CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
520-770-3500
http://www.azgs.az.gov
inquiries@azgs.az.gov

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James Doyle Sell Mining Collection

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Copperland

(White Tank Prospect)

Coplands' Whitetank Property

Bill ~~F~~ Leedy
Kailium Chemical
(Canadian)

Prescott
now interested

Kaiser drilled one hole
then dropped

Cominco still holds adjacent
ground.

Phone Call
March 29, 1972

I told Leedy we would be interested in
any data he can collect — upon his
dropping of any interest.

[signature]

Copeland Prospect, NW end of White Tank Mtns
Sec. 2, 3, 10, 11 of T3N, R4W.

0.0 On west side of Whittman (on US 60-70, between Phoenix and Wickenburg), a cattleguard on south side of highway.
3.0 Going south for 3.0 miles.
Turn right (west) on well graded road (Goes to Luke Air base) for another 3.0 miles.
6.0
Turn left (south) at cattleguard and travel 2.2 miles in southerly direction.
8.2
Fork, keep left to Copeland Prospect. Right to Narramore Ranch, Mr. Nelson foreman. Traveling south for 1.5 miles
9.7
Crossroads at quarter-corner marker. Copeland Prospect road straight ahead. Ranch road thru stone gate on. Stay on Copeland road for 0.8 miles south
10.5
11.9 Fork, make right turn (west) and travel 1.4 miles
Crossroads. Take left to Copeland Prospect. Right to ranch along fenced cattle lane. Going south for 1.4 miles
13.3
14.6 Fork, take right for 1.3 miles.
Wash and fence gate, continue on south road to start of digging and outcrop areas within 0.4 miles
15.0

COPPERLAND CLAIMS

Maricopa County, Arizona
B.W.Copeland, Prescott.

I think I shall start by relating a paper I read in the State Mine office relating to the area of the old Vulture mine. This geologist stated that there were three distinct faults in the Vulture area, one involving a sidewise slip of some 1500 feet. Then occurred a capping of "flow granite" some 500 feet thick, covering the entire area. He thought that Henry Wickenburg's finding of the gold was in a little peak which was too high to be covered by the flow, so that it was still sticking through to expose the gold structure.

In more recent years the Douglas interests did some drilling in the area, then put down a 3-compartment shaft near the old Vulture workings. Ernie Dickie, later of Bagdad fame, was in charge of the shaft sinking. Shortly before he died I was talking to him about that shaft and he verified the man's statement regarding the 500-foot capping of granite. About that time I also talked to Mr. McGuire of the Dude Ranch, asking about his water supply. He told me they drilled through a little over 500 feet of granite (he also used the term "flow-granite"),finding no water at all on the way down; then the bit dropped into what appeared to be an old lake bed and now their water seems to be unlimited in the amount available. Also, in the Douglas shaft, a strong flow of water was encountered in a drift off the 500 foot level. Dickie thought they were just getting down to where they could expect the ore and wanted to sink another 100 feet, but Douglas stopped him at 500 and they found nothing of value.

I relate this because I am convinced we have the same situation on the Copperland property, which lies southeast of the Vulture; however, I expect the capping to be less than 500 feet thick. In this instance the ore body would lie to the northwest of the foothills out under the desert floor and the showings of copper in the foothills would simply outline the edge of the body, turned up when the main bulk of the White Tanks Mountains were pushed up. This would account for most of the copper stain showing up in brecciated zones, with the almost complete absence of any definite vein structures.

I specify the direction as NW for three reasons; first that is the direction and area shown by a geophysical survey, which has been confirmed by a plant-analysis survey. This area covers roughly 4 square miles. In the meantime my Canadian firm put down 10 holes, all of which showed some copper content, but nothing of commercial grade. Two in the red hills area penetrated various materials, but outside this area they uniformly went into granite. Of course the text book says when you run into granite you might as well stop - which is what the gentleman did. So I want some deeper penetration in that NW area. It seems sure to me that a large body of copper-moly will be found in that area.

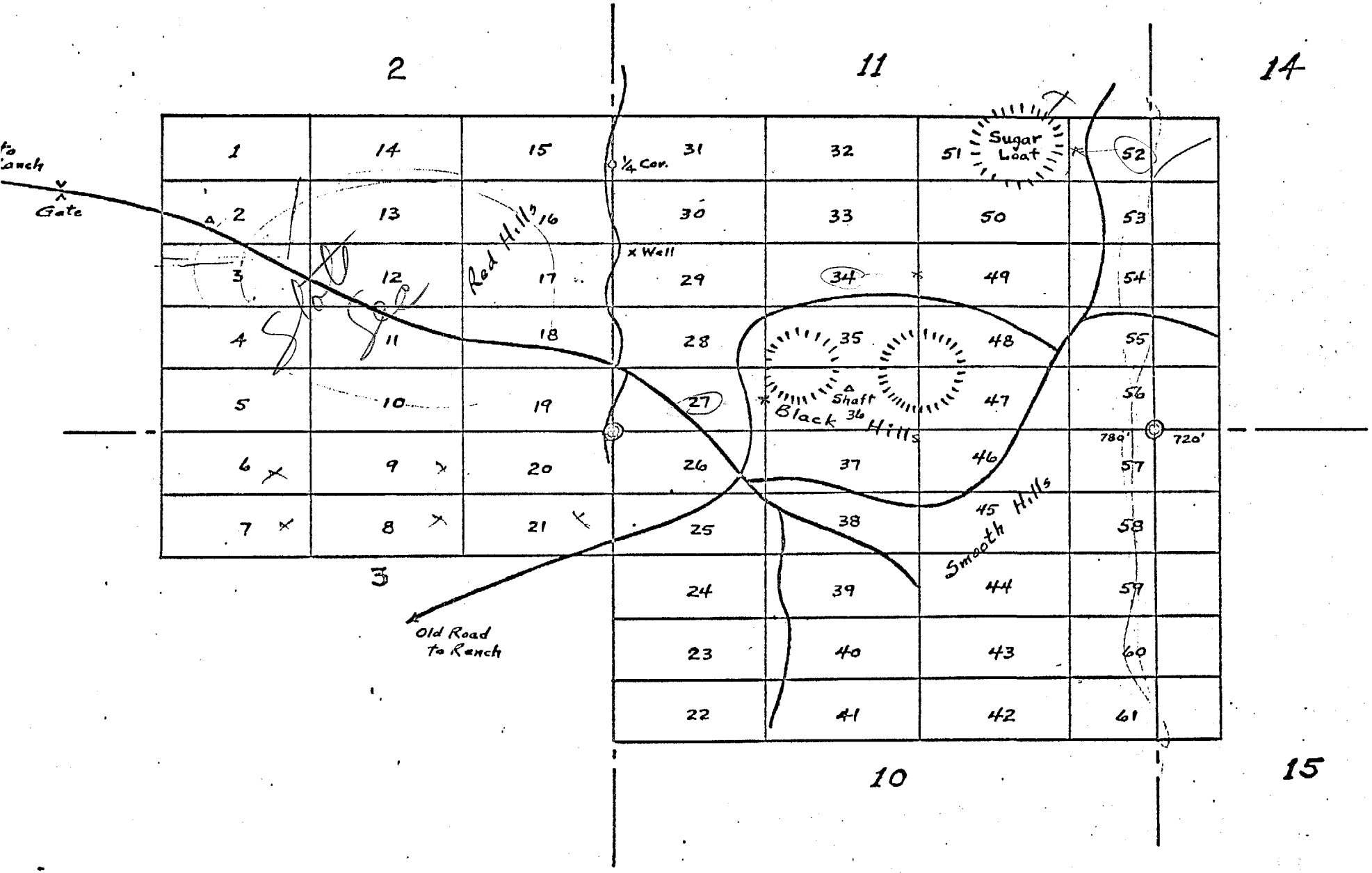
B.W.COPELAND

Copperland Claims

B.W. Copeland, Locator

Validated Claims

Ryan



SAMPLE ASSAY RECORD

Samples by Cominco ?

Property: Copperland Claims

Location: White Tank Mts., Arizona

Ownership: B. Copeland

Assay Office: Rocky Mountain

Drill Cores ..... [ ]
Channel/chip ..... [ ]
Grab sample ..... [X]
Geochemical ..... [X]
Assay check ..... [ ]
Other ..... [ ]

Sampler: R. L.

Date: Nov. 19 1966

Sample Number	Description: Hole number - Trench number Location - Measurements - Rock Type	Width Feet	Cu ppm		Mo ppm		
16460	No. 2 claim - oxidized biotitic monzonite, iron stained, leached		150		3		
16461	No. 2 claim - dozer cut I - Prec. ? coarse granodiorite near Larimide ? biotitic monzonite contact, some chrysocolla		2100		17		
16462	No. 2 claim - dozer cut II - biotitic monzonite partially replaced by amphibolite minor chrysocolla		1350		3		
16463	No. 2 claim - heavily iron stained and sericitized monzonite ?		160		5		
16464	No. 2 claim - oxidized and leached monzonite in dozer cut		350		3		
16465	No. 2 claim - dozer cut - iron stained, oxidized, leached felsite		60		3		
16466	No. 3 claim - old cut - heavily kaolinized and oxidized monzonite near malachite outcrop		6500		6		
16467	No. 3 claim - stream bed - oxidized monzonite near altered felsic outcrop, all iron stained		700		-1		
16468	No. 17 claim - 2" thick breccia fault zone overlying granodiorite		45		3		

SAMPLE ASSAY RECORD

Property Copperland Claims

Location Page 2

Ownership

Assay Office

Drill Cores ☐ Geochemical ☐

Channel/chip ☐ Assay check ☐

Grab sample ☐ Other ☐

Sampler Date 196

Sample Number	Description: Hole number - Trench number Location - Measurements - Rock Type	Width Feet	Cu ppm		Mo ppm		
16469	No. 17 claim - Turquoise Mine cut - highly kaolinized, sericitized, leached and oxidized granodiorite ?		825		6		
16470	No. 17 claim - Turquoise Mine shaft - sericitized porphyritic monzonite with pink feldspar phenocrysts	6'	2100		3		
16471	No. 30 claim - 75' shaft partially kaolinized monzonite, contains amphibolite, minor pyrite	75'	2050		3		
16472	No. 35 claim - open cut - completely kaolinized monzonite, iron stained, minor malachite	4'	575		50		
16473	No. 35 claim - inclined shaft - brecciated granite and amphibolite, calcite, minor malachite		2400		3		
16474	No. 47 claim - outcrop - silicified, oxidized and iron stained rhyolite, minor malachite		2000		4		
16475	No. 47 claim - dozer cut - kaolinized granite underlying basalt sill, minor malachite		2300		4		

SAMPLE ASSAY RECORD

Property Copperland Claims

Location Page 3

Ownership

Assay Office

Drill Cores ☐ Geochemical ☐

Channel/chip ☐ Assay check ☐

Grab sample ☐ Other ☐

Sampler Date 196

Sample Number	Description: Hole number - Trench number Location - Measurements - Rock Type	Width Feet	Cu ppm		Mo ppm		
16476	No. 49 claim - dozer cut - quartz-feldspar granite, kaolinized, sheared, secondary pink feldspar		195		1		
16477	No. 23 claim - dozer cut - fractured felsite, minor chrysocolla		400		1		

AMERICAN SMELTING AND REFINING COMPANY
SOUTHWESTERN EXPLORATION DEPARTMENT
P.O. BOX 5795, TUCSON, ARIZONA 85703

1150 NORTH 7TH AVENUE
TELEPHONE 602-792-3010

March 10, 1969

Mr. B.W. Copeland
311 So. Montezuma Street
Prescott, Arizona 86301

Dear Sir:

By return mail, I am sending your loaned material from the White Tank Mountains area. This includes the claim and drill hole distribution map, the USGS quadrangle sheet with the geochem plant ash collection sites, and the plant ash analysis lists.

