



## CONTACT INFORMATION

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Arizona Department of Mines and Mineral Resources Mining Collection

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08/05/91

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: BLUE BIRD GROUP

ALTERNATE NAMES:

COPPER CHIEF

YAVAPAI COUNTY MILS NUMBER: 899B

LOCATION: TOWNSHIP 8 N RANGE 1 W SECTION 4 QUARTER SE  
LATITUDE: N 34DEG 03MIN 48SEC LONGITUDE: W 112DEG 21MIN 44SEC  
TOPO MAP NAME: COLUMBIA - 7.5 MIN

CURRENT STATUS: EXP PROSPECT

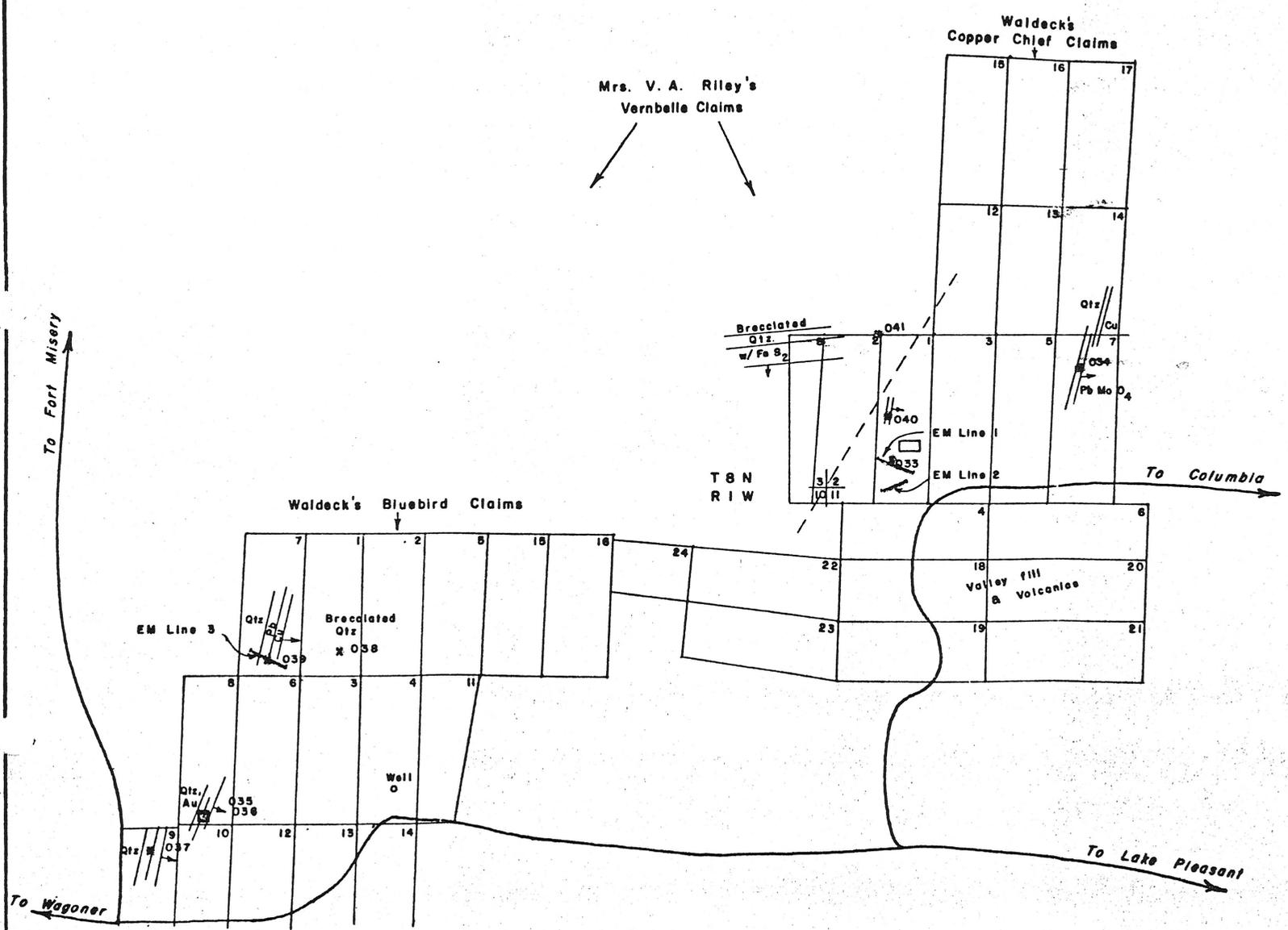
COMMODITY:

GOLD  
SILVER  
LEAD  
ZINC  
COPPER

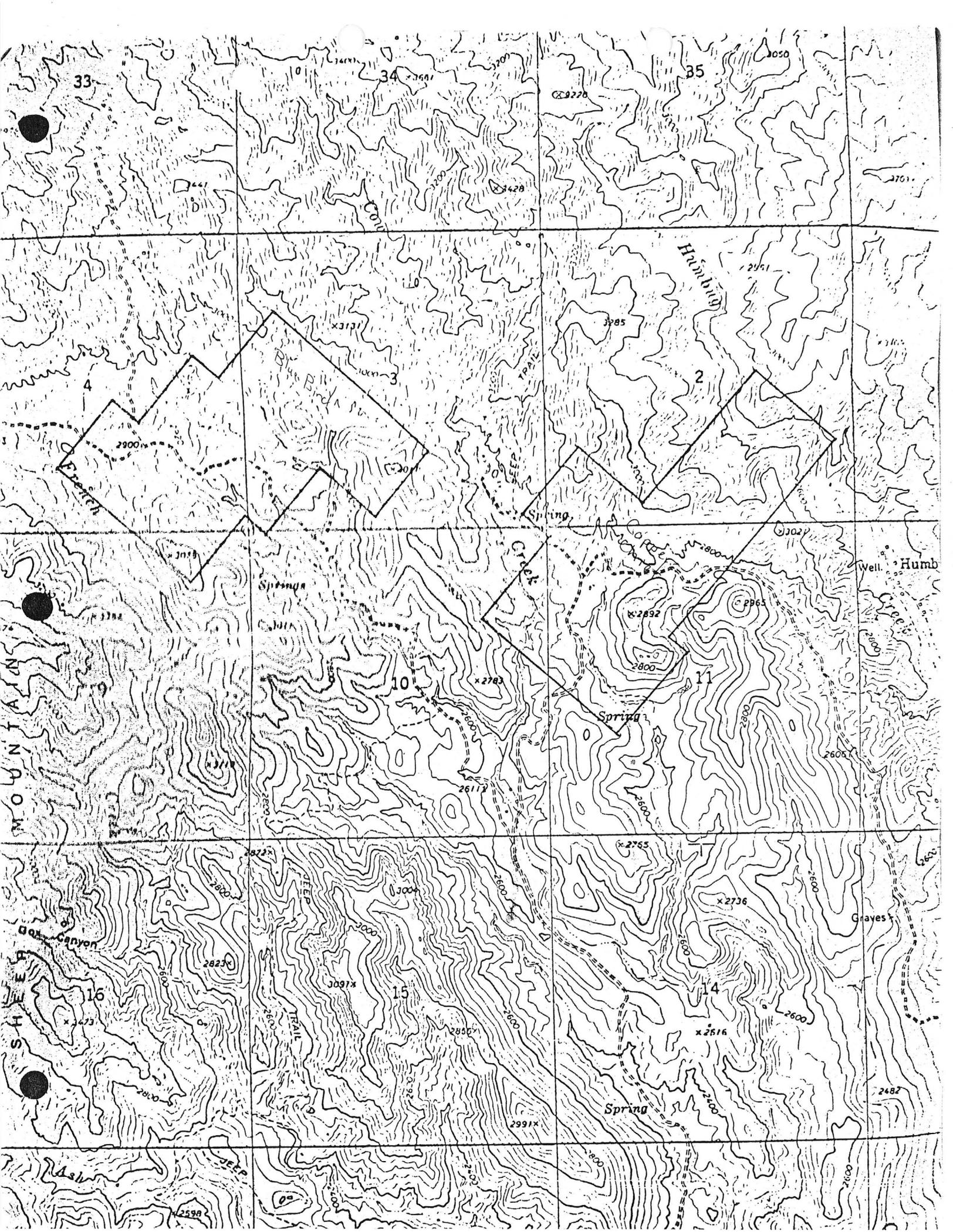
BIBLIOGRAPHY:

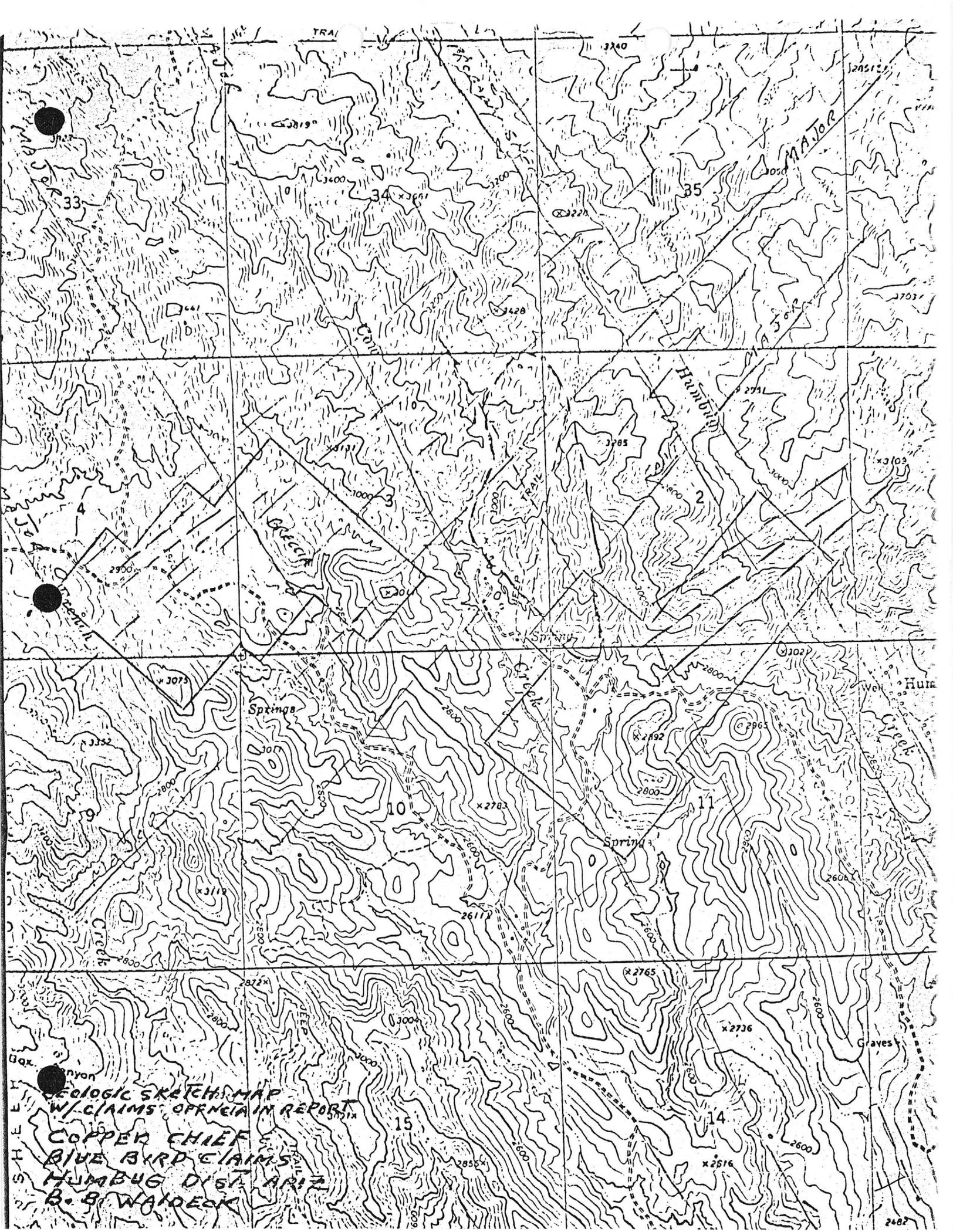
USGS COLUMBIA QUAD  
ADMMR BLUE BIRD GROUP FILE  
CLAIMS EXTEND INTO SEC. 3 & 9





— NOT TO SCALE —





TRA

3340

3205

33

34

35

MAJOR

HUMBUG

Spring

Spring

Graves

GEOLOGIC SKETCH MAP  
W/ CLAIMS OFF NEIA IN REPORT  
COPPER CHIEF  
BLUE BIRD CLAIMS  
HUMBUG DIST ARIZ  
B. B. WAIJOCK

15

14

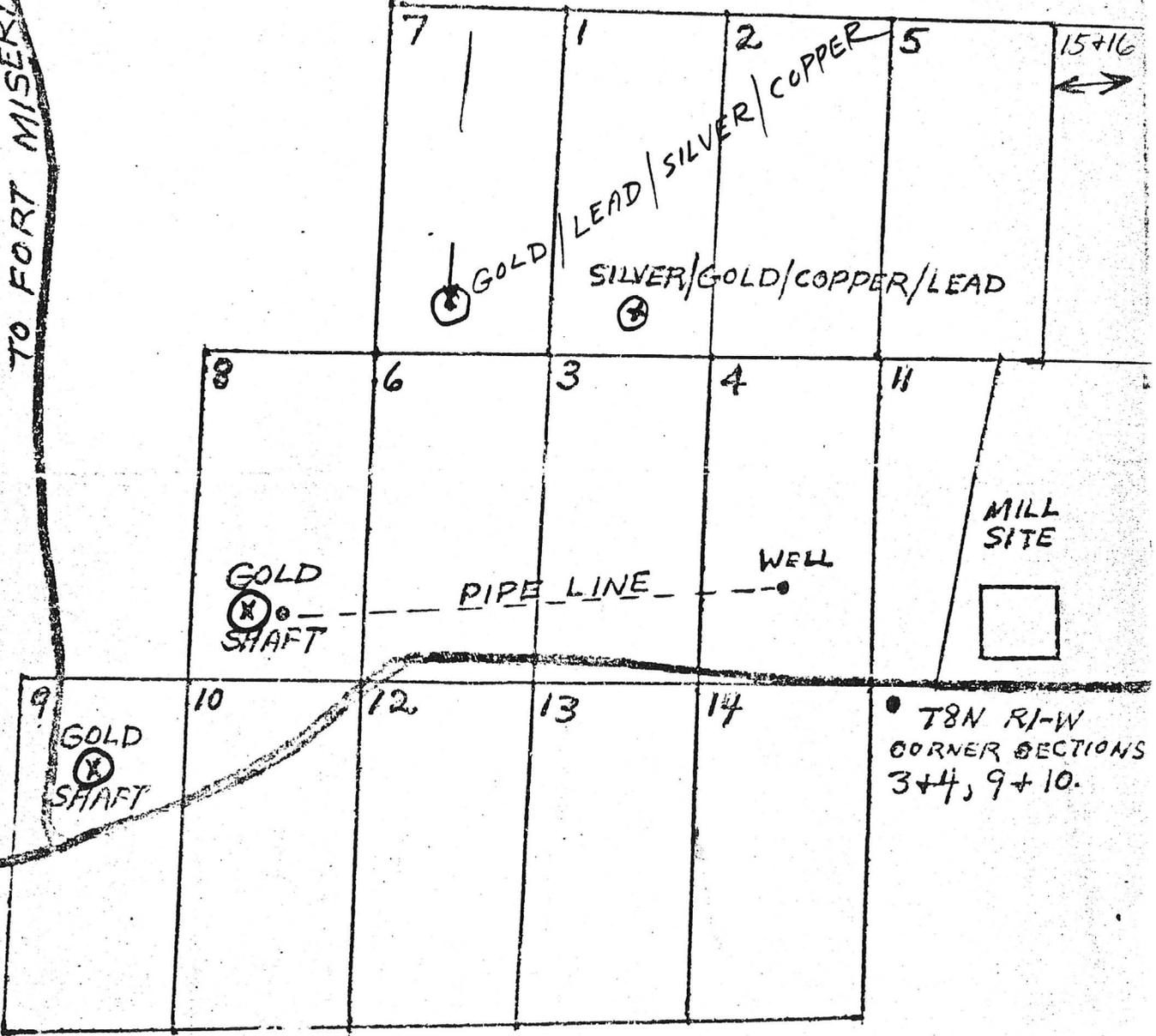
2682

NORTH

# WALDECK'S BLUE BIRD LODE CLAIMS

SILVER MOUNTAIN

