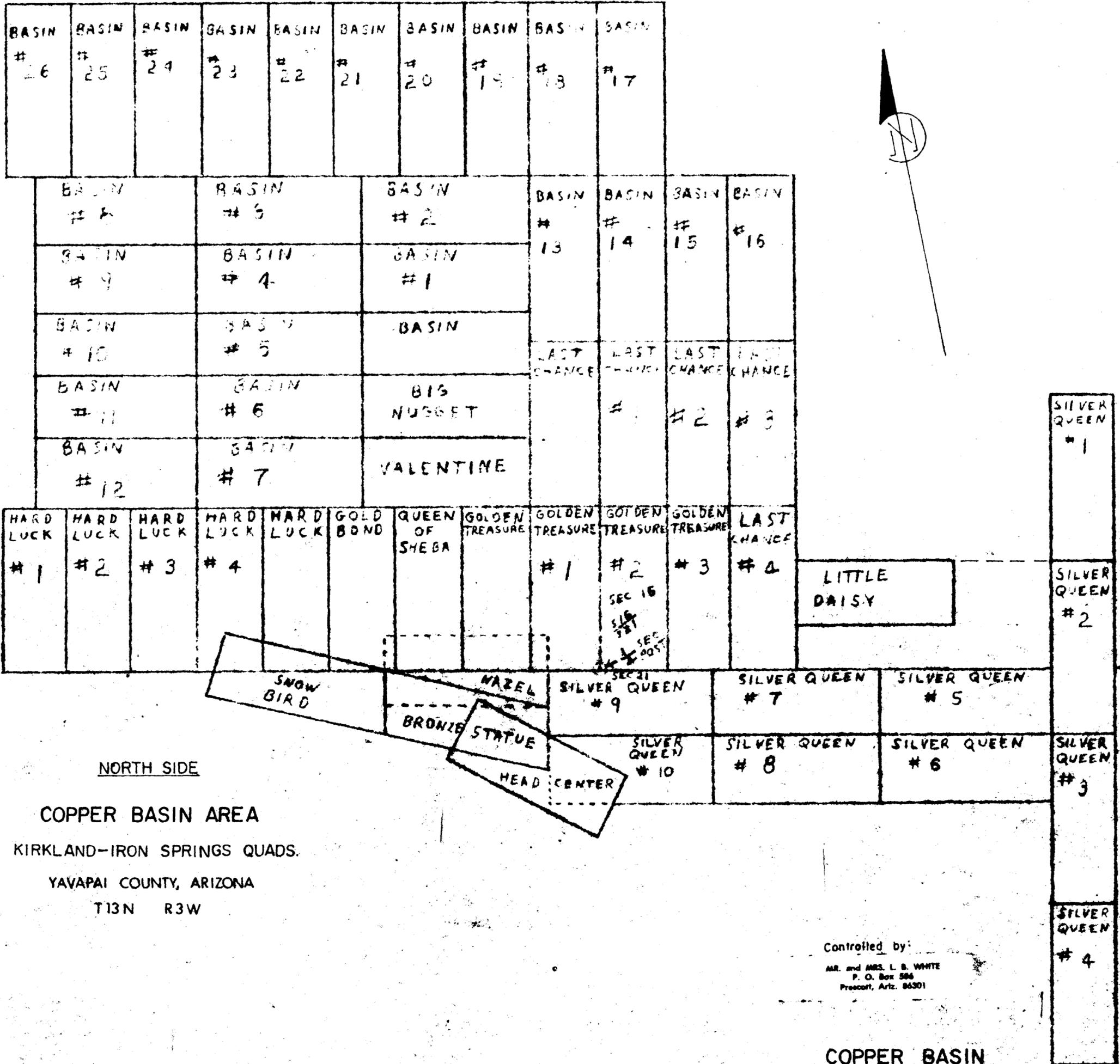


Outline of Attachment B

Copper Basin
Kirkland-Iron Springs Quads.
Yavapai County, Arizona



Geologic map and cross section of the Copper Basin mining district, Yavapai County, Arizona.



Controlled by:
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COPPER BASIN