Unfortunately, our reproduction facilities was not big enough to copy the claim map without taping sections together, so have taken the liberty of having a rough draft made and will pass it along to you shortly.

Many thanks for the courtesies extended during our trip with you and I expect to see you again in the near future.

Sincerely,

James D. Sell

James D. Sell

JDS:ir

See White Tank Pocket for map & geochem data.

JDS-71

Copperland Prospect
White Tanks District
Maricopa County, Arizona

March 14, 1969

311 So. Montezuma
Prescott, Arizona

American Smelting and Refining Co.,
Exploration Department
P.O. Box 5795
Tucson, Arizona 85703

Attention: J.H. Courtright

Dear Mr. Courtright:

I hereby grant American Smelting and Refining Company the exclusive right to examine my Copperland property, which consists of the Copperland group of thirty-six (36) unpatented lode mining claims in the White Tanks district of Maricopa County in T3N, R4W, for a period ending May 14, 1969.

If on or before May 14, 1969, you decide that you wish to explore and develop the claims, you shall so notify me in writing, and I agree to enter into a lease and option agreement which shall contain, among other provisions, the following terms and conditions:

Term of Agreement: 25 years

Minimum annual royalty: $5,000 on signing, $1,000 a month after six months, after one year $2000/month.

Royalty on Production: 5% of net smelter returns

Purchase price: $1,500,000. All royalties and minimum annual royalties to apply upon the purchase price.

Minimum work requirements: 4000 feet of drill hole to be drilled on the property during the first 12 months of the agreement.

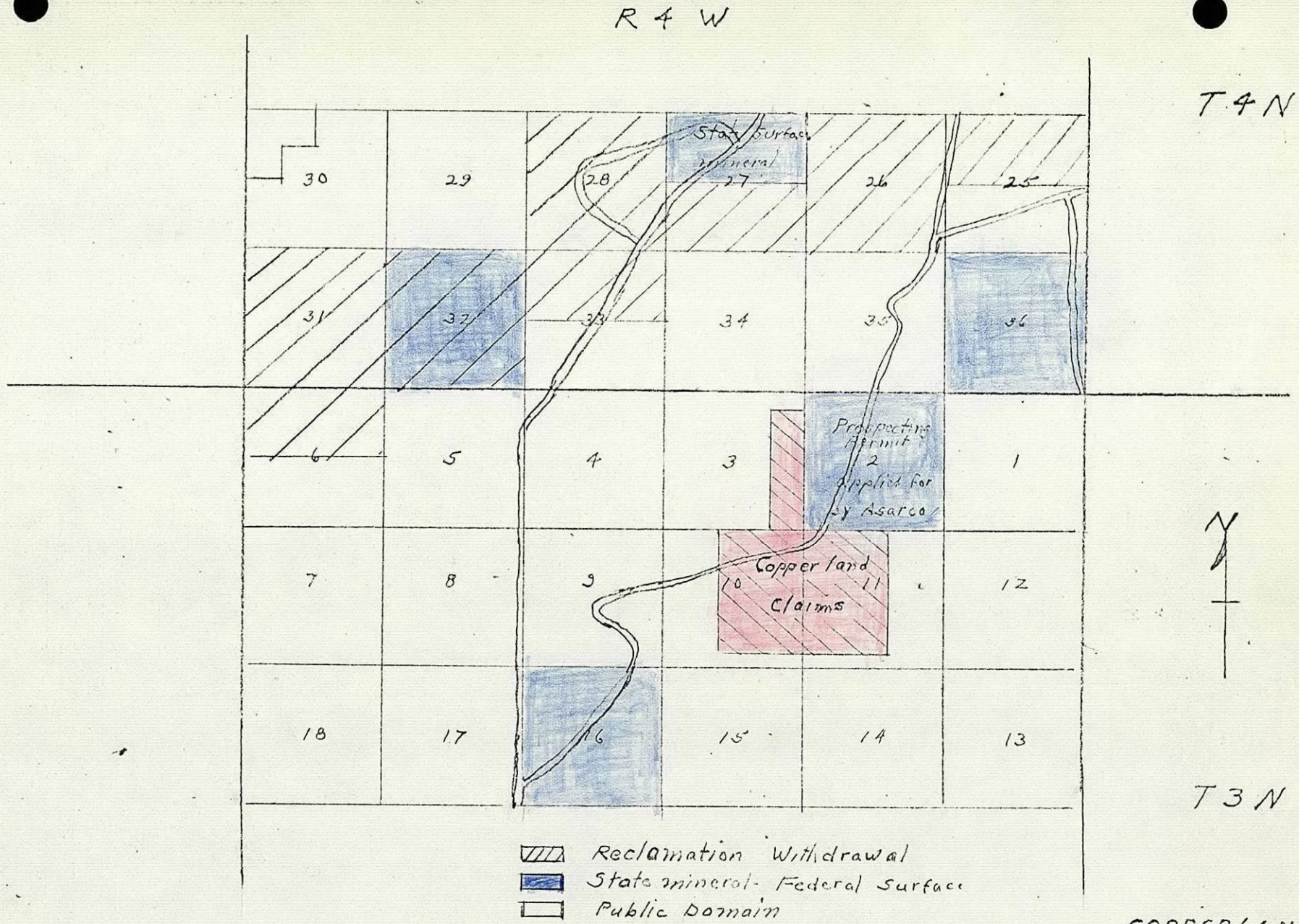
You may stake other claims to protect the area either before or after May 14, but if you do not enter into the proposed agreement, or do enter but later cancel before production is had, you shall, at my written request, convey to me any claims located by you within two miles of the present perimeter of the Copperland group. Such claims shall be included in the agreement for the purpose of computing royalties.

Yours very truly,

B.W. Copeland
B.W. Copeland

Agreed J.H. Courtright
J.H. Courtright

March 14, 1969



COPPERLAND
PROSPECT
White Tanks District
Maricopa County
Arizona
1" = 1 mile

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

March 20, 1969

MR. JDS, RDK, SRD, JRW
READ AND RETURN
PREPARE ANSWERS ___ HANDLE ___
FILE ✓ INITIALS

TO: J.H. Courtright

FROM: J.E. Kinnison

Copper land Prospect
White Tank Mountains
Altered Area
Maricopa County, Arizona

Yesterday I flew a fixed wing plane over the altered zone in the White Tank Mountains, which area is now being mapped by Mr. Sell and others. The color anomaly in this area is large and quite striking, but looks somewhat like volcanics.

Colors ranged from deep red to maroon, and some orange and brown. The tint is best described as in-between "muted" and "brilliant". The texture and color of the rock suggest uncertainty in choice between volcanics and altered---a few old diggings offer a clue that mineralization is present.

One unusual feature is that the color shows best when viewed from the south, or from overhead. Views from the north did not show the color nearly as well.

The helicopter field notes and traverse map show four passes across the area. No stops were made. One note--"rhyolite showing a bright red color from a distance"--is probably within this color zone.

John E. Kinnison

John E. Kinnison

JEK:lzb

cc: WESaegart

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

April 21, 1969

TO: J.H. Courtright

FROM: L.J. Jansen

B.W. Copeland Claims,
West side of White
Tank Mountains,
Maricopa County, Arizona

SUMMARY AND RECOMMENDATIONS

Weak to moderate pyritic mineralization of a fractured quartz latite is restricted to a north trending zone in the western half of section 2, in the subject area. Local quartz/sericite and maroon limonite development is present in the twin hills east of drill hole C-7. The remainder of the outcrops show weak to moderate hematite flooding along fractures in the latite.

Outcrops of latite and monzonite porphyry in section 3 are essentially fresh but weakly stained with hematite, and contain finely scattered limonite pseudomorphs after pyrite. Two low hills of post-mineral rhyolite near the north center line of section 4 are the western-most exposures. The mineralized zone in section 2 is bounded on the north by outling outcrops of fresh granite and on the south by fresh granite and monzonite.

A bio-geochem anomaly of between 16 and 32 ppm Mo coincides with two I.P. highs over the weak pyritic mineralization in section 3. COMINCO drilled several holes on the margins of these highs. Sludge assays show a low copper content increasing toward the center of the highs. Two outcrops in the vicinity of the western high are slightly more pyritic and hematite stained than the surrounding outcrops, while the area near the eastern high is essentially fresh.

The dominant pyrite mineralization and lack of pervasive alteration of the monzonite porphyry suggests that this particular property is unfavorable for further work. However, the coincidence of the Mo and I.P. anomalies is encouraging. The outcrops may represent the pyritic halo of buried copper mineralization to the west. COMINCO has staked most of the land to the west and any I.P. or reconnaissance should be suspended until they drop their claims. For the present time, rock chip geochem sampling of the mapped area is recommended as it may indicate mineral trends to the west.

INTRODUCTION

The subject area includes 36 claims belonging to Mr. B.W. Copeland of Prescott, Arizona, (see ASARCO file # Aa-25.0.0, date January 24, 1969). The claims are located in sections 3, 10, 11, 14 and 15, T3N, R4W, of the White Tank Mountain Quadrangle, Arizona. The area is approximately 13 miles southwest of Wittman, Arizona and is accessible by graded and unimproved dirt roads. The general area covered by Copeland's claims was mapped on aerial photographs at a scale of 1"=1000' by J.D. Sell and L.J. Jansen during March and April, 1969.

The hills covered by the claims are set out from the foot of the White Tank Mountains about one-half mile. Topography is muted with maximum relief being on the order of 200 feet. Exposures are fair to good in the main altered zone. Surrounding these hills, especially to the west, are numerous small outcrops protruding through the alluvial cover.