TO FORT MISERY



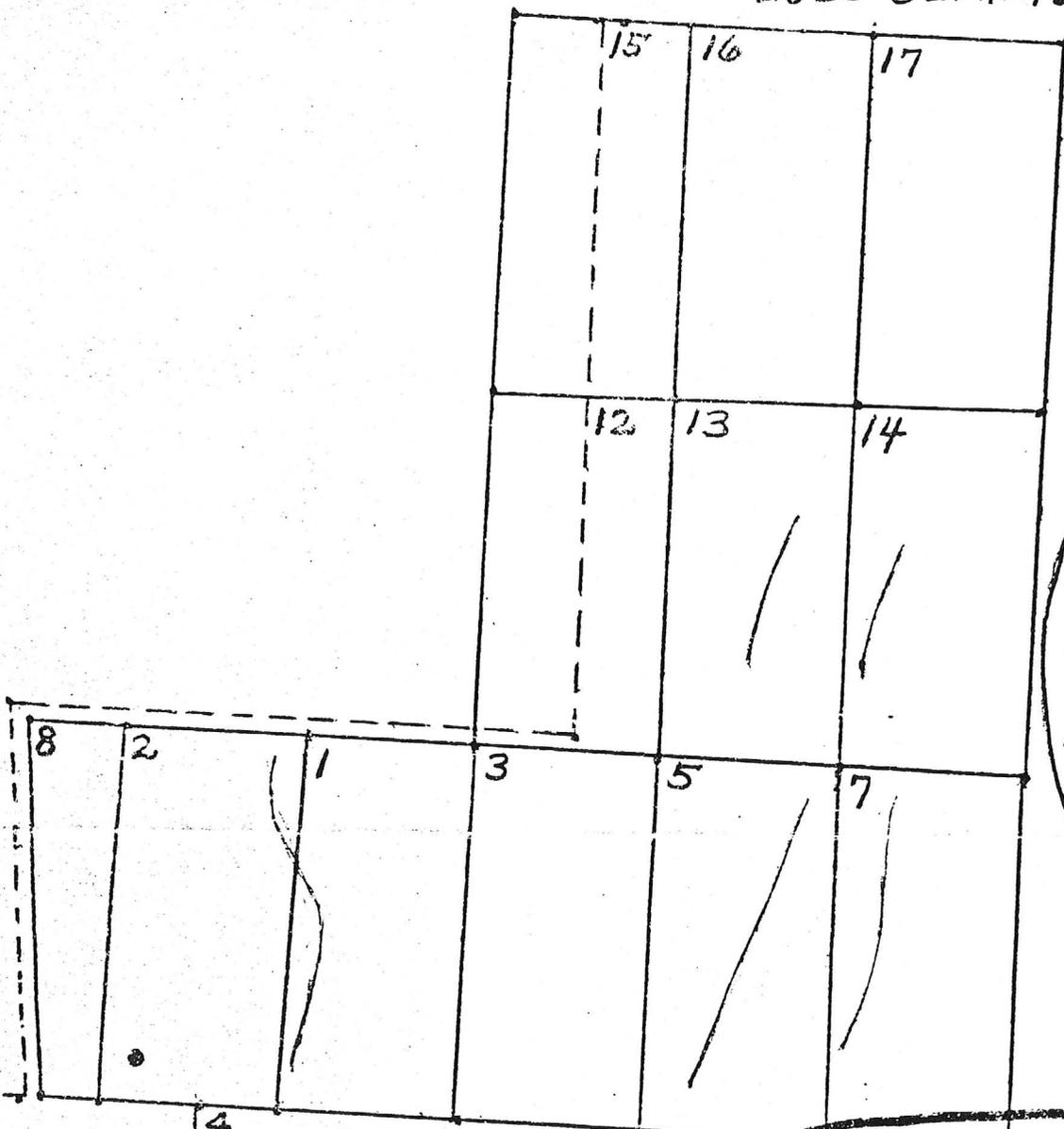
TO WAGONER

FRENCH CREEK

V. A. RILEY'S VERN BELL CLAIM.

NORTH

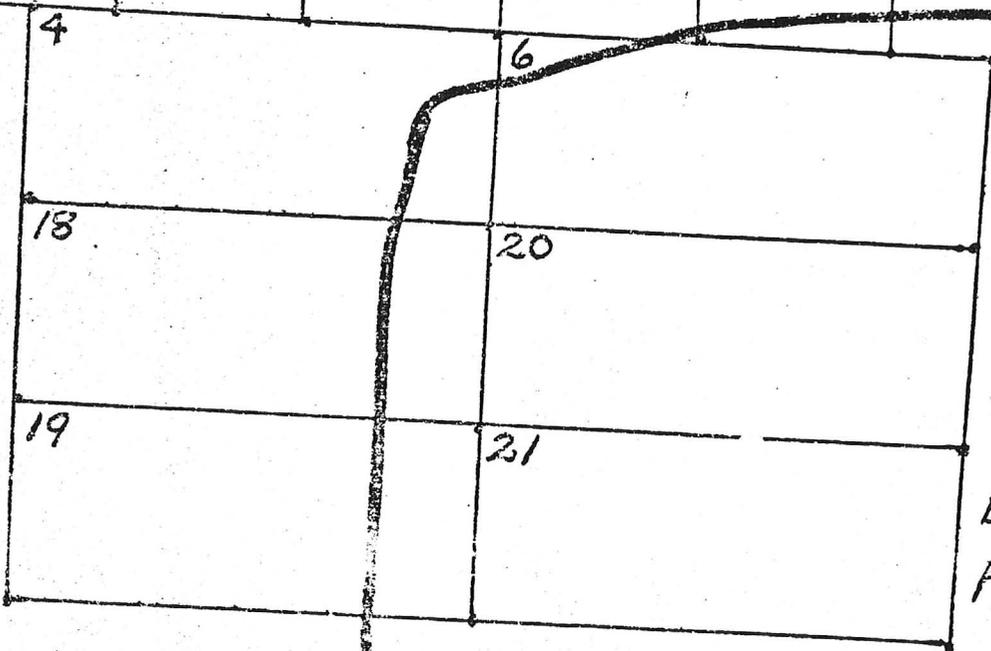
WALDECK'S  
OPPER CHIEF  
LODE CLAIMS



(1 MILE WEST  
BETWEEN  
WALDECK'S  
COPPER CHIEF  
AND BLUE  
BIRD CLAIMS)

TO COLUMBIA  
+  
HUMBUG →

78N RI-W  
CORNER SEC.  
2+3, 10+11



← →  
EAST/WEST  
FAULT

TO FT. MISERY  
+ WAGONER

YX RANCH

→ TO LAKE PLEASANT.

