



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

The following file is part of the
James Doyle Sell Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

430 Palo Verde
Hjo, Arizona 85329
Feb. 9, 1993

Hrargo Inc.
South West Exploration
Tucson, Arizona

ASARCO Incorporated

FEB 11 1993

SW Exploration

Mr. Simsdell:

As suggested By Mr. Fred Graybeal
From the Hrargo Office in New York,
I am enclosing some information
pertaining to 48 Copper Claims
I have located in Sec. 5, 6, 7 & 8 in
T. 12 S. R. 6 W. in Hjo, Arizona.
Assessment work and Fees are
up to date. I have churn drill
samples from several drill holes.
and Core boards made up of
same, which I can not mail.
Hopefully you will be interested
enough to look at the Claims,
samples, core boards, etc.
One drill hole turned the drill
tools green another hole

had strong sulphur odor.
Most samples contain pyrite
Chalcopyrite, Boronite, Magnetite.
I am looking forward to an
answer regarding this matter.

Respectfully
Lee Rice

FEB 11 1993

Mine Copper Valley Claims Date April 6, 1966
SW ^{Exhibit A} (Old Organ Pipe or Kerns Claims)
District Ajo Mining District - Pima County Engineer Lewis A. Smith

Subject: Mine visit with Joe Kostolnik and his wife, Mrs. Young of Globe and James Parmer, a partner in the claims with Leo Deffern of Ajo.

Property: The property consists of 14 claims that were relocated October 3, 1963 by Parmer and Deffern.

Location: Approximately Sec. 7, 8, T12S, R6W - recorded in book 2162, p. 326
Sec. 12, T12S, R7W (?)

Owners: James Parmer (50%), 17 E. Orange Drive, Phoenix; Joe Deffern (50%), Ajo.

Minerals: Copper, silica

Work: Work consists of several pits, cuts, trenches, etc., mostly due to assessment and location work. Two drill holes were reportedly sunk, but no data was submitted on them.

Production: There is no recorded production of consequence.

Geology: The area consists largely of Cardigan gneiss formation, schist, quartz-monzonite (Cornelia). Augen gneiss, quartz-diorite gneiss, medium grained quartz-mica-schist, fine-grained quartz-mica-schist, some pegmatite. This rock has often been intruded by quartz-monzonite (more particularly Cornelia quartz-monzonite), and andesite dikes, irregular masses, etc. The cardigan gneiss structure is tough to determine although there is possibly a general trend of the foliation is north to northwest, but this changes very rapidly without apparent system. The refoliation trend in the Eastern portion of the claims seemed to be more north to slightly northeast and the dips were generally nearly vertical, to steeply northwest, whereas in the west half of the claims the general strike is northwest with a general dip of 45 to 75 degrees to the south. The andesite or quartz monzonite porphyritic dikes, when present, and the gneiss-schist complex often are concordantly oriented with the refoliation pattern when schist is present. The intrusive rocks usually are in irregular bands between schist areas and sometimes pinch and swell and in a few cases, they are cut off by faults. (The general geology of this area is described in the U.S. Geology Survey P.P. 208 (1946) on plate 3 and pp. 11-15 under Cardigan gneiss.

The block, that contains the Cardigan gneiss, and intruded rocks lies between two, to a large degree, inferred faults of apparently considerable magnitude, and with large throws vertically. On the southeast, Cornelia quartz monzonite capped by Sneed andesite, (middle Tertiary (?) butt against the Cardigan gneiss, whereas, to the North of the "North fault, Sneed andesite, capped by Childs latite and late basalts also butt against the Cardigan gneiss. Thus the Cardigan block between the two inferred faults seems to be a horst structure which narrows, as a wedge, toward the northwest and widens toward the southeast. Local areas of Cornelia monzonite outcrop in the southwest ½ of the Cardigan area. This, along with other area evidences, would indicate that the Cardigan gneiss-schist may be a blanket on top of the monzonite, and since the schist and gneiss are generally severely distorted, crinkled and chemically altered, it is probable that the Cardigan could be a relatively thin blanket acting as a roof pendant. The schist-gneiss sometimes is less deformed near the andesite-like dikes that in places, are in clusters of irregular outline and distribution. These andesite-like dikes could possibly be differentiated from the Cornelia monzonite mass. The Cardigan gneiss, though locally

CHANGES —

PROPERTY — 48 CLAIMS

LOCATION — SEC. 5, 6, 7 & 8
T-12S. R 6W

OWNERS — LEE & CLARA
PRICE

having some schist, is generally believed to have been derived from igneous rocks, probably quartz dioritic types.

Secondary faulting in two general courses, northeast-southwest and east west generally could be considered pre-mineral since copper oxide minerals are present in several openings where these faults intersect the dikes. Due to a lack of development in depth it is not possible to say whether the mineralization is prevalent between the faults. The dikes themselves where exposed, did not seem to be well mineralized, except along their borders. Some parts of the gneiss and schist on or near the fractures, seemed to be better mineralized. Some deeper exploration would be necessary in order to see if the mineralization is wide spread or merely lenses at favorable intersection loci. In one place on claim 7 a quartz vein borders a dike for a length of 300, or more feet. The quartz ranges from 5-15 feet wide at the surface and is almost pure. The segment of vein "horsetails" at the north end and is cut off by an east west fault on the south end. The quartz stands up a few feet above the Cardigan country rock to the east, but has less relief next to the dike rock, or gneiss to the west. It was reportedly estimated to contain about 10,000 tons of better than 90 percent silica. However, only part of this would be available for surface extraction. On Claim 6 a cut, some 50 feet long, a few feet wide, and possibly 8 feet in depth, shows lenses of fairly good copper, said to run up to 8 percent copper, mostly oxidized, a dollar in gold and silver, and 58.8 percent SiO_2 . Lime is less than 1 percent.

The impression was gained that the mineralization as now exposed, is lenticular. Iron oxide (limonite) of sulphide derivation, is sporadic in distribution and does not seem to be very prevalent any place except in the "ore" lenses. However, whipping out of vugs and minor fracture planes is prevalent and deeper down more limonite might occur, as indicated by conditions in two deeper holes. But, even here, sulphide derived limonite is not widespread. A few specimens of "relief" limonite were seen in the cut on 6 claims indicating that local areas could contain some chalcocite deeper. A small amount of sparse sulphide was seen in places, (mostly chalcopyrite and some pyrite). The impression was also gained that, if the Cardigan formation does prove to be a pendant, the inferred deeper cornelia quartz monzonite could be the key to the value of the deposit. If this rock is found to be generally mineralized, the area could be prospectable, particularly if the mineralization is similar to that in the new cornelia pit area. This is why it is desirable to get a hole down into the monzonite. An angle drilled to the west from east of the quartz vein could, not only prospect the quartz to at least 100 feet deep, but could also prospect for the monzonite that may underlie the Cardigan.

RIGHT ON # 3 BOOK 4923 PAGE 337	RIGHT ON # 4 BOOK 4923 PAGE 338	RIGHT ON # 5 BOOK 4923 PAGE 339	RIGHT ON # 6 BOOK 4923 PAGE 340	BONNIE LEE # 1 BOOK 5065 PAGE 319	BONNIE LEE # 2 BOOK 5065 PAGE 318	BONNIE LEE # 3 BOOK 5065 PAGE 317	BONNIE LEE # 4 BOOK 5065 PAGE 316	BONNIE LEE # 6 BOOK 5065 PAGE 314	BONNIE LEE # 5 BOOK 5065 PAGE 315
------------------------------------	------------------------------------	------------------------------------	------------------------------------	--------------------------------------	--------------------------------------	--------------------------------------	--------------------------------------	--------------------------------------	--------------------------------------

WAY OUT # 32 BOOK 5171 PAGE 117	WAY OUT # 31 BOOK 5171 PAGE 116	WAY OUT # 18 BOOK 5171 PAGE 118	WAY OUT # 17 BOOK 5171 PAGE 119	WAY OUT # 29 BOOK 5171 PAGE 114	WAY OUT # 28 BOOK 4963 PAGE 229	WAY OUT # 27 BOOK 4963 PAGE 228	WAY OUT # 26 BOOK 4963 PAGE 227	WAY OUT # 25 BOOK 4963 PAGE 226	WAY OUT # 24 BOOK 4963 PAGE 225
------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------

WAY OUT # 16 BOOK 4712 PAGE 303	WAY OUT # 15 BOOK 4712 PAGE 304	WAY OUT # 14 BOOK 4712 PAGE 305	WAY OUT # 13 BOOK 4712 PAGE 306	WAY OUT # 12 BOOK 4712 PAGE 307	WAY OUT # 11 BOOK 5192 PAGE 82	WAY OUT # 10 BOOK 5192 PAGE 81	WAY OUT # 9 BOOK 5192 PAGE 80	WAY OUT # 8 BOOK 5192 PAGE 79	WAY OUT # 7 BOOK 5192 PAGE 78
------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	-----------------------------------	-----------------------------------	----------------------------------	----------------------------------	----------------------------------

PRICE CLAIMS
T.I.S. R.L.W.

Wash
CH-7

1622

S.6

S.12

1615

PRICE CLAIMS

BONNIE LEE CLAIMS #1 THRU #10 LOCATION HOLE
100' DEEP ON W. END OF BONNIE LEE #2

WAY OUT CLAIMS #1 THRU #5 AND #12 THRU #16
LOCATION HOLE 180' DEEP ON EASTERN
OF WAY OUT #13

WAY OUT CLAIMS #17 THRU #20 AND #29 THRU #32
LOCATION HOLE 80' DEEP ON WAY OUT #2

WAY OUT CLAIMS #6 THRU #11 LOCATION HOLE
80' DEEP ON WAY OUT #8

WAY OUT CLAIMS #21 THRU #28 LOCATION HOLE
80' DEEP ON WAY OUT #26

~~RIGHT ON~~

RIGHT ON CLAIMS #1 THRU #6 LOCATION HOLE
120' DEEP ON RIGHT ON #1

EXPLORATION HOLES

CHURN DRILL HOLE #2 - 210' DEEP

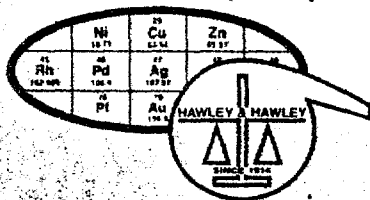
CHURN DRILL HOLE #5 - 185' DEEP

CHURN DRILL HOLE #8 - 160' DEEP

CHURN DRILL HOLE #9 - 160' DEEP

CHURN DRILL HOLE #10 - 200' DEEP

CHURN DRILL HOLE #11 - 100' DEEP

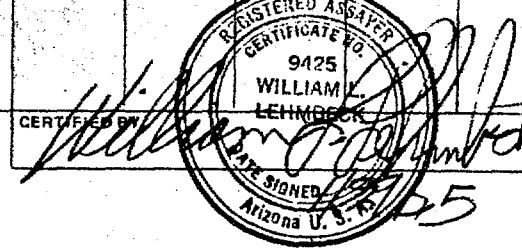
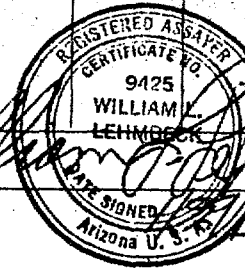