Recent work done on this property by COMINCO, apparently during 1967-68, included a geochem ash analysis of mesquite leaves for Cu and Mo, some I.P. work, and ten diamond drill holes. The geochem sampling showed a large Mo anomaly in section 3 with values ranging between 16 and 32 ppm Mo.

According to Mr. Copeland all ten holes drilled by COMINCO contained small amounts of copper, but nothing of commercial grade. Assays of sludge samples from the holes verified this (see attachment B). COMINCO apparently thinks that mineralization extends to the west under cover since they have recently staked 74 claims, in sections 3, 4, 9 and 10, adjacent to and overlapping the western edge of Copeland's claims.

GEOLOGY

Laramide (?) monzonite porphyry and quartz latite are the principal rock types in the area. A medium grained, pre-mineral granite is exposed in the bottoms of several of the deep washes.

A relatively fresh assemblage of Laramide (?) granite, quartz latite, monzonite porphyry, and diabase dikes are exposed in the hill east of hole C-9. The monzonite porphyry dikes, striking N40°E, occupy the northeast structure which was noted in recent aerial magnetic work by ASARCO.

Small, ENE striking diabase dikes are restricted to the southern half of the area. Prospects showing weak copper mineralization, (chrysocolla and occassional chalcopyrite) are generally associated with the diabase dikes. The overall occurrance of the copper oxide appears to rim the central altered zone.

MINERALIZATION AND ALTERATION

The principal mineralization in the area is pyritic. Quartz/sericite alteration and development of maroon limonite coatings on fractures is locally moderate in the latite east of drill hole C-7. This moderate alteration drops off sharply and surrounding outcrops show only weak pyritic mineralization.

Mineralization is generally restricted to a north trending zone about one mile long and one quarter of a mile wide, and is bordered on the west by unaltered to weakly pyritic latite and monzonite porphyry.

The quartz latite is the favored host rock due to strong fracturing, whereas the monzonite porphyry contains only finely disseminated pyrite.

Pseudomorphs, casts, and boxworks after pyrite are strongest in the latite in the central zone where the overall color is brick red to darker red brown. Hand specimens show red and pink colors of transported hematite, which floods the rock, to deeper red browns of indigenous hematite in the pyritic boxworks.

Fractures in the latite are coated with thin films of hematite and limonite. Thick fracture fillings of relief limonite with sericitized walls similar to Silver Bell are not present in the monzonite porphyry.

The monzonite porphyry is generally fresh to very weakly altered. Slight cloudiness of the feldspar, and the beginning stage of chloritization is the pervasive alteration. Small limonite pseudomorphs after pyrite are widely scattered through the monzonite and not concentrated along fractures as in the latite.

L.J. Jansen

LJJ:lzb
Encl.
cc: WESaegart
WGFarley
JDSell

ATTACHMENT B

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

1700 WEST GRANT ROAD - TELEPHONE 622-4836 - POST OFFICE BOX 5934

TUCSON, ARIZONA 85703

Registered Assayers

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:
Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

Hole No.	Gold ozs.	Silver ozs.	Lead %	Copper %	Zinc %	Mo. %	Cu%		
	ppm	ppm		ppm		ppm			
C- 1	< 0.2	1		444		< 5			
C- 3	< 0.2	< 1		1000		< 5			
C- 4	< 0.2	< 1		332		60			
C- 5	< 0.2	2		28		< 5			
C- 6	0.2	< 1		274		< 5			
C- 7	< 0.2	3		240		< 5			
C- 8	< 0.2	2		50		< 5			
C- 9	< 0.2	5		198		< 5			
C- 10	< 0.2	3		230		< 5			

White Tank. Attn
Copperhead claims.
L Jansen

9 samples prepared @ $.85	$ 7.
9 Au & Ag, geochem @ $2.50	22.
9 Cu, geochem @ $1.00	9.
9 Mo, geochem @ $1.50	13.
1 Cu, verified @ $2.75	2.

CC: American Smelting & Refining Company
ADD: P. O. Box 5795
CITY: Tucson, Arizona 85703
ADD: Attn: L. Jansen
CITY:

REMARKS:

Geochem

Analysis Cert. By

Preparation $ 7.
Analysis $ 47.

ACC: Date Spl. Date $

HAWLEY & HAWLEY
ASSAYERS AND CHEMISTS, INC.
1700 W. GRANT RD. • BOX 5934 • 622-4836
TUCSON, ARIZONA 85703

L JV

BRANCHES: DOUGLAS, ARIZONA; HAYDEN, ARIZONA; EL PASO, TEXAS; AMARILLO, TEXAS

J.H.C.
APR 11 1969

K.V.D.S.
APR 11 1969

IDENTIFICATION	GOLD OZS	SILVER OZS	LEAD %	COPPER %	ZINC %	MO. %	IRON %		
Sludge C-7	Nil	0.04		0.04		< 0.001			
	1 sample prepared							$	0.85
	1 Au & Ag, single								4.00
	1 Cu, single								1.75
	1 Mo, single								3.00

CC: American Smelting & Refining Company
ADD: P. O. Box 5795
CITY: Tucson, Arizona 85703
ADD: Attn: J. H. Courtright
CITY:

REMARKS:

ANALYSIS CERT. BY

PREPARATION $ 0.85
ANALYSIS $ 8.75

ACC: AMERICAN SMELTING & REFINING COMPANY | DATE SPL. RECEIVED 4/4/69 | DATE COMPL. 4/10/69 | TUC 342831 | $ 9.60

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

1700 W. GRANT RD. • BOX 5934 • 622-4836

TUCSON, ARIZONA 85703

BRANCHES: DOUGLAS, ARIZONA; HAYDEN, ARIZONA; EL PASO, TEXAS; AMARILLO, TEXAS

IDENTIFICATION	GOLD OZS	SILVER OZS	LEAD %	COPPER %	ZINC %	MO. %	IRON %		
				total					
CP-J 3				0.10					

CC: American Smelting & Refining Company

ADD: P. O. Box 5795

CITY: Tucson, Arizona 85703

DD: Attn : Mr. L. Jansen

CITY:

REMARKS:

Verified

ANALYSIS CERT. BY K.V.S.

APR 14 1969

PREPARATION $

ANALYSIS $

ACC: AMERICAN SMELTING & REFINING COMPANY | DATE SPL. RECEIVED 4/8/69 | DATE COMPL. 4/11/69 | TWO 342839 A | $ N/C

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

Registered Assayers

1700 WEST GRANT ROAD - TELEPHONE 622-4836 - POST OFFICE BOX 5934

TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:
Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold ozs.	Silver ozs.	Lead %	Copper %	Zinc %	Mo. %	Cu%		
	ppm	ppm		ppm		ppm			
CP-J 1	< 0.2	1		444		< 5			
CP-J 3	< 0.2	< 1		1000		< 5	~~[illegible]~~ 0.10% total Cu).		
CP-J 4	< 0.2	< 1		332		60			
CP-J 5	< 0.2	2		28		< 5			
CP-J 6	0.2	< 1		274		< 5			
CP-J 7	< 0.2	3		240		< 5			
CP-J 8	< 0.2	2		50		< 5			
CP-J 9	< 0.2	5		198		< 5			
CP-J 10	< 0.2	3		230		< 5			
	9 samples prepared @ $.85								$ 7.65
	9 Au & Ag, geochem @ $2.50								22.50
	9 Cu, geochem @ $1.00								9.00
	9 Mo, geochem @ $1.50								13.50
	1 Cu, verified @ $2.75								2.75

White Tank. Attn
Copeland claims.
L Jansen

CC: American Smelting & Refining Company
ADD: P. O. Box 5795
CITY: Tucson, Arizona 85703
ADD: Attn: L. Jansen
CITY:

REMARKS:

Geochem

Analysis Cert. By [illegible]

Preparation $ 7.65
Analysis $ 47.75

ACC: AMERICAN SMELTING & REFINING CO. | Date Spl. Received 4/8/69 | Date Compl. | TUC 349839 | $ 55.40

AMERICAN SMELTING AND REFINING COMPANY
SOUTHWESTERN EXPLORATION DEPARTMENT
P.O. BOX 5795, TUCSON, ARIZONA 85703

J. H. COURTRIGHT
CHIEF GEOLOGIST
L. P. ENTWISTLE
ASSISTANT CHIEF GEOLOGIST
W. E. SAEGART
ASSISTANT CHIEF GEOLOGIST

1150 NORTH 7TH AVENUE
TELEPHONE 602-792-3010

April 25, 1969

Mr. B.W. Copeland
311 So. Montezuma
Prescott, Arizona

Copperland,
Maricopa Co., Arizona

Dear Mr. Copeland:

This will acknowledge your letter of April 22 regarding Copperland and the COMINCO claims to the west. According to our geologists, COMINCO has staked 74 claims in sections 3, 4, 9 and 10 adjacent to and overlapping the western edge of your claims.

We have completed our examination of the Copperland prospect, which included geologic mapping, geochem sampling of outcrops and magnetic and induced polarization geophysical surveys. After studying the results of this work, we regret to advise that we do not wish to proceed further. Accordingly, we will not enter into a lease, as contemplated in your letter to us of March 14, 1969, and hereby relinquish our exclusive right to examine the property, granted by that letter.

As soon as the drafting of maps is completed, we will forward you copies (including geochem data) and also return your aerial photograph at the same time.

We thank you kindly for bringing this prospect to our attention.

Yours very truly,

J. H. Courtright
J.H. Courtright

JHC:lzb

cc: WESaegart
SIBowditch
JDSell

May 29, 1969

Mr. B.W. Copeland
311 So. Montezuma Avenue
Prescott, Arizona 86301

B.W. Copeland Properties
Maricopa & Yavapai Counties,
Arizona

Dear Mr. Copeland:

I am sending you by registered mail a copy of the geologic map and the geophysical overlay map of our recent work at the White Tank area. Also enclosed is your aerial photograph of the same area. I certainly wish to thank you for your aid and loan of material in this study.

It is good to hear that you've been able to work on the Slate Creek area and that you have some interesting results. What widths samples are you cutting for the assays given?

Unfortunately, other time consuming projects are on top at the present time and I will be unable to get up to see your Slate Creek and other projects for the next several weeks at the earliest.