~~DO NOT REPRODUCE~~

KAP WR 7-18-75 - Mrs. Waldeck, P. O. Box 484, Cave Creek, Arizona, called to explain that she and her husband, Bill, have 37 claims, the Blue Bird and the Copper groups near Castle Hot Springs. They hope to interest an exploration company in the property. To this end they ran an advertisement in Paydirt to which a Mr. Lopez Of YLCO S. A. responded. Mrs. Waldeck said from the tone of the letter YLCO S. A. appears to be a Latin American firm. We had no information on the company for her. Their address is YLCO S.A., Bo<sup>x</sup> 216, Tumacocori, Arizona. Bh 8-31-77

Billy Waldeck, P.O. Box 484, Cave Creek, AZ 85331, has located a group of claims near Castle Hot Springs in Secs. 3, 4, 8 & 9, T8N, R1W, called the Copper Chief. WR KAP 5/21/76

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Mrs. Waldeck desires an engineer from the Department to visit the Copper Chief and Blue Bird Claims owned by her and her husband Billy. The claim group consisting of 32 claims is located in various parts of Secs. 2,3,9,10, and 11, T8N, R1W, G&SRB & M. The claims are reportedly located on copper, gold and silver bearing outcrops. Mrs. Waldeck supplied the Dept. with assay reports, a settlement sheet for a shipment of copper ore to Inspiration and reconnaissance geology report done in house by Keradamex. Over the last ten years a number of companies have looked at the property; among them have been Noranda, Inspiration, Duval, Phelps Dodge, Utah Construction and El Paso Natural Gas. The Waldeck's have reportedly attempted to develop a gold-silver leaching operation on the Blue Bird claim group. They have drilled an 8" water well 140 feet deep (no estimate of well capability) and run water line from the well to two 500 gallon water tanks. They have also erected a head frame over a 40 foot shaft on the Blue Bird #9 claim. bh 8-31-77 (WR KAP 8-24-77)

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KP WR 6/12/79 - Bill Waldec Sr. reported that C. C. Goddard, Union Carbide, Missoula, Montana, is going to have Henry Eyrich of Tucson visit the Waldec's Blue Bird and Copper Chief Mines, Yavapai Co. Union Carbide is interested in the tungsten and molybdenum potential of the property. 7/9/79 a.p.

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KAP WR 12/12/80: Billy Waldeck (Jr) reported that he, along with Bill Groves, mapped and sampled a tungsten-gold property in Harcuvar Mountains, Yuma County (Cunningham Pass District). Mineralization there consists of scheelite and gold in massive quartz veins at the contact with intrusive stock work and limestone.

---

488-3780 Billy Waldsch

942-2311 work Ex 389

called 8/23/74

<u>Sta.</u>	<u>Line</u>	<u>East Zone</u>
16E	3 N	"C"-Quartz monzonite and quartz
18E	3 N	"A"-Brown loamy soil. B Horizon at 12" No "B"
20E	3 N	"C"-Andesitic or latitic agglomerate, soft, altered, and limonitic
22E	3 N	"C"-Quartz monzonite w/sparse limonite oxides
22E	4 N	"C"-Quartz monzonite w/moderate limonite oxides, and white vein quartz
20E	4 N	"A"-Brown sandy soil, 6" deep. No B Horizon "B"-Limonitic quartz monzonite
18E	4 N	"C"-Quartz monzonite w/quartz veinlets.Minor hematite and limonite oxides
16E	4 N	"C"-Quartz monzonite and white vein quartz. Sparse limonite oxides
14E	4 N	"C"-Quartz monzonite
20E	1 S	"C"-Purple latite, fine grained
22E	1 S	"A"-Brown sandy soil, 8"deep. No B Horizon No "B"
24E	1 S	"A"-Red clayey soil, 10"deep. No B Horizon "B"-Quartz monzonite
26E	1 S	"C"-Soft red tuff w/altered calcite stringers
28E	1 S	"C"-Quartz monzonite w/sparse limonite oxide
30E	1 S	"C"-Quartz monzonite w/moderate to heavy limonite oxide

Copper Chief Zone

<u>Sta.</u>	<u>Line</u>	<u>Description</u>
0	0	Line 0, <sup>S+α</sup> Sat. 0 in alluvium in front of trailer
0	0	"A"-Brown sandy soil, 6" deep. Alluvium-No B Horizon Vein w/quartz, hematite, MnOx, & CuOx at 1W
2W	0	"C"-Very coarse grained quartz monzonite and quartz w/ moderate limonite oxides
4W	0	"C"-Very coarse grained quartz monzonite
6W	0	"C"-Very coarse grained quartz monzonite and quartz
8W	0	"C"-Quartz monzonite w/moderate limonite oxides
10W	0	"C"-Very coarse grained quartz monzonite w/sparse limonite oxide oxides
10W	3 S	"C"-Grey, fine grained latite
8W	3 S	"C"-Very coarse grained quartz monzonite & quartz w/ sparse limonite oxides
6W	3 S	"C"-Quartz monzonite-quartz flooded.Heavy Limonite oxide
4W	3 S	"C"-Vein quartz w/hematite, Mn, Lim, and CuOx
2W	3 S	No sample-arroyo bottom contaminated by mining
0	3 S	"A"-Brown sandy soil & quartz monzonite-Alluvium, No B Horizon

<u>Sta.</u>	<u>Line</u>	<u>West Zone</u>
10W	1 N	"A"-Brown sandy soil, 6" deep. No B Horizon. Alluvium "B"-Quartz monzonite, diorite and quartz
4E	1 S	"C"-Quartz monzonite w/biotite
2E	1 S	"A"-Brown sandy soil, 6" deep. No B Horizon "B"-Quartz monzonite
0	1 S	"A"-Brown sandy soil, 12" deep. No B Horizon "B"-Quartz and quartz monzonite
2W	1 S	"C"-Quartz monzonite w/biotite
4W	1 S	"A"-Brown sandy soil, 6" deep. No B Horizon "B"-Quartz monzonite w/sparse lim. ox.
6W	1 S	"A"-Lt. Brown sandy soil, 6" deep. No B Horizon No "B"
8W	1 S	"A"-Red clayey soil. B Horizon at 8" No "B"
2E	2 N	"A"-Light brown sandy soil, 12" deep. No B Horizon "B"-Quartz monzonite, diorite, and quartz
0	2 N	"A"-Brown loamy soil. B Horizon at 12 " No "B"
2W	2 N	"C"-Quartz monzonite
4W	2 N	"C"-Quartz monzonite
6W	2 N	"A"-Light brown sandy soil, 10" deep. No B Horizon "B"-Quartz monzonite and quartz
8W	2 N	"A"-Red clayey soil. B Horizon at 4" No "B"
10W	2 N	"A"-Light brown sandy soil, 6" deep. No B Horizon "B"-Quartz monzonite and quartz
10W	3 N	"A"-Light brown sandy soil, 6 " deep. No B Horizon "B"-Quartz monzonite and quartz
7W	3 N	"A"-Light brown sandy soil, 8" deep. No B Horizon "B"-Quartz monzonite and quartz
3W	3 N	"C"-Quartz monzonite
0	3 N	"A"-Light brown sandy soil, 8" deep. No B Horizon "B"-Quartz monzonite and quartz
<del>2W</del>	3 N	"C"-Quartz monzonite
<u>East Zone</u>		
14E	00	"A"-Red clayey soil. B Horizon at 8" No "B"
16E	00	"A"-Red clayey soil. B Horizon at 8" No "B"

BILLY B. + JANICE M.  
WALDECK

P.O. BOX 584

CAVE CREEK, ARIZ.