Hawley & Hawley, Assayers and Chemists Division
1700 W. Grant Rd., P.O. Box 50106, Tucson, Arizona 85703
(602) 622-4836

William L. Lehmbeck
Arizona Registered Assayer No. 9425

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	As ppm			
	Hole #2 BONNIE LEV #10 Hole #2 Valley #3									
1	10'	0.2	225	15	45	2	2			
2	20'	0.2	10	5	20	2	1			
3	40'	0.2	185	5	45	2	1			
4	50'	0.2	400	5	55	2	1			
5	60'	0.2	500	5	50	2	1			
6	65'	0.2	550	5	80	2	1			
7	69'	0.2	540	5	35	2	1			
8	70'	0.2	115	5	20	2	1			
9	75'	0.2	35	5	5	2	1			
10	80'	0.2	275	5	40	2	1			
11	85'	0.2	5	5	45	2	1			
12	90'	0.2	45	10	70	2	1			
13	95'	0.2	80	5	25	2	1			
14	100'	0.2	165	5	30	2	1			
15	110'	0.2	6100	5	50	2	1			
16	115'	0.2	600	5	85	2	1			
17	120'	0.2	255	5	40	2	1			

TO: Phelps Dodge Corporation 140 West 2950 South Salt Lake City, Utah 84115 Attn.: Dr. J. T. Abbott cc: Mr. Zsolt F. Rosta cc: Mr. R. W. Ludden	REMARKS: Trace analysis	CERTIFIED BY:  
DATE REC'D: 1/22/75	DATE COMPL.: 1/29/75	JOB NUMBER: 750165

ASARCO

Great Basin Exploration Division

September 20, 1994

Sac. 7-8, T125, R6W

TO: J.D. Sell
Tucson Office

Childs Mtn. Prospect
Ajo, Arizona

Enclosed is a submittal from Lee Price on the Childs Mountain Prospect, near Ajo, Arizona. Please determine if there is interest in this property and pursue it if you are so inclined. Otherwise, please write Mr. Price a letter declining further interest.

Thanks,



Peter G. Vikre

MAY 2, 1994

MR. QUENTIN BROWNE
510 EAST PLUMB LANE
RENO, NEVADA 89502

DEAR QUENTIN:

YOU WILL FIND ENCLOSED: LOC. MAP, GEO. MAP,
DRILL HOLE LOC. MAP, AND ASSAYS. AS YOU
REQUESTED. IF YOU NEED ANY OTHER DATA
PLEASE LET ME KNOW.

I HAVE THE POWER OF ATTORNEY OF THE OTHER
CLAIM HOLDERS IN THIS GROUP.

THE BOB AND RAY PRICE GROUP, THE MOHON GROUP,
THE GILLIAM GROUP, AND THE WRISTON GROUP.

I HAVE DUPLICATE SAMPLES TAKEN AT 5'
INTERVALS. OF ALL OF THE HOLES I DRILLED
I ALSO HAVE THE SAMPLES KENNECOTT LEFT.
KENNECOTT DRILLED 3 HOLES, THE 3RD HOLE
ON WAY OUT #22 WAS A VERY LONG WAY FROM

THE BONNIE LEE #10 AND THE RIGHT ON #1

I SINCERELY HOPE YOU CAN CONVINCE
ASARCO TO FURTHER EXPLORE THIS GROUP
OF CLAIMS.

RESPECTFULLY YOURS:

Lee Price

59
69
64
61
63
64
65
66
67

60

68
67

✓ Rock chip sample
△ Dump sample

GEOCHEM OVERLAY
CHILDS MTN PROSPECT
AJC MINING DISTRICT
PIMA CO., ARIZONA

Joe Wilkins
April 7, 1993

APPENDIX

DRILL HOLE SUMMARIES CHILDS MTN PROSPECT AJO AREA PIMA COUNTY, ARIZONA

CDH-1

TD: 180

LOCATION: NW 1/4 Sec 8, T.12 S, R.6 W.

LITHOLOGY:

(cuttings only saved for select intervals)

0-180 Sneed andesite

ASSAYS: Interval Cu % Au oz/t

No assays reported.

CDH-2

TD: 180

LOCATION: NW 1/4 Sec ⁷/₈, T.12 S, R.6 W.

LITHOLOGY:

0-55 PC Cardigan gneiss
55-75 Rhyolite dike
75-210 PC Cardigan gneiss

ALTERATION:

0-55 Moderate epidote-chlorite, minor muscovite w/quartz
55-75 Weak sericite, mod clay alteration, hematite stain
75-90 Moderate epidote-chlorite, sericite+muscovite
90-130 Weak epidote-chlorite, stronger quartz-sericite, biotite stable.
130-180 Weak epidote/chlorite, with moderate sericite overprint.

MINERALIZATION:

0-55 Oxidized, minor CuOx present at 50'
55-75 Weak to moderate hematite stain replacing pyrite.
75-90 Oxidized, Hematite replcing py/cpy.
90-130 weak to moderated pyrite+chalcoppyrite, strong magnetite.
130-180 Traces of sulfides with py>>cpy.

ASSAYS: Interval Cu % Au oz/t
50-55 .12
100-105 .17
105-110 .61

CDH-3

TD: 80

LOCATION: NE 1/4 Sec 7, T.12 S, R.6 W.

LITHOLOGY:

0-80 Cornelia qm, granodiorite phase

ALTERATION:

0-80 Strong epidote, moderate chlorite-all biotite altered to chlorite. May be weak sericite in feldspars.

MINERALIZATION:

0-80 Oxidized with scattered orange-brown hematite on fractures. Rock is shattered.

ASSAYS:	Interval	Cu %	Au oz/t
	40-50	.04	
	50-60	.02	0.005

Note: hole not assayed for every interval.

CDH-4

TD: 120

LOCATION: NW 1/4 Sec 7, T.12 S, R.6 W.

LITHOLOGY:

0-100 Alluvium, all volcanic clasts
100-120 Sneed andesite, (brown volcanic rock)
115 Fault gouge

ASSAYS:	Interval	Cu %	Au oz/t
---------	----------	------	---------

No assays reported.

CDH-5

TD: 185

LOCATION: NW 1/4 Sec 7, T.12 S, R.6 W.

LITHOLOGY:

0-15 Alluvium
15-25 dike, intermediate, FG, slightly porphyritic
25-45 PC Cardigan gneiss
45-85 dike, rhyodacite-latite, crowded groundmass, almost a micro-diabasic texture.
85-185 PC Cardigan gneiss.

ALTERATION:

15-25 Dike; moderate epidote
25-45 Oxidized, weak epidote-chlorite
45-85 Dike, strong epidote-chlorite especially on veins, mafics altered to chlorite. Strong epidote at lower contact.

85-185 Weak epidote-chlorite, streaky quartz-sericite, biotite stable.

MINERALIZATION:

15-25 Oxidized
25-45 Oxidized, Weak to very weak hematite stain replacing pyrite>>cpy.
45-85 Oxidized, veins & fault-veins with strong hematite replacing py>>cpy. Strong hematite after pyrite/cpy at lower contact. Magnetite.
85-185 Very low sulfide content, trace py>>cpy at 175-185. Magnetite.

ASSAYS:	Interval	Cu %	Au oz/t	Mo %
	180-185	.03	0.01	0.003

CDH-6

TD: 80

LOCATION: NE 1/4 Sec 7, T.12 S, R.6 W.

LITHOLOGY:

0-25 Alluvium, all volcanic clasts
25-80 Sneed andesite, (brown volcanic rock)

ASSAYS:	Interval	Cu %	Au oz/t
---------	----------	------	---------

No assays reported.

CDH-7

TD: 80

LOCATION: Dunn's Well, center Sec 8, T.12 S, R.6 W.

LITHOLOGY:

0-10 Alluvium
10-80 Cornelia qm, biotite granodiorite phase

ALTERATION:

10-80 Weak to moderate epidote, moderate chlorite-all biotite altered to chlorite. May be weak sericite in feldspars.

MINERALIZATION:

0-80 Minor hypogene hematite and brown carbonate, magnetite. Rock is shattered.

ASSAYS:	Interval	Cu %	Au oz/t
---------	----------	------	---------

Note: hole not assayed.

CDH-8

TD: 160

LOCATION: NW 1/4 Sec 8, T.12 S, R.6 W., 100 feet west of CDH-2.

LITHOLOGY:

0-60	PC Cardigan gneiss
60-70	Fault zone, Cardigan gneiss with dike slices, gouge at 70'.
70-85	Intermediate composition dike
85-160	PC Cardigan gneiss

ALTERATION:

0-40	Weak to moderate epidote-chlorite
40-70	Weak epidote-chlorite with streaky sericite overprint.
70-85	Moderate epidote-chlorite.
85-120	Weak to moderate epidote-chlorite, streaky sericite overprint.
120-160	Coarse-grained muscovite-sericite and biotite stable. Increasing chlorite 145-160.

MINERALIZATION:

0-40	Oxidized, weak hematite stain after py/cpy.
40-45	Very fine grained py, cpy with visible gold.
45-55	Oxidized, weak hematite replacing py/cpy.
55-70	Weak pyrite+chalcopryrite in gneiss.
70-85	Minor pyrite in dike.
85-90	No visible sulfides.
90-120	Strong sulfides, pyrite+chalcopryrite and tr galena at 90'.
120-160	Trace sulfides, weak magnetite.

ASSAYS: Interval Cu % Au oz/t

Note: no assay intervals.

CDH-9

TD: 160

LOCATION: NW 1/4 Sec 8, T.12 S, R.6 W., 100 feet east of CDH-2.

LITHOLOGY:

0-20	Alluvium
20-80	PC Cardigan gneiss with faulted dike slices.
80-105	Rhyolite dike
105-125	PC Cardigan gneiss
125-160	Dike, intermediate composition.

ALTERATION:

20-50	Weak to moderate epidote-chlorite, minor sericite overprint.
50-85	Weak epidote-chlorite with stronger sericite overprint.
85-105	Oxidized, weak clay+sericite.
105-120	Muscovite+biotite stable.
120-160	Moderate epidote-chlorite, epidote vein-veinlets present.

MINERALIZATION:

20-50	Oxidized, weak hematite stain after py/cpy.
50-85	Traces of py/cpy, magnetite.
85-105	Oxidized, weak to moderate hematite.
105-115	Trace pyrite+chalcopyrite in gneiss.
115-120	Contact: strong py+cpy, magnetite.
120-160	Trace sulfides, magnetite common.