Sincerely yours,

James D. Sell

JDS:lzb
Encl.

cc: JHCourtright

AMERICAN SMELTING AND REFINING COMPANY
SOUTHWESTERN EXPLORATION DEPARTMENT
P.O. BOX 5795, TUCSON, ARIZONA 85703

J. H. COURTRIGHT
CHIEF GEOLOGIST
L. P. ENTWISTLE
ASSISTANT CHIEF GEOLOGIST
W. E. SAEGART
ASSISTANT CHIEF GEOLOGIST

1150 NORTH 7TH AVENUE
TELEPHONE 602-792-3010

May 29, 1969

Mr. B.W. Copeland
311 So. Montezuma Avenue
Prescott, Arizona 86301

B.W. Copeland Properties
Maricopa & Yavapai Counties,
Arizona

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I am sending you by registered mail a copy of the geologic map and the geophysical overlay map of our recent work at the White Tank area. Also enclosed is your aerial photograph of the same area. I certainly wish to thank you for your aid and loan of material in this study.

It is good to hear that you've been able to work on the Slate Creek area and that you have some interesting results. What width samples are you cutting for the assays given?

Unfortunately, other time consuming projects are on top at the present time and I will be unable to get up to see your Slate Creek and other projects for the next several weeks at the earliest.

Sincerely yours,

James D. Sell

James D. Sell

JDS:lzb
Encl.

cc: JHCourtright

MR. VDS

READ AND RETURN

PREPARE ANSWERS ___ HANDLE ___

FILE ___ INITIALS ___

311 So. Montezuma St.,
Prescott, Arizona
May 22, 1969

J. H. C.

MAY 26 1969

J. H. Courtright,
Chief Geologist,
Southwestern Exploration Dept.,
A. S. &R. Co., Tucson

Dear Mr. Courtright:-

I have your letter of April 25th cancelling out on my desert Copperland property, with paragraph regarding return of aerial photo, etc. So far these have not arrived. However, I did get the final papers on the honorable Silver Crown!!

When the boys were up here I told them about a 14-claim gold and silver property of my own on Slate Creek off the south slope of Mt. Tritle in the area of the Golden Eagle, Davis-Dunkirk, Jersey Lily, Buzzard, Blue Dick, Dosoris and others. At that time I was planning to open a cross-cut tunnel into a vein on up the side of the canyon and they asked to be allowed to examine the entire property when the vein was cut.

Tell them we have intersected the vein and been drifiting both north and south on it. At present we are putting in a raise on an ore shoot which showed up to the south. Values are running around 2.02 oz. Au and 32.5 oz. Ag., with a little copper. However, This part will not be of interest to the company.

The part they will be interested in is to the south, where we have a red dike 20 to 30 feet wide running up the side of the canyon wall (lengthwise) for half-a-mile or so. Assays on this run mostly at 10 oz. silver and .02 oz. gold. I think it can be undercut with a bulldozer and many thousands of tons of milling ore taken out from the surface. Also, there are a number of other interesting structure which I will show them. A number of drill holes should be put down from the ridge, as some other strong structures are indicated along it NE-SW. I would like to get a good company on this as soon as I can, so if you can send me Jim Sell, or another good man right away, I would appreciate it. Give him time enough to look over a couple of other properties while he is up here.

Very truly yours,

B.W. Copeland

B. W. Copeland

I called this P.M., but the girl said you were out until Monday.

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

May 12, 1969

TO: J. H. Courtright

FROM: W. G. Farley

GEOPHYSICAL SURVEYS
WHITE TANK MTS. DISTRICT
MARICOPA COUNTY, ARIZONA

On March 25, 1969 an I.P-Resistivity survey was initiated on the Copeland Mining Claims on the northwest flank of the White Tank Mountains west of Phoenix. On April 11, 1969, the survey was completed. The survey was run with the Hunter-Scintrex 7.5 kilowatt I.P. unit using a wenner 1000 foot and 2000 foot "a" and a three electrode 1000 foot "a". Figure 1 shows the location of the I.P. traverse lines and stations. East-West line Number 3 was repeated with a wenner 250 foot and 500 foot electrode separation to obtain depth information on the I.P. anomaly that was obtained in that area. (see Figure 3) A total of 26 line miles of I.P.-Resistivity were run. The I.P. anomaly that was detected (above 4.0 m.v./v. on the wenner 1000 foot "a") has overall dimensions of three miles northwest-southeast by two miles northeast-southwest. (see Figure 2) The strongest part of the I.P. anomaly above 8.0 m.v./v. covers the bottom half of section 3, T3N, R4W. Since there are mineralized outcrops within part of the anomalous I.P. area, it can safely be assumed that all of the anomalous I.P. response was coming from a sulfide source. The maximum response obtained was 12.1 m.v./v. on the three electrode 1000 foot "a" near the center of the bottom half of section three. At this point, the top of sulfides calculated out to be at a depth of 160 feet. On the east side of Section three sulfides calculated out to be 50 feet or less in depth and on the west side of Section three about 350 feet in depth. In the strongest part of the I.P. anomaly, the amplitude of I.P. response above background suggest a total sulfide content of 2 to 3%. The location of the I.P. anomaly with respect to geology is shown on Mr. L.J. Jansen's Geological Map in his report B. W. Copeland Claims April 21, 1969. The conclusion reached from a geophysical-geological correlation is that the I.P. anomaly was coming mostly from a pyritic sulfide source with very low copper sulfide values.

Overlay Map Figure 4 shows the total intensity aeromagnetic response obtained over the Copeland area. This survey was flown by Asarco on April 1, 1969 on north-south lines spaced 1/2 mile apart. The flight altitude was 2800 feet barametric MSL which placed the aircraft 1000 to 1300 feet above the surface over the anomalous I.P. area. The most significant feature obtained was the detection of a northeast-southwest magnetic lineament passing through the center of the I.P. anomaly. This lineament marks the south edge of a northeast-southwest magnetic low to the north which is

probably outlining an area of low susceptibility rock. The northeast end of the magnetic low covers the north half of the I.P. anomaly. Within this area, the outcrop rocks mapped by Mr. Jansen are quartz monzonite and quartz latite. Both of these rock types tipically have low susceptibility. It appears feasible that the mineralization on the Copeland Claims is associated with and came up along the contact of this quartz monzonite intrusive. The rest of the area surrounding the magnetic low should also be favorable for other occurances of mineralization. At this time, the immediate area west of the Copeland Claims is not accessible because the ground was recently staked by Cominco. Cominco is presently running an I.P. survey in that area. However, 5 miles to the southwest on a projection of the northeast-southwest magnetic lineament precambrian granite rocks with some weak alteration outcrop in the bottom of the Hassayampa River flood plain. A U.S.G.S. Bouguer gravity map of the flood plain area suggests a shallow northwest-southeast pediment. I think this area would be favorable for future I.P. work. First I recommend an expansion of the aeromagnetic survey 6 more miles to the west and twelve more miles to the south to cover the suggested pediment. The magnetic survey should be flown 500 feet above the surface.