85331

PH: 488-3780

KERADAMEX, INC.  
Mineral Exploration



Phone (505) 266-5841  
8001 Mountain Road Place, NE  
Albuquerque, N. M. 87110

GEO-CHEM OF K-7 PROJECT

Sample Description

- "A" - Sample that passed through a  $\frac{1}{4}$ " screen  
"B" - Sample from which the minus  $\frac{1}{4}$ " material was screened  
"C" - Rock chip sample from outcrop

---

<u>Sta.</u>	<u>Line</u>	<u>West Zone</u>
00	0	"A"-Brown, sandy soil. B Horizon at 8" "B"-Limonitic quartz monzonite, diorite, & quartz
2E	0	"A"-Red-brown loamy soil. B Horizon at 8" "B"-Limonitic quartz
4E	0	"A"-Brown sandy soil, 10" deep. No B Horizon "B"-Quartz monzonite
10W	0	"A"-Brown loamy soil-18" deep. No B Horizon "B"-Quartz monzonite and quartz
8W	0	"A"-Brown sandy soil-12" deep. No B Horizon "B"-Quartz monzonite diorite and quartz
6W	0	"A"-Red clayey soil. B Horizon at 4" No "B" taken
4W	0	"A"-Brown sandy soil, 6" deep. No B Horizon "B"-Limonitic quartz monzonite and quartz
2W	0	"A"-Brown loamy soil. B Horizon at 4" No "B"
4E	1 N	"A"-Brown sandy soil, 4" deep. No B Horizon "B"-Quartz monzonite, quartz, and diorite
2E	1 N	"A"-Brown sandy soil, 4" to bedrock. No B Horizon "B"-Quartz monzonite, quartz, and diorite
00	1 N	"A"-Brown sandy soil, 10" deep. No B Horizon "B"-Quartz monzonite
2W	1 N	"A"-Red sandy soil, 8" deep. No B Horizon "B"-Quartz monzonite
4W	1 N	"A"-Red clayey soil, B Horizon at 4" No "B"
6W	1 N	"A"-Red clayey soil, B Horizon at 4" No "B"
8W	1 N	"A"-Red clayey soil, B Horizon at 6" No "B"

<u>Sta.</u>	<u>Line</u>	<u>East Zone</u>
18E	00	"A"-Brown clayey soil, 10" deep. No B Horizon "B"-Quartz and quartz monzonite
20E	00	"C"-Quartz monzonite, sparse lim.
22E	00	"C"-Very coarse grained quartz monzonite-Potassic zone?
24E	00	"A"-Brown loamy soil. B Horizon at 10" No "B"
26E	00	"C"-Quartz monzonite, heavy hematite
28E	00	"C"-Fine grained quartz monzonite-heavy hematite
30E	00	"C"-Quartz-hornblende monzonite w/sparse limonite oxide
12E	1 N	"A"-Red loamy soil. B Horizon at 8" No "B"
14E	1 N	"C"-Quartz monzonite
16E	1 N	"C"-Quartz monzonite
18E	1 N	"A"-Brown sandy soil, 6" deep. No B Horizon "B"-Quartz monzonite and quartz
20E	1 N	"C"-Quartz monzonite, and white vein quartz w/hematite
22E	1 N	"C"-Quartz monzonite w/quartz flooding
24E	1 N	"C"-Quartz monzonite w/quartz flooding
26E	1 N	"C"-Quartz monzonite w/sparse limonite oxides
28E	1 N	"C"-Quartz monzonite, white vein quartz, sparse limonite oxides
30E	1 N	"C"-Quartz monzonite w/quartz flooding
30E	2 N	"C"-Quartz monzonite w/sparse limonite oxides
28E	2 N	"C"-Quartz monzonite and white vein quartz
26E	2 N	"C"-Quartz monzonite w/sparse limonite oxides
24E	2 N	"C"-Quartz monzonite w/sparse limonite oxides
22E	2 N	"A"-Brown sandy soil. B Horizon at 6" No "B"
20E	2 N	"A"-Red clayey soil. B Horizon at 8" No "B"
18E	2 N	"C"-White quartz monzonite
16E	2 N	"C"-Quartz monzonite w/sparse limonite oxides
14E	2 N	"A"-Brown loamy soil. 8" deep. No B Horizon "B"-Gray-blue latite, fine grained
12E	2 N	"C"-Red sandy tuff w/decomp. calcite veinlets, soft and altered
12E	3 N	"C"-Quartz monzonite w/sparse limonite oxides
14E	3 N	"A"-Brown sandy soil, 6" deep. No B Horizon "B"-Quartz monzonite and quartz

RECEIVED

OCT 21 1978

DEPT. MINERAL RESOURCES  
PHOENIX, ARIZONA

October 23, 1978  
P.O. Box 584  
Cave Creek, Ariz.  
Zip: 85331

Mr. Ken A. Phillips  
Mineral Resources Engr.  
Arizona Dept. of Mineral Resources.  
Mineral Bldg. Fair Grounds.  
Phoenix, Arizona.

Dear Ken:

Thank you and the department for its help. Enclosed is a carbon copy of the letter I just mailed to the Exploration Manager of Union Carbide Corp. I hope it gets results. If you need any further information I will be glad to supply whatever I have.

Sincerely,

*Billy B. Waldeck*

Home phone: 488-3780 Cave Creek, Az.

Bus. phone: 942-2311 Ext. 389 or 581

Computer Resources  
Information Bank

Jan Wilson

Jan Waldeck

Bluebird - Copper Chief project

Waldeck property

T8N, R1W, Sec 3, 4, 9 & 10

Keradomey, Inc.  
mineral Exploration  
Albuquerque, N.M. 87110  
3001 Mountain Road Plaza F.N.

500 gal

Exploration Manager  
Union Carbide Corp.  
Metals Division  
Grand Junction Operations  
P.O. Box 1029  
Grand Junction, Colo. 81501



October 23, 1978  
P.O. Box 584  
Cave Creek, Ariz.  
Zip: 85331

Dear Sir:

Mr. Ken A. Phillips, Mineral Resources Engineer, of the Arizona Department of Mineral Resources, suggested we contact you concerning our mining property. We are looking for a responsible company to lease and continue exploration on the property.

This property known as the BLUE BIRD/COPPER CHIEF claims is located in the southern portion of the Bradshaw Mountains, in the Humbug Mining District, parts of Sections 2,3,4,9,10, and 11; Township 8N, Range 1 West, Yavapai County, Arizona. Phoenix, Arizona is approximately 45 miles southeast and Wickenburg 25 miles west.

The property consists of 37 contiguous unpatented mining claims and one mill site. On geology and Geo-Chem maps the Blue Bird claims have been divided into an East and West zone, with the East zone contiguous with the claim group named the Copper Chief.

Early in the year 1975 the property was examined by Mr. William E. Woodard, Manager of Exploration, Keradantek, Inc. of Albuquerque, New Mexico. He recommended the property to Kerr Addison Mines, Ltd. of Canada, but because of the base metal economic situation at the time, Kerr Addison needed producing properties in a large class, so they did not go ahead with exploration.

In January, February, March of this year, KERADANTEK, INC. conducted a geological mapping and geo-chemical program on part of the Copper Chief claims and on most of the East and West zone of the Blue Bird group. They were looking for a 10,000 ton-per-day gold heap leach operation. They performed geo-chem sampling on 200 foot stations. One hundred twenty six samples were collected and assayed by Skyline Labs of Tucson, Arizona for gold, silver, molybdenum, and tungsten.

Mr. Woodard reported the discovery of 3 Geo-Chem anomalies and other findings as follows:

1. A localized gold, silver, molybdenum anomaly on the Blue Bird claims on the west zone.
2. A silver, molybdenum anomaly on the Copper Chief claims on the southern end.

- 3. A two station molybdenum anomaly on the west end of line 60 on the Copper Chief claims.

Higher than normal geo-chem values for tungsten were observed over the entire Blue Bird claims, and on the East zone they were in both the outcrops and soil samples. Molybdenum values accompanied the tungsten anomalies.

Mr. Woodard predicted a small to moderate tonnage ore body of mineralization at depth on the East zone of the Blue Bird claims, and the possibility of tungsten-molybdenum rich veins at depth on the Blue Bird West zone.

The property was turned down primarily because Keradamex, Inc. was looking for a 10,000 ton-per-day gold heap/leach operation, and did not wish to extend development for other minerals at this time.

There are ~~no~~ much mineralized areas in the Blue Bird/Copper Chief claims that warrant further exploration for extension of the tungsten/molybdenum values and other minerals.

We have the following information:

Complete claim maps prepared by KERADAMEX, INC. for filing with the Bureau of Land Management.