ASSAYS:	Interval	Cu %	Au oz/t
	145-160	0.02	

Note: not all intervals assayed.

CDH-10

TD: 200

LOCATION: NW 1/4 Sec 7, T.12 S, R.6 W., 25' east of CDH-5

LITHOLOGY

0-20	Alluvium
20-80	PC Cardigan gneiss
80-85	dike, mafic, VFG.
85-200	PC Cardigan gneiss

ALTERATION:

20-80	Moderate epidote-chlorite with streaky sericite overprint.
80-85	Oxidized, weak epidote-chlorite
85-200	Weak to moderate epidote-chlorite, streaky quartz-sericite. at 200' very dark chlorite with epidote and pyrite.

MINERALIZATION:

20-80	Oxidized, weak to very weak hematite stain replacing pyrite/cpy.
80-85	No visible sulfides.
85-200	Trace pyrite-chalcopyrite, visible sulfide at 95-105, 135, 150, and 200'.

ASSAYS:	Interval	Cu ppm	Au oz/t	Mo %
	130-165	85 (avg)		

Note: hole not assayed for every interval.

Speed Ranch

KENNECOTT GEOCHEMICAL SAMPLING

FOR LOCATIONS, SEE
WILKINS MAP

PROJECT: ~~Childs Mtn~~ - ASD AREA

GEOLOGIST: JOE WILKINS

DATE: 3/17 - 3/19 / 1993

QUAD: Childs Mtn 7 1/2

COUNTY: PIMA

STATE: ARIZONA

CH-channel
C-chip
R-rock
F-float
T-talus
D-dump
RC-rotary chl.
HQ-high grade
S-soil
SI-stream sed

DATE: 5/11/77				STATE: IOWA		ppb		ppm		ppb		PPM					SI-stream bed	
Sample Number	Location			Rock Description Comments	Type	ppb		ppm		ppb		PPM					SI-stream bed	
	Sec.	T.	R.			Au	Ag	Hg	As	Sb	Cu	Pb	Zn	Mo	Bi			
6558C	7	T125	R6W	1 Ft. N20E, 35E Sikeford Pegn. Cu Ox Epi/chl. FeOx → Py/epg	C	—				10	1	.4	3800	< 1	31	2	.1	
59C	7			17.5' N30-10W 77E glauv. ser. slug. chl. FeOx → Py	C	40	.3			10	1	.4	14		33	< 1	.8	
60C	7			TKc, 9dφ stg epi. mafic → chl. Tr FeOx → Py	D					10	1	.4	28		32	1	.2	
61C	7	T125	R6W	TKdik - Pegn. Cont. Fltz. gl. Cu Ox - chl. FeOx → Py	D					10	2	1.2	> 10,000		34	5	.9	
62C	12	T125	R7W	Pegn. K-spar + Muscov + chl. FeOx → Py	D					10	4	.4	> 10,000		22	1	< .1	
63C	12	T125	R7W	50' S.C.C. Pegn. Fresh - Epi/chl. Minn Qtz	C					10	1	.4	200		29	< 1	< .1	
64C	7	T125	R6W	100' S.C.C. Pegn. "	C	20				10	-1	.4	125		25		.3	
65C	7			100' S.C.C. Pegn. less epi.	C		.2			10	1	.4	23		29		.1	
66C	7			100' S.C.C. Pegn. stg epi. Tr FeOx → Py	C					10	1	.4	18		39		.2	
67C	7			100' S.C.C. TKgd. stg epi. hematite	C					10	1	.6	6		46		.1	
68C	7			50' S.C.C. TKgd. v. stg epi. hematite	C					10	-1	.4	9		70		< .1	
69C	7	T125	R6W	50' S.C.C. Pegn. stg epi. wk FeOx → Py	C					10	1	.2	27	< 1	30	< 1	.2	

KENNECOTT

GEOCHEMICAL SAMPLING

Sneed Ranch
PROJECT: ~~CHILD'S MTN~~ AJO Area

GEOLOGIST: JOE WILKINS

DATE: 3/19/93

QUAD: Childs Mtn 7 1/2

COUNTY: PIMA

STATE: ARIZONA

CH-channel
C-chip
R-rock
F-float
T-talus
D-dump
RC-rotary ch
HQ-high grade
S-soil
SI-stream sed

DATE: 3/19/92

STATE: MICHIGAN

ppb ppm Ppb PPM

SI-stream sed

Sample Number	Location		Rock Description Comments	Type	PPM									
	Sec.	T. R.			Au	Ag	Hg	As Sb	Cu	Pb	Zn	Mo	Bi	
46570C	7	T 12S R 6W	COH-5 Price 155-160 PEgn epi-chl w/ser py-cpy-mt Tr	RC	60			10	.4	34	<1	26	<1	1.8
71C			160-165 PEgn " " "	RC				10	.4	22		200		.8
72C			170-175 PEgn " " "	RC				10	.2	9		21	<1	.2
73C	7		175-180 PEgn " " "	RC				10	.4	144		26	2	.5
74C	11		75-80 PEgn epi/chl w/ser, py-cpy-mt wk	RC				10	.4	8		72	1	.5
75C	11		80-85 PEgn " " "	RC				10	.2	12		62	<1	.2
76C	11		90-95 PEgn " " "	RC				10	.4	8		27		1.0
77C	7		35-40 PEgn epi/chl w/ser py-cpy-mt wk-mod	RC	5			10	.4	132		42		.2
78C			40-45 PEgn " visible Au. "	RC	50	1		10	.4	98		22		.9
79C			90-95 PEgn mod. epi/chl, ser py-cpy-mt	RC	.10			10	.4	17		21		.2
80C			95-100 PEgn " " "	RC		.2		10	.2	38.00		24		.1
81C			100-105 PEgn " " "	RC				10	.2	32		17		.6
82C			105-110 PEgn " " "	RC				10	.4	38		40		.2
83C			115-120 PEgn " " "	RC				10	.4	18	<1	40		.1
84C			125-130 PEgn wk epi/chl Tr CL Muscovite bio py-cpy	RC				10		8	1	9		.5
85C			35-40 PEgn dikes, epi/chl, ser Feox + py wk	RC	10			10	.2	72	<1	77		<.
86C			40-45 PEgn + dikes " "	RC				10	.2	5		55	<1	
87C			45-50 PEgn + dikes " "	RC				10	.4	30		54	1	<.
88C			85-90 Rhyo dikes, oxidized ser Feox + py wk	RC				10	.2	<1		45	2	.
89C			90-95 Rhyo " " "	RC		.5		10	.4	3		23	1	.
90C			95-100 Rhyo " " "	RC				10	.2	4		47	<1	<.
91C			100-105 Rhyo " " "	RC				10	.4	1		22		.
92C			110-115 PEgn muscov + bio	RC				10	.4	3		75		.2
93C			115-120 PEgn Muscovite bio sh. py-cpy + mt	RC				10	.4	6		57	<1	.2

GEOCHEMICAL SAMPLING

PROJECT: CUMOCUTIN - AJO AREA

ECOLOGIST: JOE WILKINS

ATE: 3/19/93

QUAD: Childs Mtn 7 1/2'

COUNTY: Pima

STATE: ARIZONA

CH-channel
C-chip
R-rock
F-float
T-talus
D-dump
RC-rotary chip
HQ-high grade
S-soil
St-stream sed

[illegible]



Chemex Labs Inc.

Analytical Chemists * Geochemists * Registered Assayers
994 West Glendale Ave., Suite 7, Sparks,
Nevada, U.S.A. 89431
PHONE: 702-356-5395

To: KENNECOTT EXPLORATION CO.

P.O. BOX 11248
SALT LAKE CITY, UTAH
84147

Project: CHILDS MTN AZ.
Comments: ATTN: LINUS KEATING CC: JOE WILKINS

Page Number : 1
Total Pages : 1
Certificate Date: 30-MAR-93
Invoice No. : 19312279
P.O. Number :
Account : GJV

CERTIFICATE OF ANALYSIS

A9312279

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Hg ppb	Pb ppm	Sb ppm	Zn ppm	Bi ppm
46558C	205	226	< 5	< 0.2	1	3800	2	10	< 1	0.4	31	0.1
46559C	205	226	40	0.3	1	14	< 1	10	< 1	0.4	33	0.8
46560C	205	226	< 5	< 0.2	1	28	1	10	< 1	0.4	32	0.2
46561C	205	226	< 5	< 0.2	2	>10000	5	10	< 1	1.2	34	0.9
46562C	205	226	< 5	< 0.2	4	>10000	1	10	< 1	0.8	22	< 0.1
46563C	205	226	< 5	< 0.2	1	200	< 1	10	< 1	0.4	29	< 0.1
46564C	205	226	20	< 0.2	< 1	125	< 1	10	< 1	0.4	25	0.3
46565C	205	226	< 5	0.2	1	23	< 1	10	< 1	0.4	29	0.1
46566C	205	226	< 5	< 0.2	1	18	< 1	10	< 1	0.4	39	0.2
46567C	205	226	< 5	< 0.2	1	6	< 1	10	< 1	0.6	46	0.1
46568C	205	226	< 5	< 0.2	< 1	9	< 1	10	< 1	0.4	70	< 0.1
46569C	205	226	< 5	< 0.2	1	27	< 1	10	< 1	0.2	30	0.2

Geochem SAMPLE ASSAYS

CERTIFICATION:

Janet Bickler



Chemex Labs Inc.

Analytical Chemists * Geochemists * Registered Assayers
994 West Glendale Ave., Suite 7, Sparks,
Nevada, U.S.A. 89431
PHONE: 702-356-5395

KENNECOTT EXPLORATION CO.