Wayne G. Farley

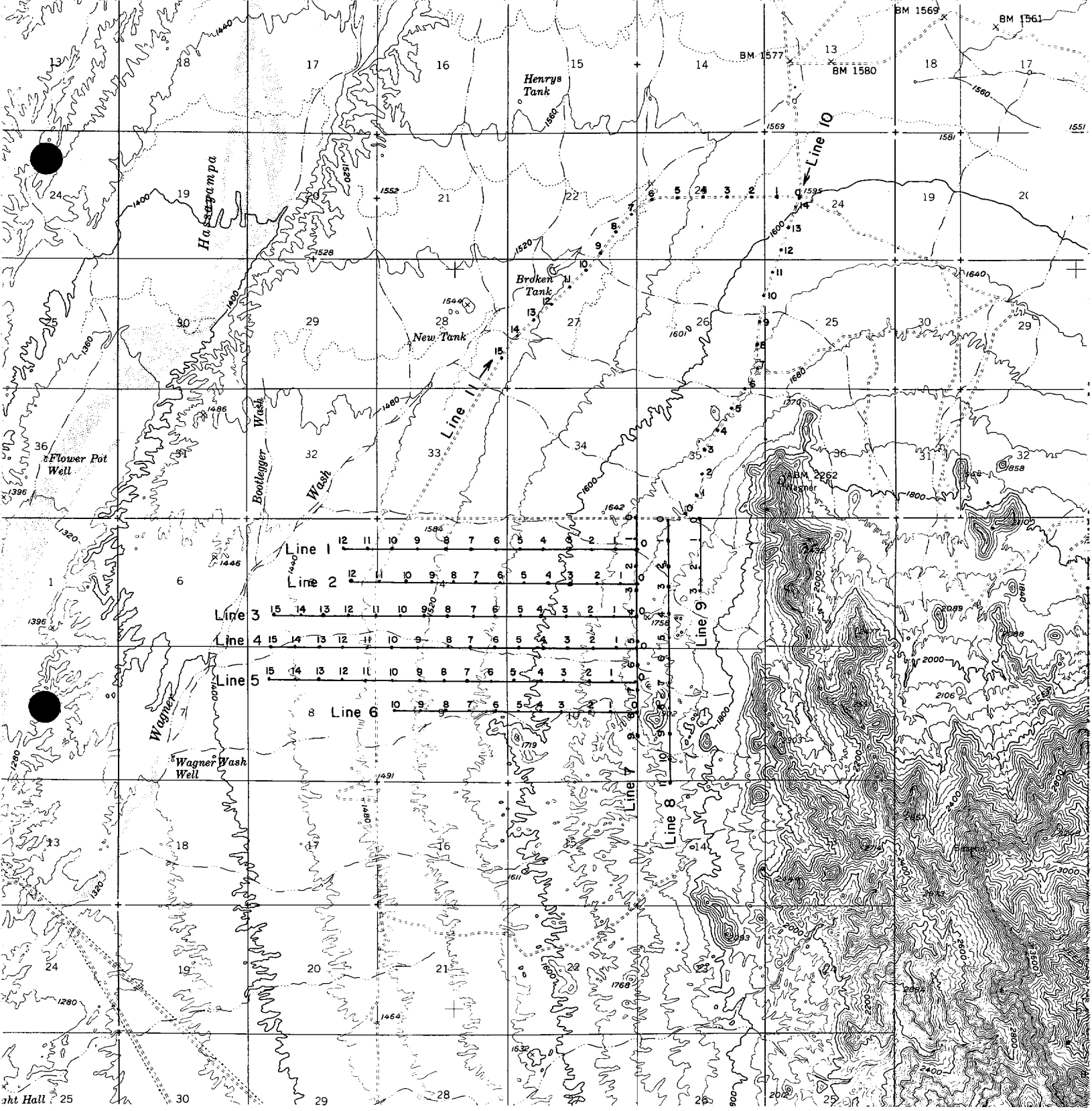
Wayne G. Farley

WGF/lab

cc: RJLacy
WESaegart
JDSell

TAB

Figure 1



I. P. — Resistivity Location Map

WHITE TANK MTS. DISTRICT

Maricopa County, Arizona

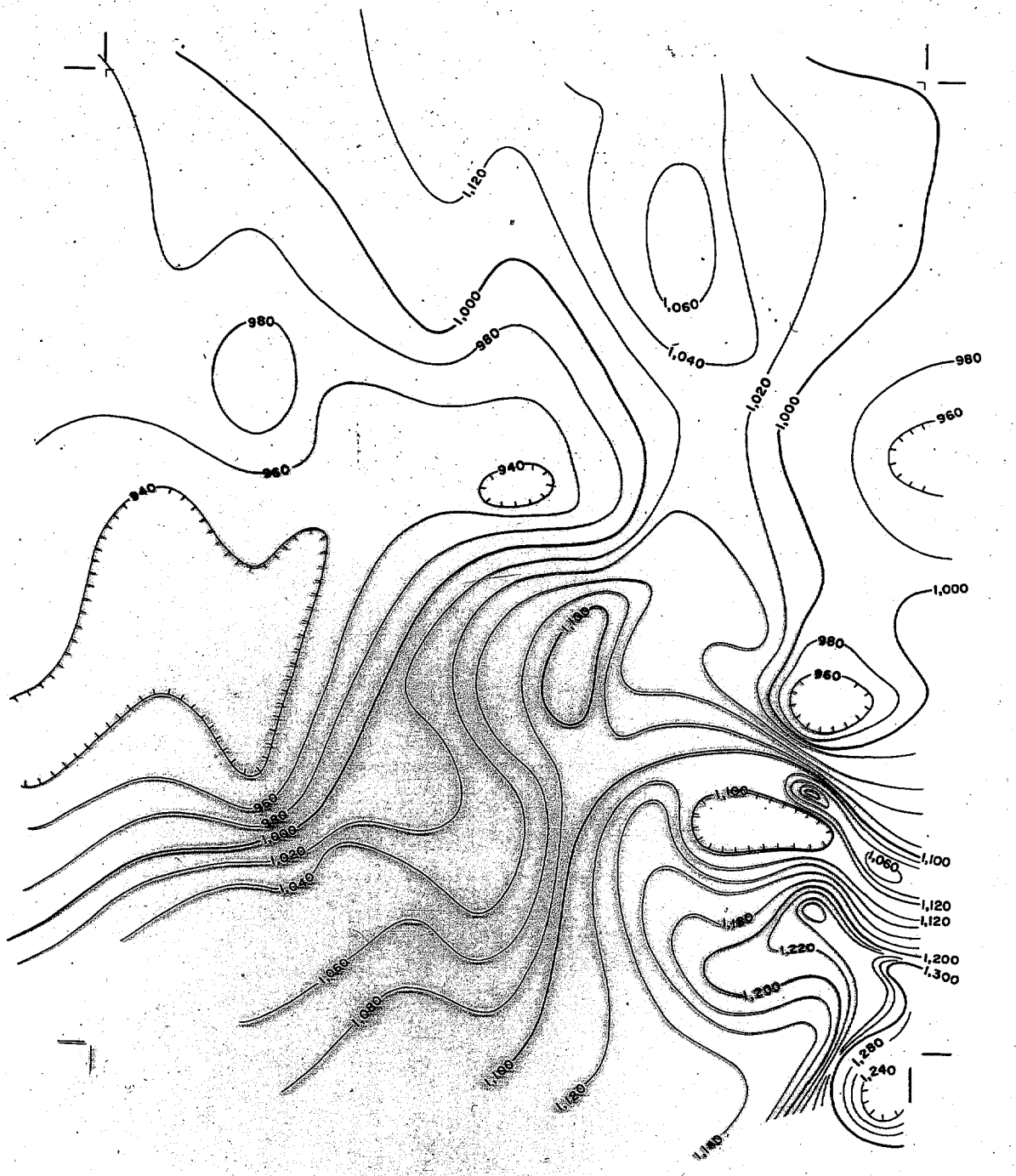
Scale 1" = 1mi.

April, 1969

W. G. F.

TAB

FIGURE 4



NOTES:

1. Total intensity.
2. 1/2 mile flight line spacing.
3. Flight altitude 2800 feet barometric MSL.
4. Flight lines: North - South.
5. Elsec. Magnetometer 592J.
6. Plane: Grand Commander 680 F.L.
7. Add 50,000 gammas to contour value.

1 1/2 0 1 MILE

Original Scale 1:24000

N

AMERICAN SMELTING AND REFINING CO.
GEOPHYSICAL DIVISION
SALT LAKE CITY, UTAH

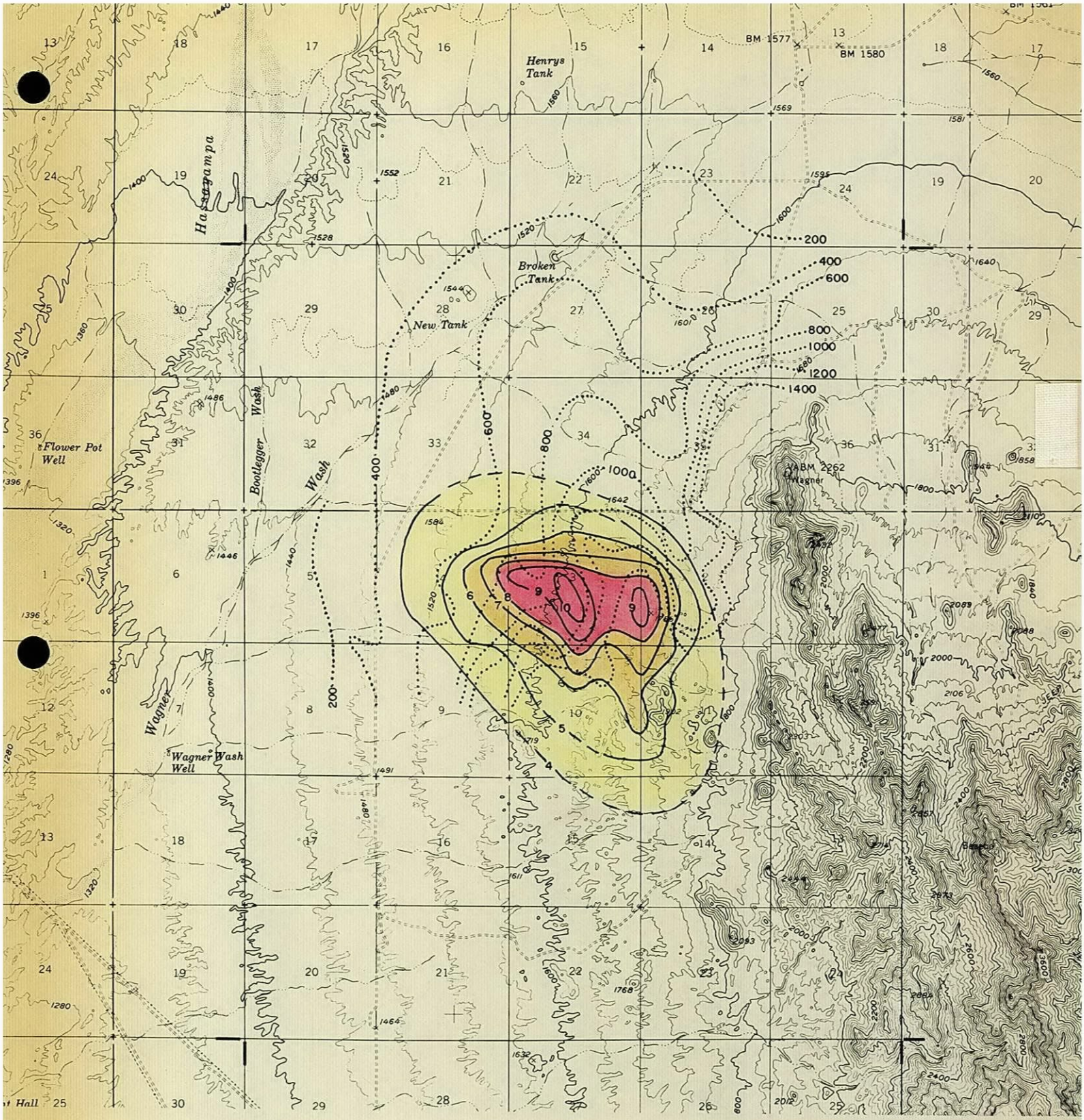
AEROMAGNETIC MAP
WHITE TANK MTS., DISTRICT
MARICOPA CO. ARIZONA

CONTOUR INTERVAL: 20 GAMMAS

Inst. J.M. Panak • Contoured J. Hafeman • Date: April 1969

TAB

figure 2



NOTES:

1. I. P. Contour Interval = 1 m.v./v.
2. Resistivity Contour Interval = 200 ohm feet

I. P. and Resistivity Contours

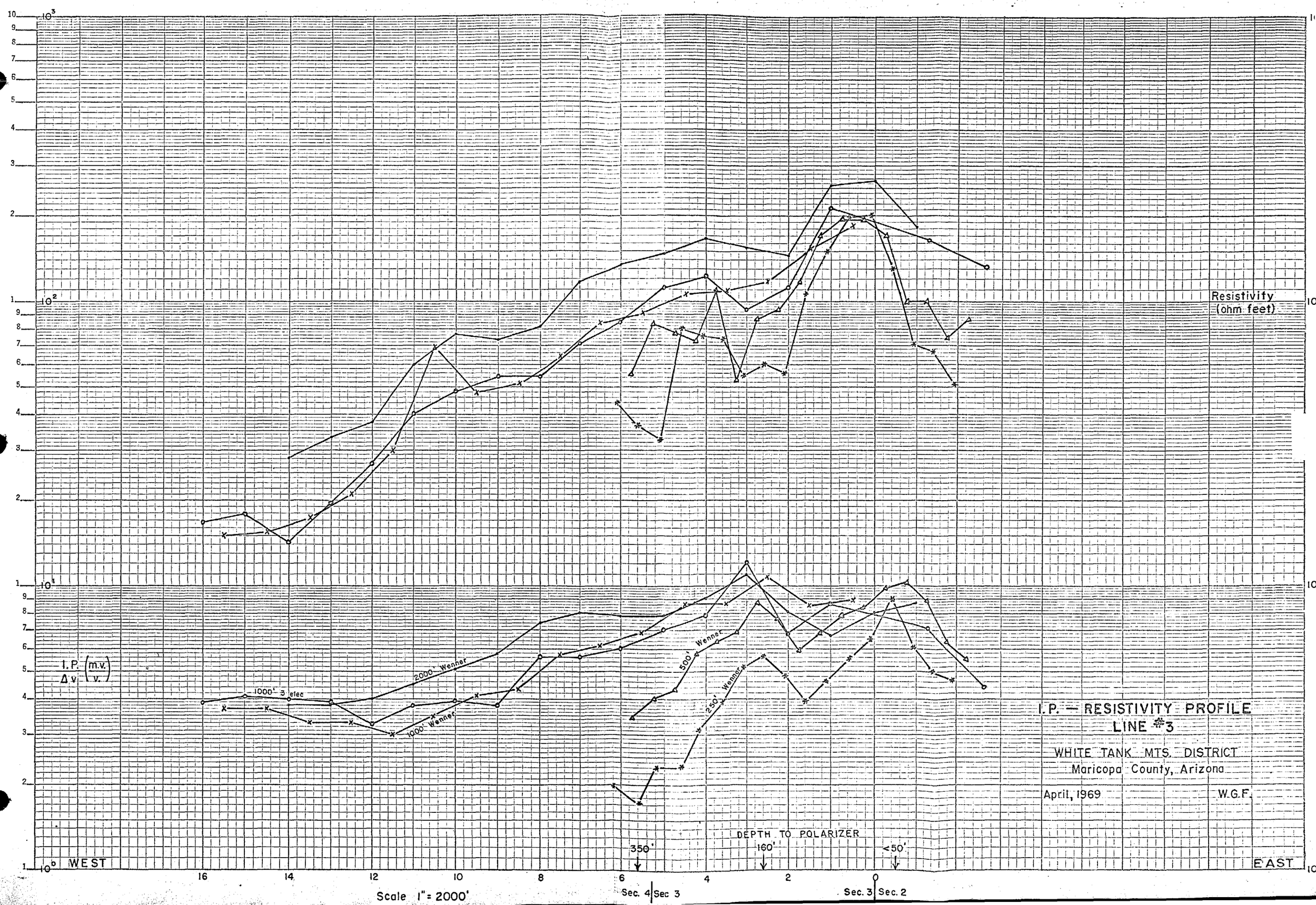
WHITE TANK MTS DISTRIC

Maricopa County, Arizona

Scale 1" = 1 mi

TAB

FIGURE 3


Resistivity (ohm feet)
I.P. Δv (m.v./v.)
2000' Wenner
1000' 3 elec
1000' Wenner
500' Wenner
250' Wenner
DEPTH TO POLARIZER
350'
160'
<50'
WEST
EAST
16
14
12
10
8
6
4
2
0
Sec. 4
Sec 3
Sec. 3
Sec. 2
Scale 1" = 2000'
I.P. — RESISTIVITY PROFILE
LINE #3
WHITE TANK MTS. DISTRICT
Maricopa County, Arizona
April, 1969
W.G.F.
SEMI-LOGARITHMIC 359-71LG
KEUFFEL & ESSER CO. MADE IN U.S.A.
3 CYCLES X 150 DIVISIONS

✓ 8ppm > Mo < 16ppm
✓ Mo ≥ 16ppm

Copperhead - Plant ash assays -

Sample #	Mo - PPM	Cr - PPM	Location
# 1 -	✓ 8.6		Claim # 47
2 -	✓ 17.7		54
3 -	✓ 11.1		49
4 -	7.4		34 - So
5 -	4.9		34 - No
6	✓ 21.6		39
7	6.0		41
8	5.5		30
9	✓ 13.6		27
10	6.3		28
11	6.6		well - 30
12	✓ 11.0		15
13	7.4		18
14	6.1		9
15	✓ 8.3		12
16	7.6		2
17	8.0		1/4 No. gate
18	✓ 18.5		1/2 " "
19	7.4		
20	✓ 11.2		
21	✓ 8.5		
22	6.8		
23	✓ 10.8		
24	7.6		
25	✓ 13.6		
26	✓ 14.3		
27	✓ 10.3		
28	✓ 12.9		
29	✓ 13.1		

Sample #	Mo. PPM	Copper and Co-PPM-	Location
#30-	6.7		See map + mileage Sheet.
31-	✓17.5		
32-	✓18.2		
33-	✓11.7		
34-	✓21.3		
35-	✓9.2		
36-	✓23.9		
37	✓16.3		
38	✓12.7		
39	✓18.3		
40	7.7		
41	✓14.3		
42	✓15.5		
43	7.8		
44	✓12.8		
45	5.9		
46	✓10.6		
47	✓8.7		
48	✓8.4		
49	✓11.1		
50	✓11.6		
51	✓14.6		
52	6.4		
53	✓12.7		
54	✓14.5		Greenwood - No. Hill - MW.

Sample #	Mo - PPm	(Copperland) Cu - PPm	Location (Copperland)
#55	4.1	70	See map & mileage sheet.
56	6.1	80	
57	8.0	75	
58	5.5	75	
59	✓16.5	110	
60	2.5	60	
61	6.1	70	
62	7.2	75	
63	4.9	70	
64	6.1	135	
—			
66	7.4	35	
67	✓16.8	85	
68	4.9	60	
69	4.9	60	
70	✓12.2	65	
71	3.3	35	
72	5.6	75	
73	4.9	60	
74	6.9	60	
75	6.0	50	
76	✓8.5	60	

(Renumbering from 70)

Copperland - (Johnson)

Sample #	Mo - PPM	Cu - PPM -	
			See map + mileage Sheet -
80 -	1	40	1 mi E. Section Corner 18/27 33/34
81	2	50	
82	1	45	
83	1	35	
84	1	45	
85	2	45	
86	1	50	
87	4	60	
88	1	45	
89	1	45	
90	7	45	
91	2	40	
92	2	35	
93	1	35	
94	2	170	
95	1	140	
96	1	40	

Sample #	Location	3rd Trip - BWC [illegible]
55	1st mesquite So Ranch Tank -	20,890
56	Last mesquite on Left before end of Lane -	20,890.5
57	1st mesquite on Left - west from end of Lane -	890.7
58	Mesquite over fence to right.	891.2
59	.1 E. off Road at wash - 3 Half-dead mesquites -	891.5
60	Big mesquite by right of Road - out from Big wash -	892.0
61	Next mesquite Rt. of Road	892.3
62	Mesq. off road to Broken Tank: (Just Past) (Lost 2 going into Tank)	893.0
63	Mesq. Near Big wash toward So Hill of NW 2 -	894.4
64	Greasewood in rocks - top of So Hill - NW Dvo. (5 min walk from wash; .3 Lg. way to wash) -	(894.4)
65 ✓	2 good sized Ironwoods by very crooked Cactus (So. of our 2nd sampling) (MO - 162 / CV - 156)	898.1
66 ✓	98.5 Junction Rd fr. No across Big wash:	898.5
67 ✓	R.E. on Rd - 895.9	898.9
68 ✓	899.6 - Ironwood [illegible] on [illegible]	899.6
69 ✓	1.1 E. on trail - Nearly west Sugarloaf - 20° So. Ironwood - NW Small Hill Ridge	20,900.9
70 ✓	Left at Gate - Ironwood - 901.4 (Gate So. we did Not see)	901.4
71 ✓	Ironwood across little wash to right - 1/2 mi. So. [illegible] - 901.9	901.9
72 ✓	902.4. Ironwood to Rt. behind Palo Verde. (S.) No. Section Cor. 3N 4W - 20/21 29/28	
73 ✓	903.0 - Dr. 1/2 mi. So. Survey Marker	
74 ✓	903.8 Dr. old gnarled - on Left after angle Rd. to old P.L. Rd.	
75 ✓	904.5 - Dr. on Small Wash - (to Left)	
76 ✓	905.0 - ✓ On Left. of old Power line Rd.	
77		
78		
79		
80		
81		
82		
83		
84		
85		

CL.80 - 1.1 mi E. Sect Cor. - New Road Running East.

CL-81 234.3 - Corral Tr. South - (1st mesq. on Left) 234.5

CL-82 .1 off Rd to Right by tank - Mesq - 235.2

CL-83 .1 off to Rt of Trail - Mesquite - 236.1

CL.84 .3 directly So. of #83 - by tank (mesquite) - 236.4

CL-85 1 mi west along fence at wash + Tank, old Dead mesq. 237.4

CL-86 .9 mi. So of fence down wash at next tank mesq. mistletoe 238.5

CL-87 .8 mi west on trail from Tank - mesq. behind Buckhorn Cactus - at turn of Rd. (Lost 2) 239.3

CL-88 .1 west of trail at Cluster of mesq. 1 mi So. #87 240.4

CL-89 .1 " " " at Tank - mesq. SE Bank - Lost 2 241.1

CL-90 1 mi So. Mesq. on small wash. nearing Tank + NW Hills 242.2

CL-91 - ap ½ mi No. 1st NW Hill - Mesq. on small wash - 243.7

CL-92 - Mesquite on Left of trail - just west of No. Hill - 244.2

CL-93 By tank under So. Hill (NW) - Mesquite 244.5

CL-94 Greasewood on rocky spot toward little Knoll off west 244.7

CL-95 - Little low Knoll (Greasewood on rocks) W of NW Hill about mile - 244.8

CL-96 2 Mesq. on flat wash between No Hill low r ! - 244.9

BIOGEOCHEMICAL SURVEY

BY L. W. DANIEL

BOX 322, PRESCOTT, ARIZONA 86301

B.W. Copeland - Copperland -

SAMPLE NO.	LOCATION	MO. P.P.M.	CU. P.P.M.	SE. P.P.M.		
1	Cl. #7.	8.6				
2	✓ Cor. 5th	17.7				
3	✓ 49 Q.	11.1				
4	✓ 34 So.	7.4				
5	✓ ✓ No.	4.9				
6	✓ 39	21.6				
7	✓ 41	6.0				
8	✓ 30	5.5				
9	✓ 27	13.6				
10	✓ 28	6.3				
11	✓ 30 (well)	6.6				
12	✓ 15 - So.	11.0				
13	18 - No.	7.4				
14	✓ 9	6.1				
15	✓ 12	8.3				
16	✓ 2	7.6				
17	1/4 mi. No. Gate	8.0				
18	1/2 mi. North ✓	R-18 Same: 18.5				
19	Cop. 18 ?	7.8	[illegible]			
20	Near 18 -	11.2	[illegible]			
21	200 yds. E. #18	8.8	[illegible]			
22	400 yds. E-18	6.8	[illegible]			
23	600 yd. Ne. of 19.	10.8	[illegible]			
24	600 yd. Ne-19	7.6	[illegible]			
25	200 yds. So-19	13.6	[illegible]			
26	400 ✓ So. ✓	14.3	[illegible]			
27	1/4 mi. 1st W. on fence	10.3	[illegible]			
28	1/2 mi - W. on fence	12.9	[illegible]			
29	3/4 ✓ ✓ ✓	13.1	[illegible]			
30	1 mi. ✓ ✓	6.1	[illegible]			
31	1 1/4 ✓ ✓	17.5	[illegible]			
32	1 1/2 ✓ ✓	18.2	[illegible]			
33	1 3/4 ✓ ✓	11.6	[illegible]			
34	2 mi. W. on fence	21.4	[illegible]			
35	On So. between twin hills	9.2	[illegible]			