Geological mapping of East and West zone of Blue Bird claims.

Geo-chemical maps, individually for gold, silver, tungsten, and molybdenum.

Geo-chemical maps and reports for all 4 minerals indicated for Blue Bird Claims and part of the Copper Chief claims.

Complete reports and recommendations for Keradamex's examination of the property in 1975. Also, complete and comprehensive reports for exploration work done in this year, 1978.

Many assay and spectrographic reports from various locations on the claims.

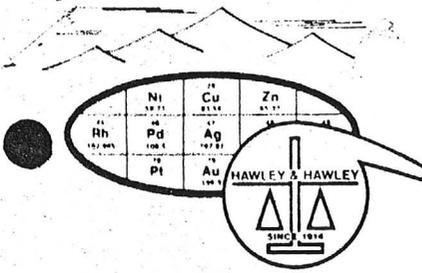
Claim outlines have been overlaid on the geo-chem and geology maps prepared by Keradamex, Inc.

We will be glad to show you this property at your earliest convenience. Please let us hear from you soon.

Sincerely,

P.O. Box 584, Cave Creek, Ariz. 85331  
Phone (602) 488-3780 After 4:30 PM

Billy B. Waldeck  
James [unclear]



# SKYLINE LABS, INC

Hawley & Hawley, Assayers and Chemists Division  
P.O. Box 50106 • 1700 West Grant Road  
Tucson, Arizona 85703  
(602) 622-4836

*Abstract  
and file in  
Appropriate mine  
file*

## REPORT OF ANALYSIS

Job No. 122257  
H & H No. 751126  
June 11, 1975

Noranda Exploration  
P.O. Box 50326  
Tucson, Arizona 85703  
Attention: Mr. John Dunbier

Analysis of 3 Pulp Samples

Item	Sample No.	$U_3O_8$ (%)
1.	WRA-1	.052

# ARIZONA TESTING LABORATORIES

A DIVISION OF CLAUDE E. McLEAN & SON LABORATORIES, INC.  
 PHONE ALPH 3-6272 317 WEST MADISON ST P. O. BOX 1688 PHOENIX 1

*Chemists... Engineers*

For **Mr. Billy B. Waldeck**  
**2135 West Greenbrier Drive**  
**Phoenix, Arizona**

Date **August 21, 1962**

Sample of **Ore**

Received: **8-20-62**

Submitted by: **Samm**

### ASSAY CERTIFICATE

Gold figured at \$35.00 per ounce.

Silver figured at \$0.90 per ounce.

Lab. No.	Identification	Gold		Silver		Percentages
		Oz. per Ton	Value	Oz. per Ton	Value	COPPER (Cu)
155188	No Mark  (COPPER CHIEF #1)	0.02	00.35	0.20	00.18	12.50



*\$187.50 per ton 11-74*

Respectfully submitted  
*[Signature]*  
 ARIZONA TESTING LABORATORIES  
 Claude E. McLean



M. E. PHILLIPS, SECRETARY

# THE COLORADO ASSAYING COMPANY

(INCORPORATED)

## ASSAYERS AND CHEMISTS

2244 BROADWAY

DENVER 1, COLORADO

Sept. 2, 1964

REPORT ON DETERMINATIONS MADE FOR -- Mr. Billy B. Waldeck  
Phoenix, Arizona

SAMPLE MARKS	METALS	Amount per Ton		PER CENT	Value per Ton	
		Ozs.	Hds.		Dollars	Cents
"Mineralized Vein, BLUE BIRD CLAIM #1"  <b>DISCOVERY HOLE</b>	Gold	.07			2.45	
	Silver	9.90			12.87	
	Copper			0.95		4.75
	Lead			1.7		3.40

GOLD AT \$35.00 PER OUNCE  
LEAD AT \$2.00 PER UNIT

SILVER AT \$1.30 PER OUNCE  
COPPER AT \$5.00 PER UNIT

THE COLORADO ASSAYING COMPANY

By Ed Phillips

# SKYLINE LABS, INC.

Hawley & Hawley, Assayers and Chemists Division  
P.O. Box 50106 • 1700 West Grant Road  
Tucson, Arizona 85703  
(602) 622-4836

## REPORT OF SPECTROGRAPHIC ANALYSIS

Job No. 122257  
H & H No. 751126  
June 11, 1975

Noranda Exploration  
P.O. Box 50326  
Tucson, Arizona 85703

Attention: Mr. John Dunbier

Values reported in parts per million, except where noted otherwise, to the nearest number in the series 1, 1.5, 2, 3, 5, 7 etc.

Element	Sample Number	
	WRA-1	
Fe	15%	
Ca	.07%	
Mg	.15%	
Ag	5	
As	<500	
B	500	
Ba	100	
Be	7	
Bi	<10	
Cd	<50	
Co	70	
Cr	300	
Cu	5,000	.5%
Ga	<10	
Ge	<20	
La	<20	
Mn	10,000	.1%
Mo	10	
Nb	<20	
Ni	200	
Pb	10	
Sb	100	
Sc	50	
Sn	<10	
Sr	<50	
Ti	2,000	.2%
V	150	
W	<50	
Y	20	
Zn	500	
Zr	20	

William L. Lehmbeck  
Manager

# ARIZONA TESTING LABORATORIES

A DIVISION OF CLAUDE E. McLEAN & SON LABORATORIES, INC.  
 PHONE 254-6181 817 WEST MADISON ST. P. O. BOX 1888 PHOENIX 85001

*Chemists . . . Engineers . . . Geologists*

For **Mr. Billy Waldeck**  
 Post Office Box 584  
 Cave Creek, Arizona

*448-3780*  
*afternoon*

Date **March 26, 1969**

Sample of **Ore**

Received: **3-24-69**

Submitted by: **Same**

### ASSAY CERTIFICATE

Gold figured at \$ **35.00** per ounce

Silver figured at \$ **2.00** per ounce

LAB. NO.	IDENTIFICATION	GOLD		SILVER		PERCENTAGES
		OZ. PER TON	VALUE	OZ. PER TON	VALUE	<b>TUNGSTEN</b>
4082	Bluebird #8, Cut across vein, SSW Wall 25' from Surface	0.09	\$ 3.15	0.47	\$0.94	Nil
4083	Bluebird #8, Main Shaft 25' level, across vein, NNE side of shaft	0.03	\$ 0.05			
4084	Bluebird #8 across 18" vein exposed in cut 50' SSW beneath surface in cut	0.44	\$15.40			
4085	Bluebird #9 discovery shaft, No. collar at surface	0.56	\$19.60			

Respectfully submitted,

ARIZONA TESTING LABORATORIES  
*Claude E. McLean*  
 Claude E. McLean, Jr.

CHEMICAL RESEARCH ASSAY ORE TESTING PHYSICAL TESTING

**INSPIRATION CONSOLIDATED UPPER CO.  
SMELTING DEPARTMENT**

Sm Lot 3264 Shipper Lot 1  
 BOUGHT OF Billy B. Waldeck  
 Street 2235 W. Green Briar Dr. City Phoenix, Arizona

DATE August 22, 1963  
 Date Received August 17, 1963

Initial	CAR Number	WET WEIGHT	Moisture %	DRY WEIGHT	N. Y. QUOTATIONS			
S	213	14,280	2.00	13,994	Copper (per lb.)	30.600¢		
					Less	4.34 =	26.300¢	
					Silver (per oz.)			
					Gold (per oz.)			