P.O. BOX 11248
SALT LAKE CITY, UTAH
84147

Page Number : 1
Total Pages : 1
Certificate Date: 30 MAR 93
Invoice No. : 19312280
P.O. Number :
Account : GJV

Project : CHILDS MTN AZ.
Comments: ATTN:LINUS KEATING CC:JOE WILKINS

PRICE Holes

CERTIFICATE OF ANALYSIS A9312280

SAMPLE F#	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Hg ppb	Pb ppm	Sb ppm	Zn ppm	Bi ppm
46570C 155-160'	205 226	60	< 0.2	1	34	< 1	10	< 1	0.4	26	1.8
46571C 160-165	205 226	< 5	< 0.2	< 1	22	< 1	10	< 1	0.4	200	0.8
46572C 170-175	205 226	< 5	< 0.2	< 1	9	< 1	10	< 1	0.2	21	0.2
46573C 175-180	205 226	< 5	< 0.2	< 1	144	< 1	10	< 1	0.4	26	0.5
46574C 75-80	205 226	< 5	< 0.2	< 1	8	2	10	< 1	0.4	72	0.5
46575C 80-85	205 226	< 5	< 0.2	< 1	12	1	10	< 1	0.2	62	0.2
46576C 90-95	205 226	< 5	< 0.2	1	8	< 1	10	< 1	0.4	27	1.0
46577C 35-40	205 226	5	< 0.2	1	132	< 1	10	< 1	0.4	42	0.2
46578C 40-45	205 226	50	1.0	2	98	< 1	10	< 1	0.4	22	0.9
46579C 90-95	205 226	10	< 0.2	< 1	17	< 1	10	< 1	0.4	21	0.2
46580C 95-100	205 226	< 5	< 0.2	1	3800	< 1	10	< 1	0.2	24	0.1
46581C 100-105	205 226	< 5	< 0.2	1	22	< 1	10	< 1	0.2	17	0.6
46582C 105-110	205 226	< 5	< 0.2	< 1	38	< 1	10	< 1	0.4	40	0.2
46583C 115-120	205 226	< 5	< 0.2	< 1	18	< 1	10	< 1	0.4	40	0.1
46584C 125-130	205 226	< 5	< 0.2	< 1	8	< 1	10	1	< 0.2	9	0.5
46585C 35-40	205 226	10	< 0.2	< 1	72	< 1	10	< 1	0.2	77	< 0.1
46586C 40-45	205 226	< 5	< 0.2	< 1	5	< 1	10	< 1	0.2	55	< 0.1
46587C 45-50	205 226	< 5	< 0.2	1	30	1	10	< 1	0.4	54	< 0.1
46588C 85-90	205 226	< 5	< 0.2	1	< 1	2	10	< 1	0.2	45	0.1
46589C rhyo 90-95	205 226	< 5	0.5	< 1	3	1	10	< 1	0.4	23	0.2
46590C 95-100	205 226	< 5	< 0.2	< 1	4	< 1	10	< 1	0.2	47	< 0.1
46591C 100-105	205 226	< 5	< 0.2	< 1	1	< 1	10	< 1	0.4	22	0.1
46592C 110-115	205 226	< 5	< 0.2	1	3	< 1	10	< 1	0.4	75	0.2
46593C 115-120	205 226	< 5	< 0.2	< 1	6	< 1	10	< 1	0.4	52	0.2
46594C 120-125	205 226	10	3.0	1	24	1	10	< 1	0.2	49	0.7
46595C 125-130	205 226	< 5	< 0.2	< 1	61	1	10	< 1	0.4	58	< 0.1
46596C 130-135	205 226	< 5	< 0.2	1	6	1	10	< 1	0.2	78	6.2
46597C 135-140	205 226	< 5	3.1	1	8	1	10	< 1	0.2	58	0.4

CERTIFICATION:

Paul Bickler

KENNECOTT

GEOCHEMICAL SAMPLING

FOR LOCATIONS, SEE

LARGE MYLAR MAP.

PROJECT: SNEED RANCHGEOLOGIST: KEATINGDATE: JUNE, 93QUAD: CHILDS MTL 7.5COUNTY: PIMASTATE: AZ

CH-channel
C-chip
R-rock
F-float
T-talus
D-dump
RC-rotary
HQ-high grad
S-soil
SI-stream s/l

Sample Number	Location Sec. T. R.	Rock Description Comments	Type	ppb Au	ppb Ag	ppb As	ppm Hg	ppm Sb	ppm Ba	ppm Cu	ppm Pb	ppm Zn
11690	x	coz alt'd diorite; gtz, spec, epd; hem	D	75	.60	9	30	.4	480	960	2350	10
70		blx, arg. rhyolite; diss py	R	<5	<.2	3	20	.4	1920	19	2	1
71	x	shearcd diorite; gtz vns, py	R	20	<	3	10	.2	2700	89	63	8
72		intense shear intrusive; ep, spec	R	<	<	1	10	.4	90	6	<1	4
73		gtz diorite; chl, spec, cal, hem	R	<	<	<1	10	.2	90	6	<	2
74		gdiorite cut by gmp; wk chl	R	<	<	<	10	<.2	200	4	<	
75	x	andesite porph; chl, ep; shearcd	R	<	<	5	10	.2	1380	35	17	6
76		monz porph-chl, ep, act; hem	R	<	<	<	10	.2	280	7	26	2
77		hbnd porph, chl, ep, hem → py	R	<	<	<	10	.2	320	2	9	3
78		and. porph, ep, chl, bt?	R	<	<	1	10	.8	10	4	17	11
79		gtz diorite 5-10% hem → py	R	<	<	<1	10	<	640	5	<	11
80		" " " ep vns; bt, hem	R	<	<	<	10	.2	280	3	8	2
81		CDH 12 185-90 (TD)	RC	<	<	<	10	.2	500	4	<	4
82	x	CDH 7 75-80' (TD)	RC	<	<	3	10	.4	1620	28	3	14
83	x	CDH 12 45-50 (TD)	RC	<	<	1	30	.4	500	103	4	3
84	x	mafic clike; comby gtz	R	<	.20	3	40	<	1600	133	22	5
85	x	Kspar granite (megaxl) in g.s.c.; tuff	R	<	<	3	20	.2	1580	58	25	3
86	x	c.g. rhyolite; gtz vns; hem	R	<	<	7	20	.4	1640	23	7	5
87	x	and. porph: bx, silicified, s ²	R	<	<	14	10	.4	1800	310	11	12
88	x	gossan after and porph?; gtz	R	<	<	9	10	.2	1920	165	4	15
89		Tvolc rhyolitic; py casts	R	<	<	4	10	.4	1900	19	14	2
90		monz porph; ep, chl, g; limon	R	<	<	1	10	.6	70	4	<	11
91		chl-gtz gn; jarositic mgt	R	<	<	15	10	.4	640	18	5	3
92		dio porph detachmt flt; limon	R	<	<	<	10	.2	4500	3	<	21
1930		" " " " " "	R	<	<	<	10	.2				

GEOCHEMICAL SAMPLING

TE: 6193

STATE: AZ

St-Stream no

[illegible]



Chemex Labs Inc.

Analytical Chemists * Geochemists * Registered Assayers
994 West Glendale Ave., Suite 7, Sparks,
Nevada, U.S.A. 89431
PHONE: 702-356-5395

To: KENNECOTT EXPLORATION CO.

P.O. BOX 11248
SALT LAKE CITY, UTAH
84147

Project: SR
Comments: ATTN: LINUS KEATING

Sneed

Page Number : 1
Total Pages : 1
Certificate Date: 13-JUN-93
Invoice Number: 19315331
P.O. Number :
Account : GJV

CERTIFICATE OF ANALYSIS

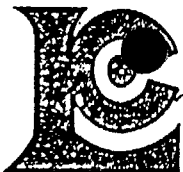
A9315331

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Hg ppb	Pb ppm	Sb ppm	Zn ppm	Bi ppm	Ba ppm			
49169 C	255	295	75	0.6	9	960	8	30	2350	0.4	102	2.5	480			
49170 C	255	295	< 5	< 0.2	3	19	2	20	2	0.4	16	0.3	1920			
49171 C	255	295	20	< 0.2	3	89	1	10	63	0.2	88	0.9	2700			
49172 C	255	295	< 5	< 0.2	1	6	< 1	10	< 1	0.4	44	< 0.1	90			
49173 C	255	295	< 5	< 0.2	< 1	6	< 1	10	< 1	0.2	29	< 0.1	90			
49174 C	255	295	< 5	< 0.2	< 1	4	< 1	10	< 1	< 0.2	7	< 0.1	200			
49175 C	255	295	< 5	< 0.2	5	35	2	10	17	0.2	65	< 0.1	1380			
49176 C	255	295	< 5	< 0.2	< 1	7	< 1	10	26	0.2	29	< 0.1	280			
49177 C	255	295	< 5	< 0.2	< 1	2	< 1	10	9	0.2	35	< 0.1	320			
49178 C	255	295	< 5	< 0.2	1	4	< 1	10	17	0.8	14	< 0.1	10			
49179 C	255	295	< 5	< 0.2	< 1	5	< 1	10	< 1	< 0.2	10	< 0.1	640			
49180 C	255	295	< 5	< 0.2	< 1	3	< 1	10	8	0.2	28	< 0.1	280			
49181 C	255	295	< 5	< 0.2	< 1	4	< 1	10	< 1	0.2	49	< 0.1	500			
49182 C	255	295	< 5	< 0.2	3	28	1	10	3	0.4	144	< 0.1	1620			
49183 C	255	295	< 5	< 0.2	1	103	3	30	4	0.4	33	1.4	500			
49184 C	255	295	< 5	0.2	3	133	3	40	22	< 0.2	51	0.9	1600			
49185 C	255	295	< 5	< 0.2	3	58	3	20	25	0.2	32	0.5	1580			
49186 C	255	295	< 5	< 0.2	7	23	2	20	7	0.4	55	0.1	1640			
49187 C	255	295	< 5	< 0.2	14	310	2	10	11	0.4	121	1.8	1800			
49188 C	255	295	< 5	< 0.2	9	165	2	10	4	0.2	153	1.4	1920			
49189 C	255	295	< 5	< 0.2	4	19	1	10	14	0.4	20	0.7	1900			
49190 C	255	295	< 5	< 0.2	1	4	< 1	10	< 1	0.6	10	0.1	70			
49191 C	255	295	< 5	< 0.2	15	18	< 1	10	5	0.4	31	0.5	640			
49192 C	255	295	< 5	< 0.2	< 1	3	< 1	10	< 1	0.2	24	0.2	4500			
49193 C	255	295	< 5	< 0.2	1	3	3	10	< 1	0.2	13	0.3	5000			
49194 C	255	295	< 5	< 0.2	11	9	4	70	< 1	0.4	10	2.6	1640			
49195 C	255	295	< 5	< 0.2	< 1	6	< 1	10	< 1	0.2	14	0.1	940			
49196 C	255	295	< 5	< 0.2	< 1	50	2	20	6	0.2	49	0.1	1640			
49197 C	255	295	< 5	< 0.2	< 1	12	1	10	4	< 0.2	26	< 0.1	1200			
49198 C	255	295	< 5	< 0.2	< 1	30	2	10	< 1	< 0.2	41	0.1	320			

CERTIFICATION:

D. Christie

copy



Chemex Labs Inc.

Analytical Chemists • Geochemists • Registered Assayers
994 West Glendale Ave., Suite 7, Sparks,
Nevada, U.S.A. 89431
PHONE: 702-356-5395

To: KENNECOTT EXPLORATION CO.