March 8 - 1968

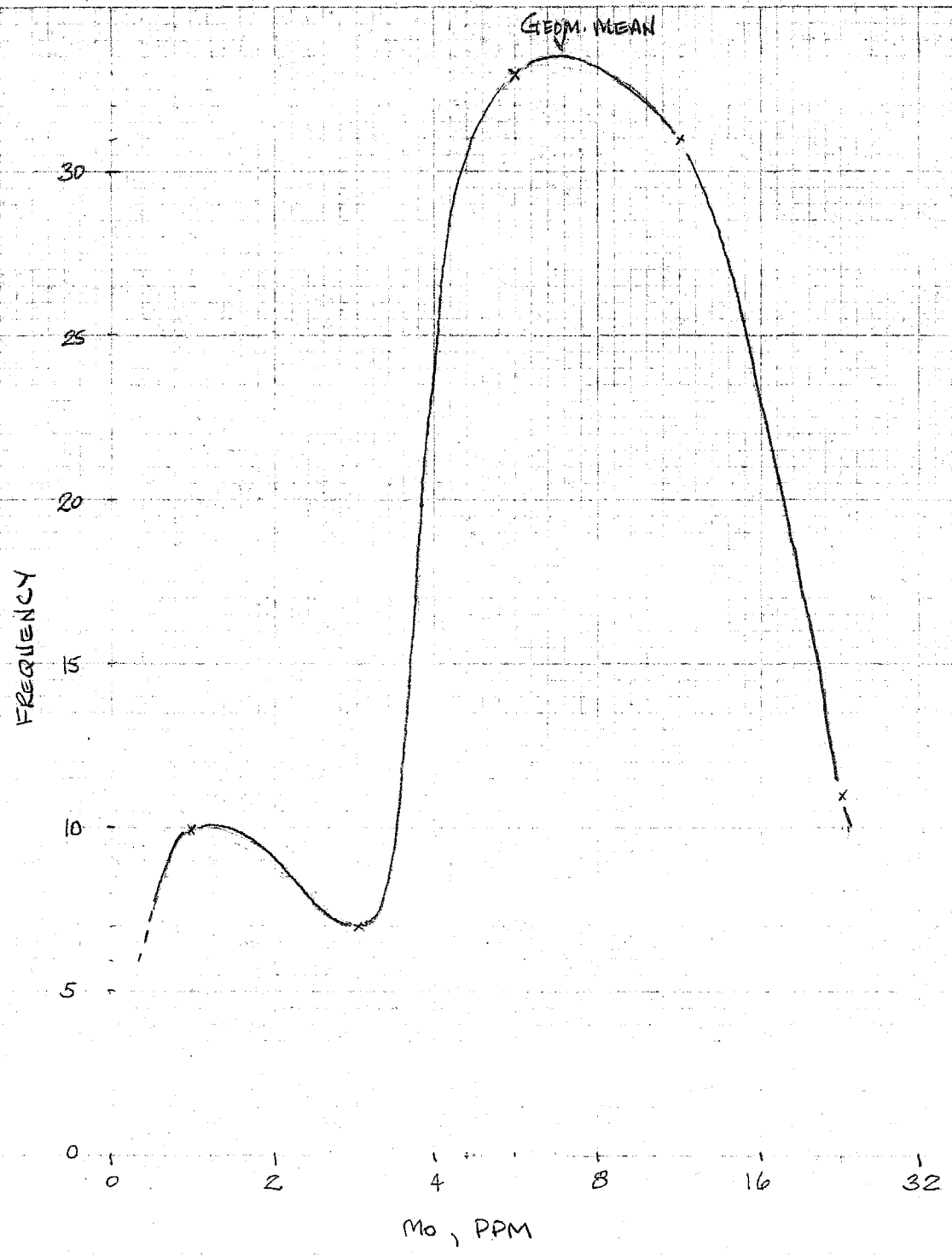
BIOGEOCHEMICAL SURVEY

B.W. Copeland - Copperland.

BY L. W. DANIEL

BOX 322, PRESCOTT, ARIZONA 86301

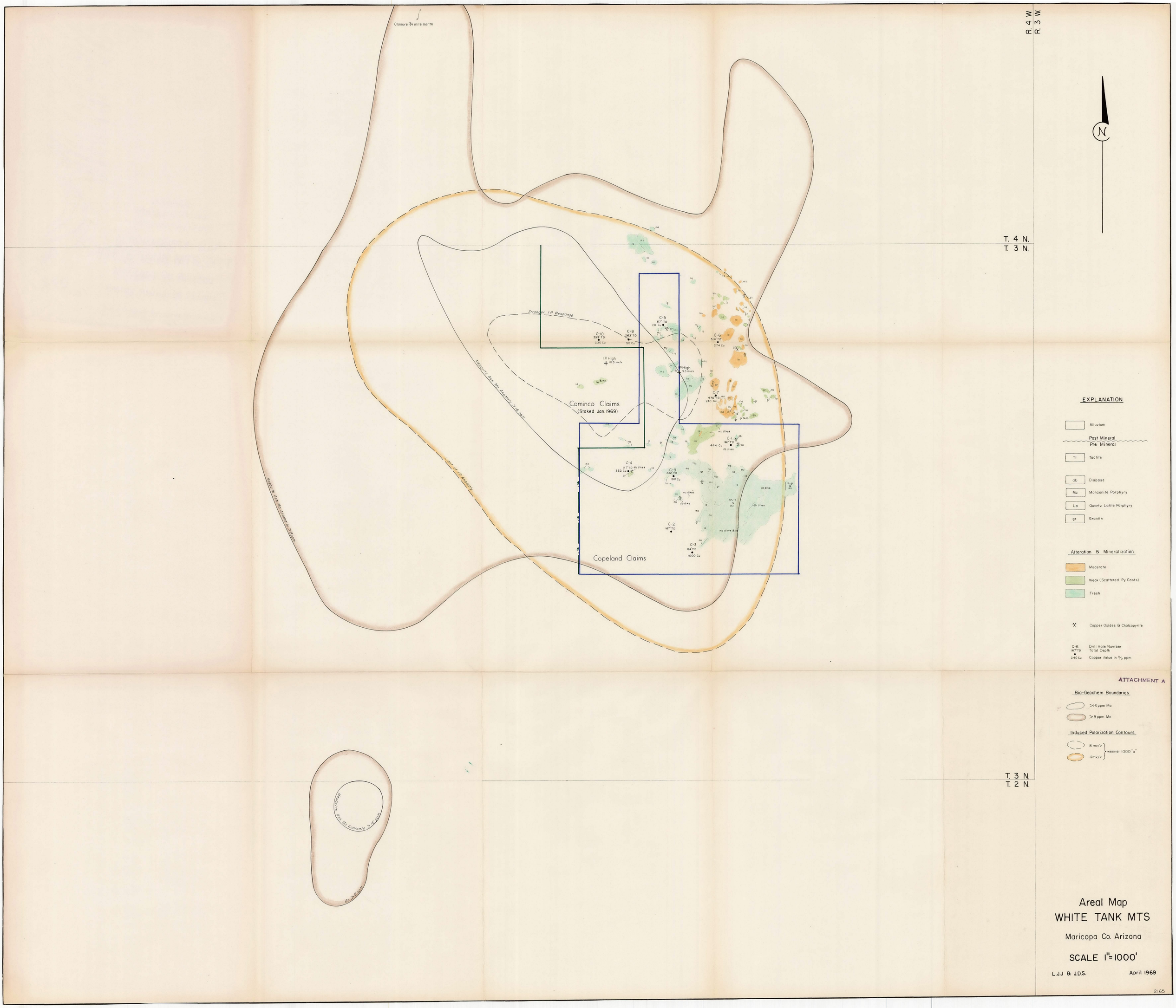
SAMPLE NO.	LOCATION	MO. P.P.M.	CU. P.P.M.	SE. P.P.M.		
36	1/4 ~~To~~ E. 56 Sc. Tw. Hls.	24.0	435			
37	W Edge Sec 3 -	16.3	297			
38	3/8 M - E. 37	12.7	233			
39	1/4 Below W Red Hls.	18.5	337			
40	1/4 M. W. Black Hls	7.7	140			
41	1/2 M. " " "	14.2	260			
42	3/4 " " " "	15.5	282			
43	W. Pt. Smooth Hills -	7.8	141			
44	1/4 M. further W -	12.9	232			
45	1/4 E. Red Bump -	5.9	108			
46	on Red Bump	10.5	192			
47	at Buckeye Rd.	8.7	159			
48	1/4 No. 47	8.4	154			
49	1/2 " "	11.1	[illegible]			
50	3/4 " "	11.6	210			
51	1 mi " "	14.6	266			
52	Just Past Gate	6.5	118			
53	3/4 NE. "	12.7	231			
54	Grease Wood hill.	14.5	[illegible]			



PLOT OF MIDPOINT OF CLASS VS. FREQUENCY OF OCCURRENCE FOR Mo IN 92 SAMPLES OF MESQUITE ASH.

GEOM. MEAN APPROX. = 7 PPM
BACKGROUND VALUE = 8 PPM

VALUES > 8 PPM ARE PROBABLY ANOMALOUS.
VALUES ≥ 16 PPM STRONGLY ANOMALOUS.