ASSAY and ANALYSES	Copper %	Silver Oz.	Gold Oz.	Silica %	Alumina %	Iron %	Lime %	Sulphur %
	4.73	.62	.010	56.6	6.8	14.1	.6	.1

PAYMENTS PER TON						DEBITS	CREDITS	Valuation For Freight
Copper	94.60	Lbs. per ton, less	10% <sup>*</sup>	84.60	Lbs. at	26.300¢	per Lb.	\$ 22.25
Silver		Ozs. per ton, less	%		Ozs. at		per Oz.	
Gold		Ozs. per ton, less	%		Ozs. at		per Oz.	
Excess Metal Values	\$ 22.25 - 15.00 = \$ 7.25 @ 10%							.73
Treatment Charge						5.50		
<b>TOTALS</b>						6.23	22.25	
Net Value per ton							16.02	

Net Value for Freight Charges, per wet ton \$

Royalty to be paid to	6.997	Dry tons at \$	16.02	\$	112.09
Sampling	3.003	tons at	\$ 2.00		6.01
Freight					
Trucking					
<b>AMOUNT DUE SHIPPER</b>					<b>106.08</b>
Less % Royalty					
<b>NET AMOUNT DUE SHIPPER</b>				\$	<b>106.08</b>

Correct [Signature]

Approved J. J. Paul

# KERADAMEX, INC.

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TELEPHONE  
(803) 266-5841

To: Glen Hogg  
From: William R. Woodard  
Subject: Billy B. Waldeck's Blue Bird and Copper Chief Claims

## LOCATION

This prospect is composed of two sets of claims 1,500' apart, owned by Mr. Billy B. Waldeck of Cave Creek, Arizona, which is a small settlement about twenty-five miles north of Phoenix, Arizona. These claims are located in Sections 2,3,4,9 & 10, T6N, R1W, about fifty miles northwest of Phoenix in the Humbug Mining District. A claim map is enclosed. The Blue Bird Group contains sixteen claims and the Copper Chief Group contains eighteen claims. The ground between these two groups is open and can be staked.

## GEOLOGY

This is an area where an almost aplitic, pegmatitic, quartz monzonite has been intruded into volcanic rocks, particularly an andesite, along a major NW-SE regional fault where it intersects a NE-SW shear zone. The intrusive is elongated, almost dike-like, and strikes in a NW-SE direction. The intrusive is between 1,000' and 1,500' wide. Around the Southeast end or nose and continuing back to the Northwest along the Northern and Southern side of the intrusive, the contact zone between it and the andesite has been altered and the gouge and rock on either side of the contact has been changed to chlorite, epidote, actinolite and garnet. See enclosed sketch map. This zone disappears under basaltic flow rock on the Southern side, but can be traced for over  $\frac{1}{2}$  mile on the Northern side. The intrusive itself is cut by diorite dikes striking along the axis of the intrusive, and aplitic dikes and quartz veins cutting across the axis of the intrusive. The contact dips away from the intrusive at between 50 and 70 degrees on all sides. Copper mineralization can be found in the contact zone everywhere that it is exposed. To the southeast of the intrusive and in the erosion exposed

andesite are NE striking 3 to 5 foot, parallel, quartz veins and quartz filled shear zones that can be seen for at least 3,000' to the North where they appear to intersect another NW-SE major regional fault. These veins and shears are on the East side of the NE-SW trending shear and the balance of the Copper Chief Claims was staked to cover these zones.

The Blue Bird Claim Group was staked to cover an area of parallel 3 to 5 foot wide gold and silver bearing quartz veins and silicified shear zones and an altered breccia zone in the andesite along the West side of the Northeast shear zone. This area lies south of the intrusive in an area stripped of the basalt by erosion. The veins and shears strike toward the Northwest end of the intrusive.

The breccia area lies to the east of the veins and is elongated and parallel to the Southern side of the intrusive. This has silver, lead, zinc and some copper. The extent of the breccia is unknown because it is covered by a basaltic remnant of the overlying volcanics.

#### ALTERATION

The horn blende in the pegmatite has been altered to sericite with the addition of potassium. These are large blocks 2 to 3 inches across. Pink potassic feldspars can also be seen on fracture planes and the feldspars show changes. Silicification is intense. Pyrite and other sulfide remnants can be seen as both casts and limonite relict structures.

The andesite has had all of the dark mineral converted to chlorite and sericite. Silicification is very evident and some of the feldspars are completely changed to pink potassic feldspars. Limonite remnants can be seen in the zone around the contact zone.

#### MINERALIZATION

The contact zone between the pegmatite and andesite contains mostly chalcocite with minor oxides and sulfides, and minor gold and silver. A carload shipped from a 200' length along the contact averaged 4.73% copper, 0.62 oz/ton silver and 0.01 oz/ton gold.

The veins to the east of the intrusive are quartz and a 5 foot channel across a part of the vein that showed no visible mineral showed 0.90% copper with minor gold and silver.

The veins to the West are mostly gold with minor copper and pyrite. The gold is both free and associated with the sulfides. A 5 foot channel showed 0.5 oz/ton gold.

The brecciated area between the gold area on the West side of the Blue Bird Claims and the intrusive carries silver, lead, zinc, copper and minor moly.

A sample of the pegmatite with remanent limonite sent for assay showed 0.07% copper with minor silver and moly with no copper showing.

#### CONCLUSIONS

This property is located at the intersection on a NW-SE striking regional fault zone that goes through the Copper Basin Area to the NW and a NE-SW striking fault-shear zone several miles wide that controlled the emplacement of the mineralization in the old Humbug Mining District just to the southeast of this area. The town of Humbug can be seen on the enclosed map.

A zonal situation in the types of mineralization appears in the occurrences surrounding the intrusive. The contact zone shows a good width and lateral continuity everywhere that it was seen. Chalcocite was seen in almost every contact outcrop.

There are indications that the exposed pegmatite outcrops may be a leached cap situation and that north of the dike shown on the Southern end, a secondary enrichment zone could be encountered. The andesite grading away from the contact zones also shows signs that mineralization might be reasonably expected in the wall rock of the contact.

The parallel vein system to the East shows good continuity and width as far as it can be seen. Grade would have to be determined.

The breccia zone to the West probably holds more potential than does the gold vein area. Because the alteration is so heavy in and around the gold veins enrichment is a certainty and the grade more than likely would not persist at depth in the veins.

The breccia area has a good potential of a rather large zone. Enrichment would be encountered at depth with multiple minerals being present.

#### RECOMMENDATIONS

The two sets of claims should be acquired from Mr. Waldeck. The fourteen claims that belong to Mrs. V.A. Riley of Black Canyon, Arizona that lie to the northwest of the Copper Chief and northeast of the Blue Bird Claims should be acquired. Additional staking to fill in the open area should be done after work on the three sets of claims shows the presence of a reasonable target.

The area should be thoroughly geologically mapped. Radem surveys should be run in the areas of the veins and contact to determine the width and relative strength. Magnetometer surveys should be run over the entire area. IP should be run over the breccia and pegmatite to check for secondary enrichment and strength of primary mineralization.

#### NOTE:

The geology on the sketch map was obtained from ERTS Photography, county geology map, field observation and an old map of the Humbug Area.

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*return to Mrs. Waldeck*

FINAL REPORT  
ON THE  
BLUEBIRD-COPPER CHIEF PROJECT

Location

The Waldeck property is located in the southern portion of the Bradshaw Mountains, in the Humbug Mining District, parts of Sections 3, 4, 9, and 10; Township 8N, Range 1 West, Yavapai County, Arizona. Phoenix is approximately 45 miles southeast and Wickenburg 25 miles west.

The property consists of 37 unpatented lode mining claims called the Bluebird and Copper Chief claims. The Bluebird portion of the claims appeared to have the best potential for mineralization so the major portion of the work was concentrated on these claims. In this report, the Bluebird claims have been divided into the West Zone and an East Zone. (See enclosed geology map.)

Geology

Geologic mapping by myself and Mr. Woodard defined several rock types. Their descriptions follow.

**Tertiary Rhyolite:** The tertiary rhyolite occurs as a capping in the southern portion of the East Zone. The rhyolite is porphyritic in places.

**Tertiary Agglomerate:** This occurs in a graben in the northwestern part of the East Zone. It is composed of volcanic rocks ranging from vesicular basalt to rhyolite and is cemented by a red, sandy tuffaceous material.