P.O. BOX 11248
SALT LAKE CITY, UTAH
84147

Project :
Comments: ATTN:LINUS KEATING

SRanch

Page Number : 1
Total Pages : 1
Certification Date: 25 JUN 93
Invoice No. : 19315845
P.O. Number :
Account : GJV

CERTIFICATE OF ANALYSIS

A9315845

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Mo ppm	Hg ppb	Pb ppm	Sb ppm	Zn ppm	Bi ppm	Cu ppm
49199 C	255	295	< 5	< 0.2	6	1	550	< 1	< 0.2	24	0.2	35
49200 C	255	295	< 5	< 0.2	6	2	300	1	< 0.2	13	0.4	9

CERTIFICATION:

DLH/SH

United States
Department of the Interior
Bureau of Land Management (BLM)
2015 West Deer Valley Road
Phoenix, AZ 85027
(602) 780-8090

SUGGESTED FORMAT:

NOTICE of operations proposed under the 43 CFR 3809 surface management regulations. (operations of 5 acres or less surface disturbance).

Instructions: Complete the following in as much detail as possible. Additional sheets may be used if necessary. Use maps or sketches and/or photographs where appropriate. A review of the 43 CFR 3809 regulations should be conducted prior to your submission of this Notice or Notice Amendment to this office.

Claimant Information:

Name

Address

Telephone

Lee PRICE, et al.

430 PALO VERDE, Ajo, AZ 85321 602-

Operator Information:

Name

Address

Telephone

LINUS KEATING for
KENNECOTT EXPLORATION

1515 MINERAL SQ
SLC, UT 84112

801-322-8414

Is Claimant aware of your proposed activities? (Check One)

Yes ☒

No ☐

Claim Name and BLM Serial No. (AMC #'s) WAY CUT #8 (32078); WAY OUT #6 (32076);
WAY OUT #22 (32092); WAY OUT #16 (32086).

Location of Proposed Activity: T. 12S, R. 6W, Sections 5, 7, 8.

U.S.G.S. Topographic Map CHILDS MTN, AZ

Proposed Period of Operation:

FROM 6/28/93

TO: 7/31/93

Proposed Operations:

Describe the entire proposed operation, including all surface disturbing activities, i.e., road construction or upgrading, drilling, trenching, backhoe or bulldozer exploration, mining, waste disposal, installation of temporary structures, impoundments, holding tanks, processing equipment, etc. List all mechanized earth moving equipment to be used during the operation and list any explosives or chemicals to be used. Calculate the total acreage proposed for disturbance (1 acre = 43,560 sq. ft.). (Additional sheets may be used if necessary.)

DRILL (4), 5 1/4" diameter, Reverse circulation holes using a
TRUCK MOUNTED DRILL RIG. NO PAD CONSTRUCTION WILL BE
NECESSARY. HOLES WILL BE DRILLED ON EXISTING ROADS, &
4x4 TRACKS. MAXIMUM DEPTH WILL BE 700'. MAXIMUM
DISTURBANCE ANTICIPATED WILL BE LESS THAN 4000
SQ FEET. GREAT CARE SHALL BE TAKEN NOT TO DISTURB
ANY BARRELL OR SAHUARO OR SIMILAR CACTI.

—LEFT BLANK—

Describe Any Existing Surface Disturbance, Roads and Structures (i.e., mine and mill facilities, workings, tailings, dump area, etc.). You may wish to document disturbance existing prior to beginning work on your operation (in the form of photographs, surface maps, or testimony) in order to reduce your reclamation liability:

NUMEROUS OLD ROADS, 4x4 TRACKS, & DRILL HOLES EXIST ON THE PROPERTY. THE MOST PROMINENT DISTURBANCE IS SHOWN ON THE ATTACHED 7.5' TOPO SHEET.

Proposed Reclamation: Describe your proposed reclamation procedures (i.e., recontouring, backfilling excavations, removal of structures and equipment, replacing stockpiled topsoil, etc.).

SITES WILL BE CLEANED OF ALL LITTER & RAKED TO COVER DRILL CUTTINGS. VEGETATION IS QUITE SPARSE - RESEEDING WILL NOT BE NECESSARY.

I will complete all necessary reclamation of areas disturbed during the course of my operations to the standards described in 43 CFR 3809.1-3(d) and reasonable measures will be taken to prevent unnecessary or undue degradation of the Federal lands during operations.

Signature of Operator:

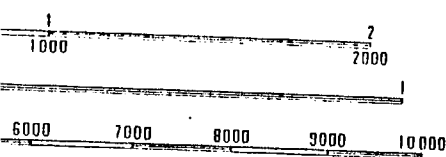
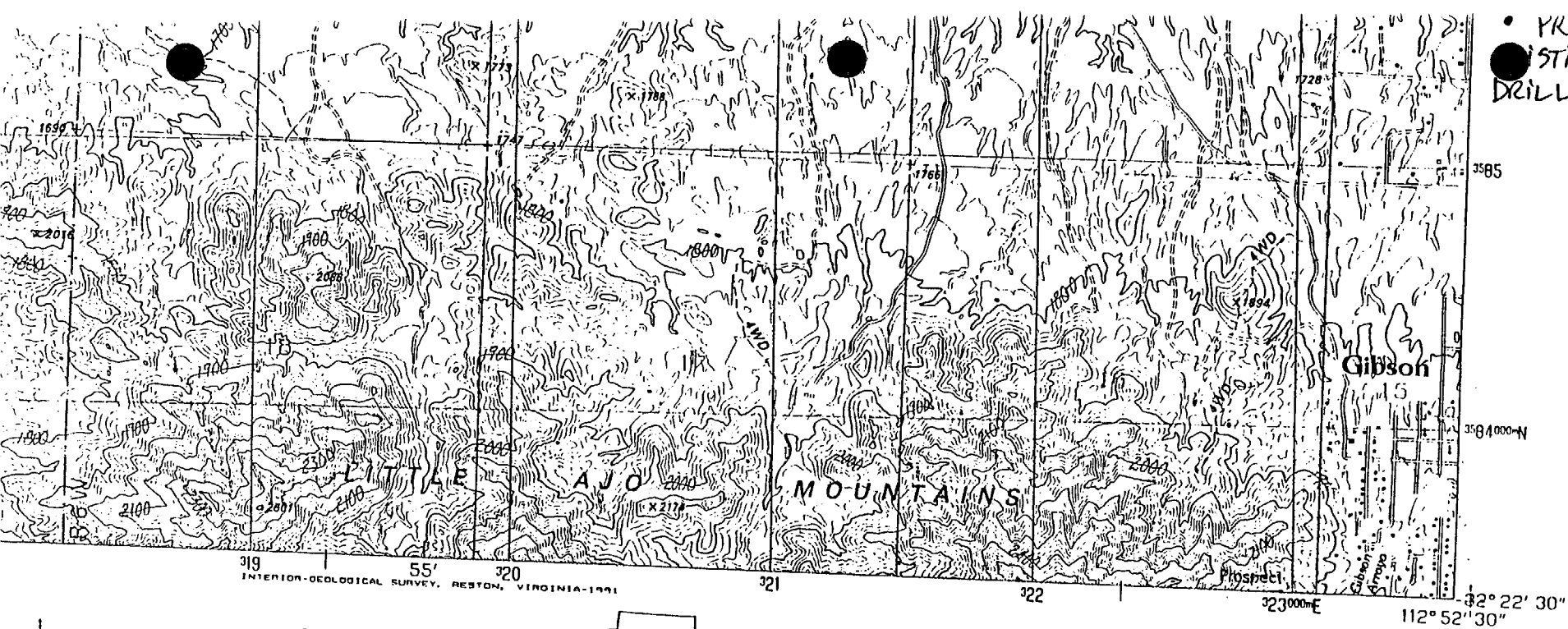
Jim T. H. [Signature]

Date: 6/10/93

NOTICE TO OPERATORS:

1. You must notify the BLM at least 15 calendar days prior to commencing operations of 5 acres or less on BLM land. The BLM has 15 days to review the above information.
2. A notice must comply with the 43 CFR 3809 regulations. Completing all sections of this suggested format should satisfy this requirement. Incomplete notices may be returned for more information.
3. It is BLM's policy to perform a minimum of one compliance inspection per year on each notice submitted by an operator.
4. Any changes to the proposed operations require the submittal of an amendment to this notice.

PRICE
 LISTING
 DRILL HOLE



FEET
 3048
 32808
 ACCURACY STANDARDS
 RIVER, COLORADO 80225
 092



QUADRANGLE LOCATION

1	2	3	1 Fast Pass
			2 Midway SW
4		5	3 Deadman Gap
			4 Growler Peak
			5 Ajo North
6	7	8	6 Temporal Pass
			7 Chico Shunde
			8 Ajo South

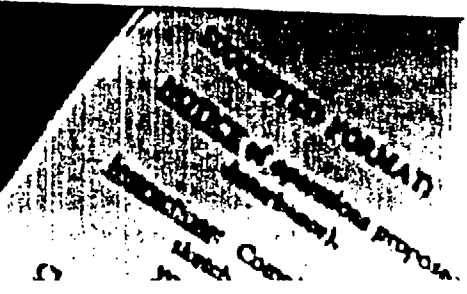
ADJOINING 7.5' QUADRANGLE NAMES

ROAD LEGEND

- Improved Road
- Unimproved Road
- Trail
- Interstate Route
- U.S. Route
- State Route

CHILD'S MOUNTAIN, ARIZONA
 PROVISIONAL EDITION 1990

32112-D8-TF-024



PRELIMINARY REPORT

Sneed Ranch KCC

NOTE: NO ASSAYS RUN FOR SR-2

REPORT : SP 023923

Page 1 of 6

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
AZ-93SR1 0-5	<0.5	21	<5	14	44
AZ-93SR1 5-10	<0.5	15	<5	11	DTF 309
AZ-93SR1 10-15	<0.5	13	<5	6	33
AZ-93SR1 15-20	<0.5	9	<5	<5	66
AZ-93SR1 20-25	<0.5	11	<5	7	DTF 418
AZ-93SR1 25-30	<0.5	10	<5	7	220 X
AZ-93SR1 30-35	<0.5	11	<5	6	106 X
AZ-93SR1 35-40	<0.5	11	<5	6	71
AZ-93SR1 40-45	<0.5	11	<5	<5	108 X
AZ-93SR1 45-50	<0.5	9	<5	<5	74
AZ-93SR1 50-55	<0.5	5	<5	5	83
AZ-93SR1 55-60	<0.5	11	<5	5	47
AZ-93SR1 60-65	<0.5	14	<5	6	83
AZ-93SR1 65-70	<0.5	14	<5	9	50
AZ-93SR1 70-75	<0.5	9	<5	15	46
AZ-93SR1 75-80	<0.5	10	<5	13	42
AZ-93SR1 80-85	<0.5	9	<5	14	DTF 640
AZ-93SR1 85-90	<0.5	6	<5	5	63
AZ-93SR1 90-95	<0.5	5	<5	5	63
AZ-93SR1 95-100	<0.5	3	<5	<5	76
AZ-93SR1 100-105	<0.5	7	<5	6	68
AZ-93SR1 105-110	<0.5	6	<5	5	65
AZ-93SR1 110-115	<0.5	6	<5	5	57
AZ-93SR1 115-120	<0.5	4	<5	6	60
AZ-93SR1 120-125	<0.5	5	<5	13	104 X