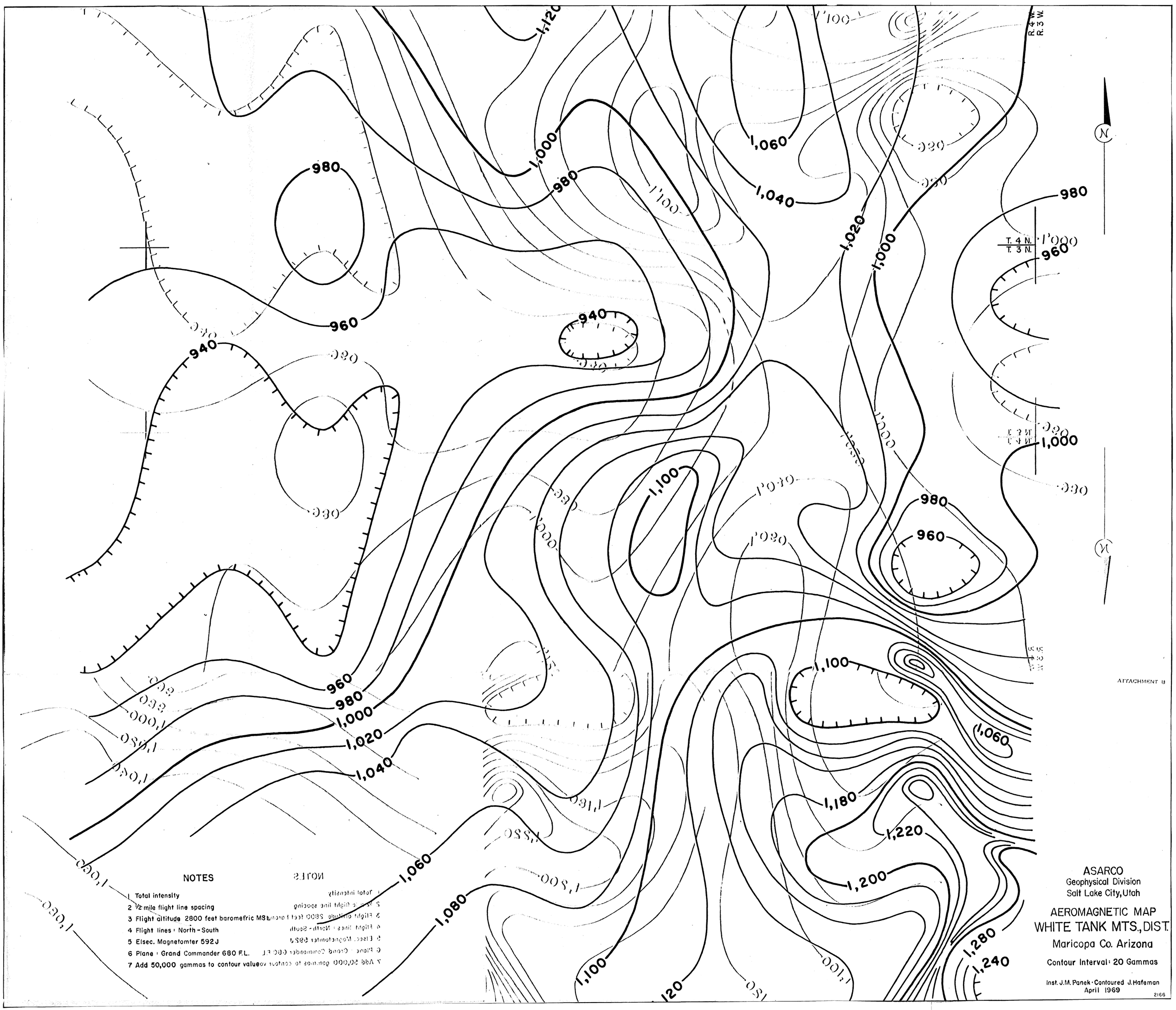
Areal Map
WHITE TANK MTS

Maricopa Co. Arizona

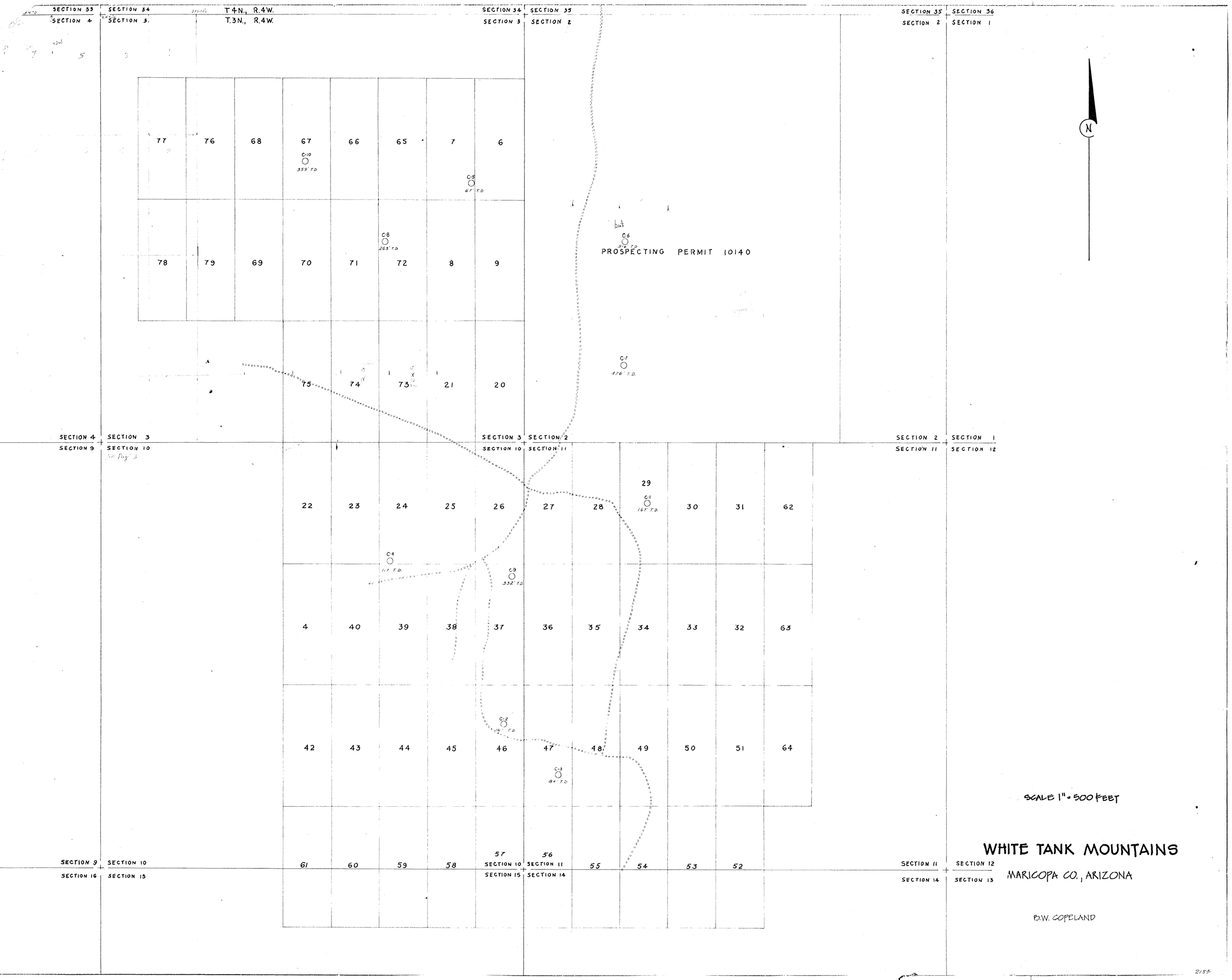
SCALE 1" = 1000'

L.J.J & J.D.S. April 1969

2165



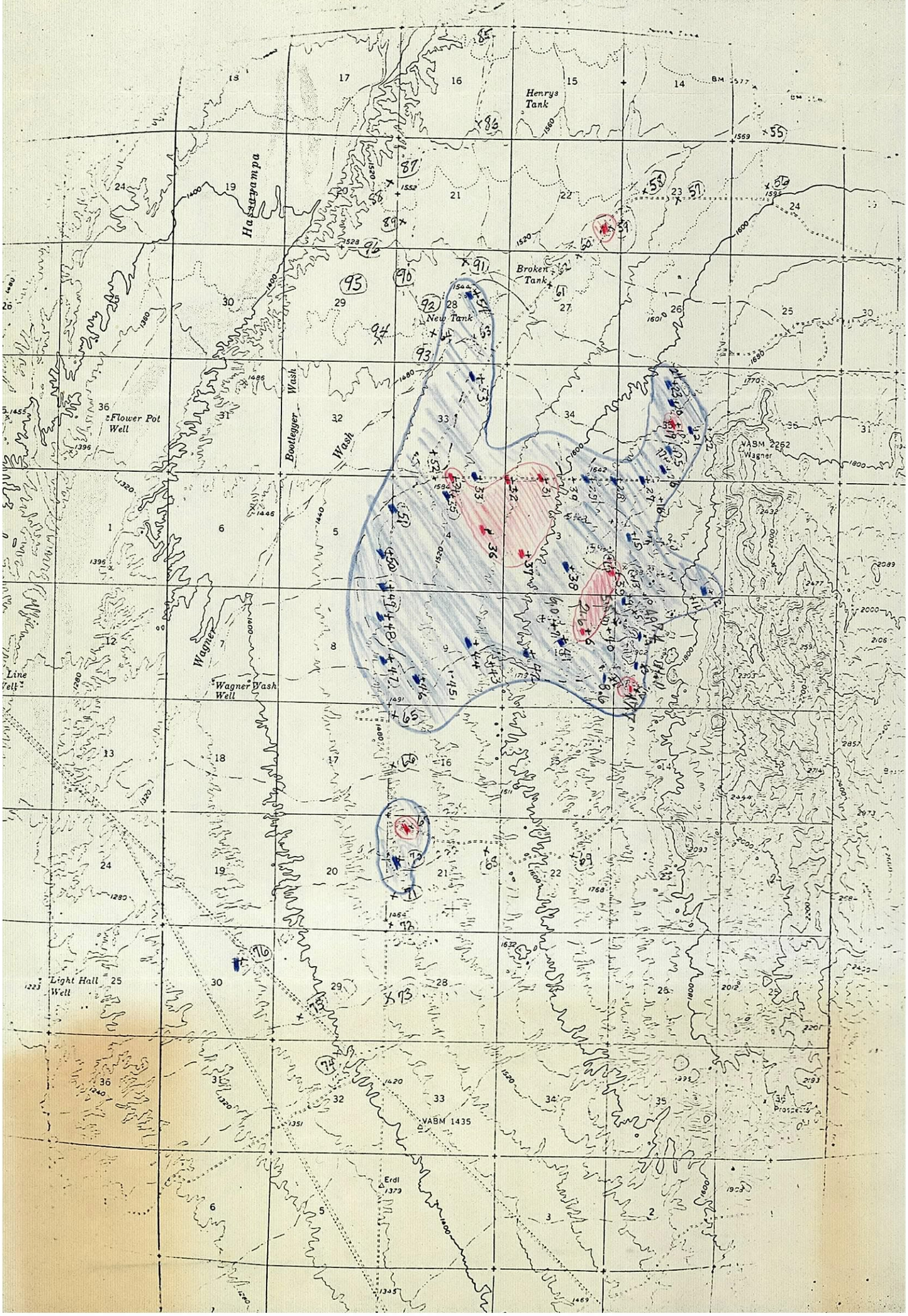
ATTACHMENT 8



SCALE 1" = 500 FEET

WHITE TANK MOUNTAINS

MARICOPA CO., ARIZONA

D.W. COPELAND

Contouring by
Bruce Kilpatrick
ASARCO
May 1, 1969