**Tertiary Rhyolitic Tuffs:** These tuffs outcrop in an elongated section of the western portion of the East Zone. They are fine to medium grained, red, poorly consolidated and appear to have been derived in part from the Tertiary Agglomerate. Abundant calcite veinlets are observed in the tuffs in most outcrops.

Tertiary Latite: This occurs as a thin capping on two prominent knobs in the south central portion of the East Zone. On the south side of the southernmost knob, bedding can be observed in the latite.

Laramide Dikes: These can be observed over the entire area of the Bluebird-Copper Chief claim block but are more evident and more abundant in the central and western portion of the West Zone of the Bluebird claims. Here the dikes occur as a dike swarm. The general strike of the dikes is northeast. The dikes range in composition from diorite to diabase. These dikes may be feeder dikes from a basic intrusive found approximately two miles to the north of the property. These were from 1 foot wide to over 20 feet wide.

Quartz Veins: Hematite stained quartz veins, brecciated in places, ranging from 1 inch to several feet in width accompany the basic dikes. Quartz veins of a lesser magnitude can be observed crossing the basic dikes at right angles to the dikes and other quartz veins. It is evident there are two stages of quartz introduction.

Laramide Quartz Monzonite: The quartz monzonite can be found outcropping over the entire area of the claim block. The intrusive rock is coarse grained with light to moderate hematite-limonite staining. On the Bluebird claims, the quartz monzonite contains large plagioclase feldspars, some measuring 2 inches across. The occurrence of the plagioclase decreases to the north and east of the Bluebird claims. Abundant quartz flooding of more intensely fractured quartz monzonite can be observed in large areas over the claim block. Abundant aplite, in the form of dikes and fracture fillings, can also be observed in the quartz monzonite. With the exception of some scattered hematite cubes, no sulfides were observed in the quartz monzonite. This monzonite has been intruded by the basic dikes and is highly altered and iron stained near the intrusive contact. The quartz monzonite is highly fractured and two directions of jointing is apparent in the rock. The fracturing is due in part to the basic intrusives and in part by regional and local faulting. The fractures have been filled by quartz veins and aplite.

### Structure

There is evidence of faulting in three directions. E-W and NW-SE faulting is observed but the major fault strikes NE-SW. Several NW-SE striking shear zones were also observed.

Evidence that the NW-SE faults were post-Laramide can be found in the creek bottom in the West Zone where the quartz vein-dike swarm complex has lateral displacement up to 8 feet (see 1"=50' scale map).

### Mineralization

Gold, lead, molybdenum mineralization, with minor silver, copper, and tungsten values occur on the property. The mineralization is believed to be contained in the quartz veins associated with basic dikes and occurring at or near fault intersections. Samples taken from several locations on the Bluebird claims indicate spotty mineralization. A list of the samples taken and assay results are listed below.

#### Bluebird West Zone:

-Dump from 30 foot shaft:

Au <0.005 oz./ton, Ag 0.24 oz./ton, Cu 0.03%, Pb 0.01%, Mo 0.180%

-Hanging wall of vein at bottom of 30 foot shaft, 4' channel

Au .005 oz./ton, Ag <.01 oz./ton, Pb .01%,  $W_o_3$  .008%, Mo .018%

-6' channel across vein at bottom of 30 foot shaft

Au .02 oz./ton, Ag .06 oz./ton, Pb .02%, Zn .01%,  $W_o_3$  .008%, Mo .096%

#### Bluebird East Zone:

-Dump rock from 5 foot discovery shaft BB #1

Au .31 oz./ton, Ag 7.77 oz./ton, Cu .30%, Pb 7.70%, Zn .02%, Mo .20%,  $W_o_3$  .17%

-4 foot channel sample from vein, 5 foot discovery shaft BB #1

Au .005 oz./ton, Ag <.01 oz./ton, Pb .02%, Zn <.01%,  $W_o_3$  .006%, Mo <.001%

-5 foot channel sample from dozer cut 50 feet east of BB#1 discovery shaft

Au .01 oz./ton, Ag <.01 oz./ton, Pb .02%, Mo <.001%

-Dump rock (quartz) from small prospect 300 feet north of BB#1 discovery shaft

Au .08 oz./ton, Ag 1.22 oz./ton, Cu .38%, Pb .44%, Mo .049%

It is evident from the assays that the veins do carry some mineralization. As observed from the channel samples results, it does not seem to be consistent.

### Geo-chemical

During the last week of March, 1978, a geo-chemical survey was performed over the East and West Zones and over the exposed vein on the

Copper of claims. The survey was performed by myself and Mr. Bill Daffron, consulting geologist of Albuquerque.

Samples were collected on 200 foot stations with 200 foot line spacings. Three types of samples were collected. Where it was possible, an outcrop sample was taken and marked "C". Where this was not possible, a hole was dug below the "B" horizon and a sample taken. This sample was screened with a  $\frac{1}{4}$  inch mesh screen. The part that passed through the  $\frac{1}{4}$  inch mesh screen was marked "A" and the portion that did not pass through the screen was marked "B". In some instances, there was no "B" horizon. In this case a hole was dug as deep as possible and the rock screened to get an "A" and "B" sample. In some cases, there was only an "A" sample below the "B" horizon. All these instances are noted in the station by station notes accompanying the geo-chem maps. 126 samples were collected, each weighing over  $\frac{1}{2}$  lb. The samples were delivered to Skyline Labs of Tucson, Arizona and assayed for gold, silver, molybdenum and tungsten. The average content of the four minerals normally found in the Bluebird-Copper Chief rock types are as follows:

Gold: Mafic rocks - 0.035 ppm; Felsites - 0.01 ppm

Silver: Mafic rocks - 0.3 ppm; Felsites - 0.15 ppm

Molybdenum: Mafic rocks - 1.4 ppm; Felsites - 1.9 ppm

Tungsten: Mafic rocks - 2 ppm; Felsites - 2 ppm

This information was taken from Geochemistry in Mineral Exploration by Hawkes and Webb, 1962.

A localized gold, silver, molybdenum geo-chemical anomaly occurred on the Bluebird claims near the shaft on the West Zone and a silver, molybdenum anomaly occurred on the Copper Chief claims on the southern end of the exposed vein. A two station molybdenum anomaly occurred on the west end of Line 00 on the Copper Chief claims.

Higher than normal geo-chemical values for tungsten were observed over the Bluebird claims. The East Zone showed anomalous conditions in the outcrop samples as well as the soil samples. The anomalies on the West Zone were primarily in the soil samples. Minor molybdenum values accompany the tungsten anomalies. It is believed there is a possibility of a small to moderate tonnage ore body of mineralization in the quartz veins at depth on the East Zone. The mineralization would probably be in the form of powellite ( $\text{CaMoO}_4$ ). The anomalous tungsten values occurring in the soil samples on the West Zone may be an indication of tungsten-molybdenum rich veins at depth or may be

concentrations of tungsten-molybdenum leached from surrounding veins in the quartz monzonite.

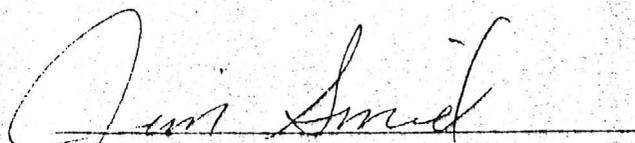
### Conclusions

Gold, silver mineralization with associated molybdenum, lead, and tungsten mineralization occurs as small pockets, lenses and ore shoots in quartz veins in the quartz monzonite. The greatest concentration of mineralization seems to be near intruding basic dikes and near faults and fault intersections.

There is a possibility of a small to moderate tonnage of tungsten-molybdenum mineralization at depth on the East Zone.

A closer spaced geo-chemical survey (50 foot stations) across the East and West Zones of the Bluebird Claims would better define any possible ore deposits in the veins.

A VLF-EM survey on 50 foot stations across the East and West Zones would possibly be a help in tracing any mineralized veins.



Jim Smid

Dist: Keradamex, Toronto  
File  
B. B. Waldeck