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 023923

Page 2 of 6

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
AZ-93SR1 125-130	<0.5	4	<5	<5	56
AZ-93SR1 130-135	<0.5	4	<5	<5	66
AZ-93SR1 135-140	<0.5	8	<5	5	53
AZ-93SR1 140-145	<0.5	22	<5	5	103 X
AZ-93SR1 145-150	<0.5	22	<5	5	40
AZ-93SR1 150-155	<0.5	18	<5	6	29
AZ-93SR1 155-160	<0.5	17	<5	5	21
AZ-93SR1 160-165	<0.5	20	<5	7	97
AZ-93SR1 165-170	<0.5	29	<5	6	59
AZ-93SR1 170-175	<0.5	33	<5	6	43
AZ-93SR1 175-180	<0.5	17	<5	5	50
AZ-93SR1 180-185	<0.5	13	<5	7	81
AZ-93SR1 185-190	<0.5	11	<5	9	59
AZ-93SR1 190-195	<0.5	9	<5	7	54
AZ-93SR1 195-200	<0.5	14	<5	8	55
AZ-93SR1 200-205	<0.5	9	<5	7	51
AZ-93SR1 205-210	<0.5	7	<5	8	42
AZ-93SR1 210-215	<0.5	6	<5	6	42
AZ-93SR1 215-220	<0.5	5	<5	7	45
AZ-93SR1 220-225	<0.5	16	<5	5	47
AZ-93SR1 225-230	<0.5	5	<5	<5	64
AZ-93SR1 230-235	<0.5	5	<5	5	69
AZ-93SR1 235-240	<0.5	9	<5	5	65
AZ-93SR1 240-245	<0.5	13	<5	<5	52
AZ-93SR1 245-250	<0.5	8	<5	<5	46

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 023923

Page 3 of 6

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
AZ-93SR1 250-255	<0.5	8	<5	19	53
AZ-93SR1 255-260	<0.5	6	<5	6	57
AZ-93SR1 260-265	<0.5	9	<5	<5	73
AZ-93SR1 265-270	<0.5	15	<5	<5	43
AZ-93SR1 270-275	<0.5	13	<5	5	37
AZ-93SR1 275-280	<0.5	4	<5	6	86
AZ-93SR1 280-285	<0.5	5	<5	5	79
AZ-93SR1 285-290	<0.5	5	<5	5	72
AZ-93SR1 290-295	<0.5	5	<5	6	52
AZ-93SR1 295-300	<0.5	5	<5	<5	51
AZ-93SR1 300-305	<0.5	4	<5	5	48
AZ-93SR1 305-310	<0.5	5	<5	5	43
AZ-93SR1 310-315	<0.5	5	<5	5	50
AZ-93SR1 315-320	<0.5	4	<5	5	47
AZ-93SR1 320-325	<0.5	4	<5	7	45
AZ-93SR1 325-330	<0.5	6	<5	6	51
AZ-93SR1 330-335	<0.5	7	<5	<5	47
AZ-93SR1 335-340	<0.5	6	<5	5	49
AZ-93SR1 340-345	<0.5	8	<5	5	61
AZ-93SR1 345-350	<0.5	5	<5	<5	54
AZ-93SR1 350-355	<0.5	4	<5	5	38
AZ-93SR1 355-360	<0.5	6	<5	<5	33
AZ-93SR1 360-365	<0.5	5	<5	5	43
AZ-93SR1 365-370	<0.5	5	<5	5	46
AZ-93SR1 370-375	<0.5	3	<5	5	56

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 023923

Page 4 of 6

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
AZ-93SR1 375-380	<0.5	8	<5	<5	122
AZ-93SR1 380-385	<0.5	5	<5	<5	56
AZ-93SR1 385-390	<0.5	11	<5	<5	164 X
AZ-93SR1 390-395	<0.5	11	<5	<5	107 X
AZ-93SR1 395-400	<0.5	12	<5	<5	171 X
AZ-93SR3 0-5	<0.5	18	<5	7	42
AZ-93SR3 5-10	<0.5	18	<5	7	43
AZ-93SR3 10-15	<0.5	15	<5	5	50
AZ-93SR3 15-20	<0.5	14	<5	6	59
AZ-93SR3 20-25	<0.5	11	<5	6	168 X
AZ-93SR3 25-30	<0.5	10	<5	6	57 115
AZ-93SR3 30-35	<0.5	18	<5	<5	37
AZ-93SR3 35-40	<0.5	17	<5	5	53
AZ-93SR3 40-45	<0.5	14	<5	5	50
AZ-93SR3 45-50	<0.5	9	<5	5	66
AZ-93SR3 50-55	<0.5	10	<5	<5	49
AZ-93SR3 55-60	<0.5	8	<5	<5	47
AZ-93SR3 60-65	<0.5	17	<5	13	37
AZ-93SR3 65-70	<0.5	21	<5	6	29
AZ-93SR3 70-75	<0.5	20	<5	5	13
AZ-93SR3 75-80	<0.5	20	<5	<5	20
AZ-93SR3 80-85	<0.5	18	<5	5	50
AZ-93SR3 85-90	<0.5	7	<5	5	52
AZ-93SR3 90-95	<0.5	6	<5	6	39
AZ-93SR3 95-100	<0.5	8	<5	<5	54

SR-1

SR-3

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 023923

Page 5 of 6

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
AZ-93SR3 100-105	<0.5	4	<5	7	104 X
AZ-93SR3 105-110	<0.5	19	<5	7	60
AZ-93SR3 110-115	<0.5	6	<5	6	101 X
AZ-93SR3 115-120	<0.5	4	<5	<5	84
AZ-93SR3 120-125	<0.5	7	<5	<5	55
AZ-93SR3 125-130	<0.5	6	<5	<5	59
AZ-93SR3 130-135	<0.5	8	<5	8	64
AZ-93SR3 135-140	<0.5	9	<5	<5	71
AZ-93SR3 140-145	<0.5	12	<5	6	91
AZ-93SR3 145-150	<0.5	9	<5	6	57
AZ-93SR3 150-155	<0.5	9	<5	6	73
AZ-93SR3 155-160	<0.5	10	<5	<5	79
AZ-93SR3 160-165	<0.5	9	<5	<5	93 X
AZ-93SR3 165-170	<0.5	9	<5	5	64
AZ-93SR3 170-175	<0.5	9	<5	5	49
AZ-93SR3 175-180	<0.5	9	<5	<5	54
AZ-93SR3 180-185	<0.5	8	<5	<5	89
AZ-93SR3 185-190	<0.5	13	<5	5	80
AZ-93SR3 190-195	<0.5	6	<5	5	74
AZ-93SR3 195-200	<0.5	9	<5	5	63
AZ-93SR3 200-205	<0.5	5	<5	<5	79
AZ-93SR3 205-210	<0.5	4	<5	<5	100 X
AZ-93SR3 210-215	<0.5	5	<5	<5	104 X
AZ-93SR3 215-220	<0.5	7	<5	5	61
AZ-93SR3 220-225	<0.5	8	<5	5	56

Please refer to the cover sheet for further analysis details.

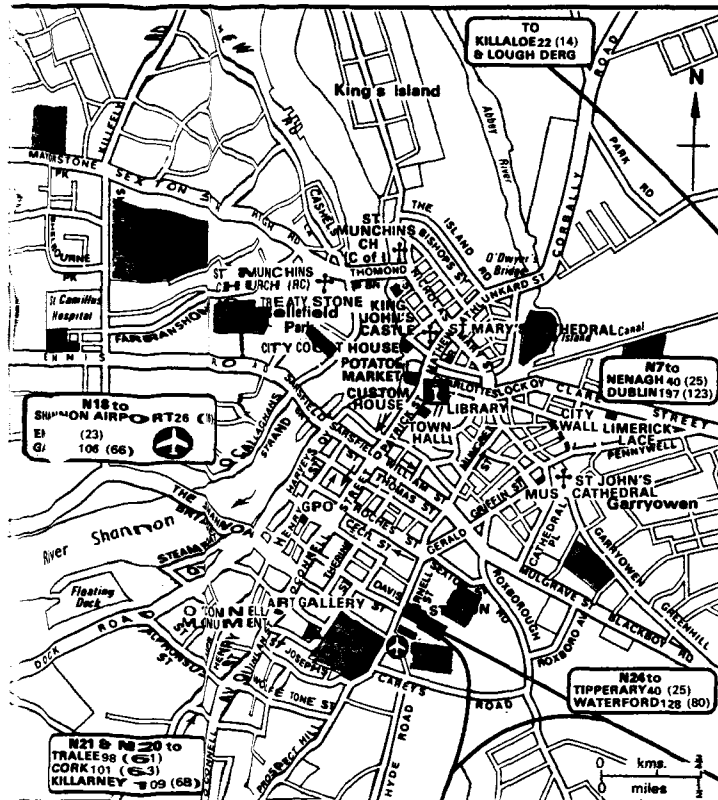
PRELIMINARY REPORT

REPORT : SP 023923

Page 6 of 6

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
AZ-93SR3 225-230	<0.5	10	<5	5	43
AZ-93SR3 230-235	<0.5	8	<5	5	34
AZ-93SR3 235-240	<0.5	11	<5	6	46
AZ-93SR3 240-245	<0.5	9	<5	<5	39
AZ-93SR3 245-250	<0.5	11	<5	<5	26
AZ-93SR3 250-255	<0.5	11	<5	<5	39
AZ-93SR3 255-260	<0.5	9	<5	<5	27
AZ-93SR3 260-265	<0.5	8	<5	<5	67
AZ-93SR3 265-270	<0.5	9	<5	<5	61
AZ-93SR3 270-275	<0.5	10	<5	<5	50
AZ-93SR3 275-280	<0.5	15	<5	<5	63
AZ-93SR3 280-285	<0.5	6	<5	<5	54
AZ-93SR3 285-290	<0.5	9	<5	<5	46
AZ-93SR3 290-295	<0.5	8	<5	<5	53
AZ-93SR3 295-300	<0.5	8	<5	<5	57
AZ-93SR3 300-305	<0.5	10	<5	<5	57
AZ-93SR3 305-310	<0.5	22	<5	<5	37
AZ-93SR3 310-315	<0.5	25	<5	<5	43
AZ-93SR3 315-320	<0.5	26	<5	<5	36
AZ-93SR3 320-325	<0.5	21	<5	<5	45
AZ-93SR3 325-330	<0.5	11	<5	<5	99 X
AZ-93SR3 330-335	<0.5	21	<5	<5	53
AZ-93SR3 335-340	<0.5	16	<5	<5	55

Please refer to the cover sheet for further analysis details.



Limerick



Tourist Information,
The Granary, Michael St.,
Limerick.
Tel: (061) 317522.

Youth hostel ▲

Places of importance and interest are: Aer Lingus office, Bus and Railway Station; City Hall; Custom House; G.P.O.; King John's Castle; Library; Art Gallery; St. John's Cathedral; Town Hall; Treaty Stone; Museum; Good Shepherd Convent; Belltable Arts Centre.

Dating from 922, Limerick is Ireland's third largest city. St. Mary's Cathedral is outstanding, with interesting oak carvings. King John's Castle is worth seeing, along with the Old Church, St. John's Cathedral and the Treaty Stone of 1691. The restored John's Square houses the Limerick Museum. Another attraction is the Granary complex, containing the Tourist Information Office. Limerick, famous for its lace, has a wide choice of shopping and entertainment.

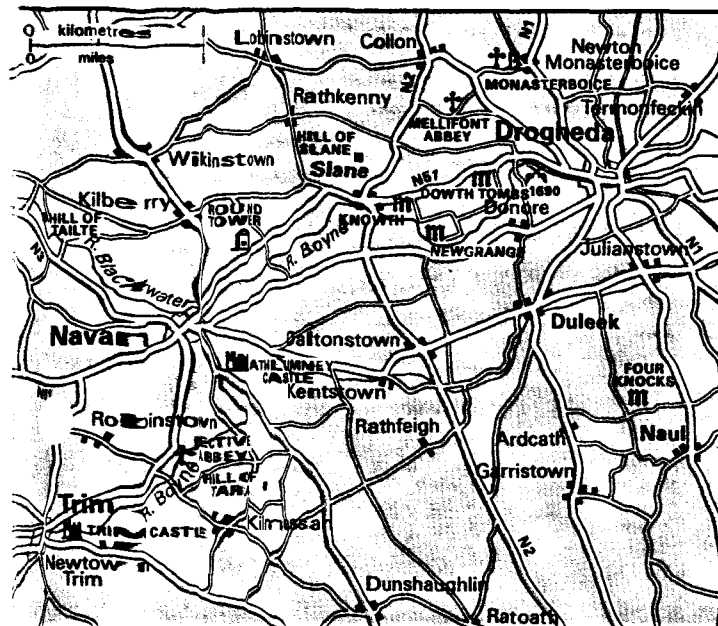
Waterford



Tourist Information,
41 The Quay.
Tel: (051) 75788.

Places of importance and interest are: Bus station; Christ Church Cathedral; G.P.O.; Municipal Library and Art Gallery; Railway Station; Reginald's Tower; Waterford Glass Factory 3km (2 miles) from city centre.

Waterford city, of ninth-century Danish origin, is situated on the banks of the River Suir. Reginald's Tower, built by the Danes in 1003, houses an interesting historical collection of local interest. St. Olaf's Church dates from the Viking era. The French Church (Grey Friars) is of Franciscan origin, while Black Friars is the ruins of a Dominican foundation. The eighteenth-century Mall is near the Court House (1849). Also of note are the cathedrals, Christ Church and Holy Trinity. Waterford, famous worldwide for its glassmaking, hosts the Festival of Light Opera each September.



Boyne Valley

The River Boyne flows through an area rich in ancient monuments and historical associations. Sites well worth a visit are:

Monasterboice, famous for its high crosses; Drogheda, an important mediaeval town; the Hill of Slane, where St. Patrick lit the Paschal Fire in A.D.433; Brugh na Bóinne — the Passage Grave cemetery of Knowth, Dowth and Newgrange; the Hill of Tara where Irish High Kings lived; Trim, with its splendid Norman castle and other buildings of the Middle Ages; Navan, an old market centre, as well as Duleek and Kells.

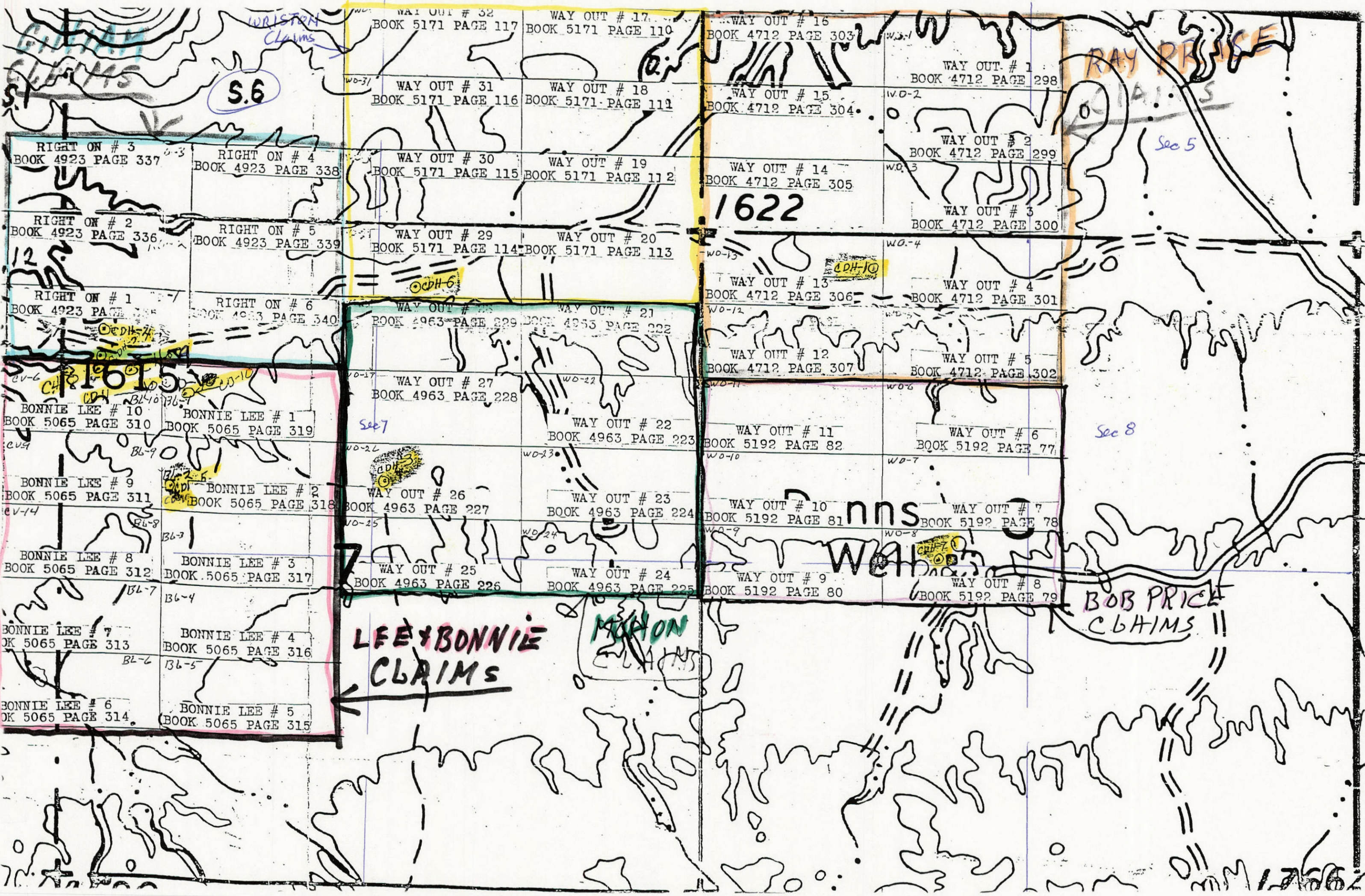
On July 1, 1690, the forces of William of Orange defeated the army of James II at the River

Rosslare Harbour

Youth hostel ▲

Car and passenger ferries from Le Havre and Cherbourg operated by Irish Ferries, Dublin. Tel: (01) 610511, from Fishguard operated by Sealink, Dublin 1. Tel: (01) 808844 and from Pembroke by B+1 Line, Dublin. Tel: 778271.





16.1. EK

K. R

DEC 13 1956

TUCSON OFFICE, Dec. 13, 1956

FILE MEMORANDUM

TRI, LTD.-COPPER VALLEY CLAIMS, AJO

JME
Dec 14, 56

Mr. W. E. Iseman, Box 4335, University Station, Tucson gave me the following information on drilling in which he has been interested. This work has been done by a partnership under the name TRI, Ltd., consisting of Harry O. Tennison, George T. Rekerdre and W.E. Iseman. This group acquired the Copper Valley claims owned by J.C. Kern, located on the south side of Childs Mountain about 3-3/4 miles due west of Phelps Dodge open pit. Nine holes were drilled by McClintock with the following results:

Three holes entered mineralization at 28 feet from surface and continued through 18 feet in 1.7% Cu, the balance of the holes to 350 feet practically barren .

Six other holes drilled to depth of 485 to 525 feet were practically barren of mineralization.

This partnership has acquired the Pemberton claims west of Banner Mining Company's Mineral Hill Mine and north of the Vulcan property. L.G. Marshall, consulting engineer of Tucson, has been doing geophysical work on the Pemberton claims and as a result of his survey TRI is planning to drill.

REED F. WELCH

cc:TASnedden
KRichard ✓

? In valley area between the Little Agave Mtns on south and Childs Mountain on north

Sec. 7, T12S, R12W (8 Sec 12 Unsurv. T12S, R7W inside Refugio area).

ie, Lee Prices "Childs Mountain" area

KEEP THIS ON TOP

Subject:

AJO DISTRICT

NEW CORNELIA MINE

Ajo District

Pima County, Arizona

Sec. 26 & 27, T12S, R6W

AJO 15 Min. QUAD

Ajo AMS

Originally Ajo Consolidated Copper Co.

1917 Bought by New Cornelia Co.

1929 Calumet & Arizona Mining Co. Con.
With New Cornelia

Later acquired by Phelps Dodge

KEEP THIS ON TOP

Subject:

AJO DISTRICT

CARDIGAN COPPER CO.

Ajo District

Pima County, Arizona

Sec. 28, T12S, R6W

AJO 15 Min. QUAD

Ajo AMS

Cardigan
C105

CONDENSED REPORT ON CARDIGAN COPPER PROPERTY,
Pima County, Arizona.

Hunter Williams,
San Francisco, Cal.

.....

This property comprised 9 surveyed mining claims located about 1913. The title is clear and free from any encumbrance. Five of these claims run in a Northerly and Southerly direction and four in an Easterly and Westerly direction. This property is about two miles in a North Westerly direction from the town of Ajo at which point is a Railroad which connects with the main line of the Southern Pacific R.R. at Gila Bend, a distance of 45 miles from Ajo. Very good wagon and auto roads connect this property with Ajo.

SHAFTS, DEVELOPMENT, etc.

\$30,000.00 have been spent in development work on this property by the present owners (and much more by previous owners) The development consists of shafts, exits, top stopes, etc.

There is an iron dyke carrying silver and copper values on this property and the formations are Rhyolite on the East and South East of this property, and Schist on the West and North West section. At the South end of the Claim (Iron Reef) is a 30 foot shaft in which will be found a one hundred foot drift. Near here are shafts 30, 40 and 70 feet deep.

In the gulch a short distance Northerly from these shafts 400 tons of low grade commercial copper ores were mined from a pit during the Summer of 1917. About 100 feet West of

this pit will be found a 50 foot shaft which was put down by leasees during 1916 & 1917, good copper silver ores were mined and shipped from this shaft by the leasers.

North of this shaft about 250 feet is Pit No. 2 from which several carloads of good Copper Silver ores were mined and shipped during 1917, these several cars averaged about \$700.00 (dollars) per car profit to the shippers. 40 feet North of this pit No. 2 is a 40 foot shaft sunk in good ore carrying copper and silver values. 300 feet North of this shaft is a 100 foot shaft where Copper, Silver ores will be found, and to the North from this shaft for over 1,000 feet many cuts and prospect shafts will be found with good showings. On the Iron Dyke near Pit No.1 will be found a 30 foot shaft it cuts into iron and no further work has been done there, 100 feet east of this shaft is another 30 foot shaft sunk on a showing of copper silver ore. 300 feet east of this shaft is a 70 foot shaft put down by leasers in good ore copper glance shows freely in this ore water raises within 40 feet of the top, this shaft is equipped with a whim etc.

150 feet east of this shaft is a shaft down 150 feet with big quantities of copper silver ores ready to be blocked and stoped.

There are many other shafts, cuts and pits on this property in all of which will be found coppers on the Iron Reef and Rambler claims will be found a great mass of disseminated coppers in the mangonites, a tunnel about 90 feet in length has been driven in this mass of ore.

This mass is very similar in character and has

the same characteristics as the mass of dissiminated coppers now being mined by the New Cornelia Copper Co. at their pit which is about 3/4 of a mile east of this property, the only exception being that the Silver values will be found higher here than in the New Cornelia deposit as high as 31 ozs. in silver has been obtained from samples taken in a small shaft on the East side of this deposit.

CONCLUSIONS AND REMARKS.

Abundance of water can be obtained at 30 feet on this property. this water cannot be used for domestic purposes on account of its mineral contents (Arsenic sulphur, copper, etc.) but good water for domestic purposes can be obtained at 40 feet about 3/4 of a mile N. West of these holdings. However, this water on the property can be used for Steam machinery as the writer used it with satisfactory results for his machinery when working this property during 1916 and 1917 at that time he had occasion to use steam hoists in two places.

This property is a very old and much developed property. It was worked for years during the old Ajo boom days for the rich silver ores that were mined in those days, many of these very rich stringers of rich silver ores are now being found by the New Cornelia Copper Co. in the course of their operations with steam shovels on their big deposit. Evidence of this will be found on this property and one of the present owners mined with his father when a boy on this property. It is impossible to estimate the amount of ores and the value of the same that has at times been taken from this property by the.

different owners and leasers during the last thirty years.

The ore showings and the workings speak for themselves. The shafts have been put down in such a way that the property has without a doubt been well exploited and shows without question that there is on this property a big deposit of good Copper Silver Ore and with the proper machinery and the correct method of extraction together with the good facilities that exist here for mining, no reason can exist why this the Cardigan property should not rank with its sister property, the new Cornelia or any other great producer of America.

Yours truly,

A. W. Bramwell, E.M.

Dated :April 12th, 1919.

.....

EXTRACT FROM U. S. GOVERNMENT REPORT.

Prof. Raymond's Report to the U.S. Government (authorized by Congress) on the mineral resources of Arizona, of the section of the State in which the Cardigan Copper properties are located, the Prof. said in part,-- "I have traveled from the Southern boundary of Arizona North to the 'Gunsight', and I have found the mountains threaded with veins, rich in gold, silver and copper, far beyond anything that I have ever seen elsewhere."

The statement is conclusive that the eminent Geologist was thrilled at the wonderful mineral resources of this section of Arizona.

11
Denver, July 25th 1917

Card
Aug 3
Mr J. Kruttschnitt
Tucson, Arizona.

Cardigan Copper, Ajo.

Dear Sir:-

Today a Mr Winchester here presented this proposition, stating that he wished to give option on 400,000 shares of the Cardigan Copper Co for \$100,000, there being 700,000 shares issued.

Payments involved an immediate cash installment of \$5000 - before examination, same to be returned if the property was not finally taken, or 25,000 shares given in its stead - at the option of the Copper Co. Other payments were strung along to April 1st 1918, to complete the \$100,000.

They are shipping about a car a month which has lately run down to about 3% copper with 6 oz silver - so they seem to be ~~xfalling~~ falling down on their production.

I told Mr Winchester - through one of our men here - that we were not interested, and am merely passing this on to you for ~~your~~ your information.

Yours very truly,

Gordon Harty

Harty

AJO DISTRICT, Arizona.

Tucson, Arizona, April 10, 1916.

Mr. H. A. Guess,
Managing Director, Mining Dep't.,
A.S. & R. Co., 120 Broadway, New York.

Dear Sir:

Amplifying my letter of the 2d instant, in this connection, and with special reference to the Barton Mitchel proposition, I will quote the following geological findings of Mr. Joralemon, Geologist of the U. & A., taken from a paper prepared by him and submitted at the Salt Lake Meeting of the American Institute of M. E., in 1914:

He says:

"Except for a conglomerate, the regional rocks are igneous. The earliest formation exposed consists of rhyolite breccia and tuff. An intrusion of monzonite porphyry cuts and uplifts the rhyolite. This porphyry, in the character of its minerals and its crystallization, varies a good deal locally. Following the monzonite, are dikes of diorite or diabase probably allied with the Tertiary flows which cover much of the surrounding desert region.....The diorite and diabase dikes cutting both monzonite and rhyolite, seems to have little effect on structure of mineralization."

I would say that the prospects presented by Mitchel's property consisted of what are known as ^{the} Meyers and Cardegan Groups, lying to the south and west of the main U. & A. holdings, and such mineral as they present is confined exclusively to certain little fractures in ^{the} diabase dikes described in Mr. Joralemon's remarks. They are therefore of very minor importance and do not appear to me to be worth any serious consideration whatsoever.

The Copper Mountain proposition, lying to the south of Ajo, which I also referred to in my letter of April 2d, consists of an isolated knob rising out of a plain of alluvial wash, and having a length of, say 600 ft. by width of 300 ft. maximum, and rising to a height of, say 150 ft. above the plain. This knob is very strongly sheared and fissured, and in the strongest banding of this shearing a considerable amount of copper stain is presented over a width of from 8 to 25 ft. for the whole length of the hill. While the copper-stained exposure is limited to this ^{main} fissure-system, yet I am inclined to think that further mineral will be found in the other parallel shearing, tho these do not show any indications at surface further than a small amount of contained specularite.

It is Mr. Kruttschnitt's intention to send one of his men down to that section within the next few days, and this engineer will make such rough maps as are necessary to illustrate the occurrence properly; and will take some few samples on the present exposures. These exposures consist of a few prospect holes on the main fissure zone, and resulting from these workings are a few small

MYERS + CARDEGAN GRU

Mr. H A Guess -2- April 10th.

dumps which are said to assay up to 7% in copper.

We have not yet heard whether we can tie up the property on the basis that we desire, but if we can it seems to me desirable that we should spend some money in putting down a few diamond drill holes to investigate the sheared occurrence at some depth; and I should say that an allowance of \$10,000.00 would be sufficient and be warranted for this purpose.

Yours very truly,

A handwritten signature, likely of H. A. Guess, written in dark ink. The signature is stylized and appears to be "H. A. Guess". It is positioned below the closing "Yours very truly," and is underlined.

JK ✓

NEW YORK CITY, April 7, 1916

Mr. J. Gordon Hardy,

Fenner Building,

Tucson, Arizona

Dear Mr. Hardy:-

COPPER MOUNTAIN, AJO DISTRICT, ARIZ.

Your interesting letter of April 2d was received from which I see that while you did not find the Mitchell property at Ajo worth our further consideration, you did through Mitchell, get on the trail of another prospect, the Copper Mountain, 20 miles South, upon which your preliminary inspection was favorable and I hope you will be successful in tying it up along the lines you indicate.

Yours very truly,

cc JK
LAL

KEEP THIS ON TOP

Subject:

AJO DISTRICT

EIGHTY FIVE GROUP

Ajo District

Pima County, Arizona

Sec. 29, T12S, R6W

AJO 15 Min. QUAD

Ajo AMS

Mr. W. H. Loerpabel

March 4, 1943

MINING DEPT.
MAR 5 - 1943
TUCSON

Mr. Tom Alley
Toms Grocery
Ajo, Arizona

EIGHTY-FIVE MINE, NEAR AJO, ARIZONA

Dear Sir:

Mr. George Ballum, of the Department of Mineral Resources, was in my office the other day telling me about your copper prospect near Ajo. In looking through my files I find that in May 1941 the late Mr. Miles Carpenter brought in a sample from the Eighty-five Mine, advised that the property consisted of seven unpatented claims a few miles southwest of Ajo, and was owned jointly by you and Mr. R.H. Hodge. The sample was taken from the 50-foot shaft and from open cut 70 feet from the shaft. I sent the sample to our Hayden Plant for assays, which I reported in letter of May 23, 1941, to Mr. Hodge, as follows:

<u>Oz./ton</u>	<u>Per cent:</u>					
<u>Gold</u>	<u>Silver</u>	<u>Copper</u>	<u>Insol.</u>	<u>Silica</u>	<u>Iron</u>	<u>Alumina</u>
0.24	0.24	2.75	72.5	58.5	7.2	13.1

At that time the net return f.o.b. Ajo figured \$4.53 per ton after deducting freight and smelting charges, on our usual open schedule with \$3.50 base charge and alumina penalty amounting to \$1.81 per ton. At the present time we could probably handle a small tonnage of this ore on a base charge of \$2.50 per ton and allowing 10% alumina free, which on assay quoted above would make a penalty of 78¢ per ton, or total treatment charge \$3.28 per ton. On this basis, under present metal prices and assuming zero quota for copper, the outcome would be about as follows:

Gold	pay per ton	\$ 7.76
Copper		<u>4.04</u>
		\$11.80
Base charge	\$2.50	
Alumina penalty	<u>.78</u>	<u>3.28</u>
F.o.b. Hayden		\$ 3.52
Freight + trans. tax		<u>2.07</u>
Net at Ajo on Smelter Set.		\$ 6.45
Premium on 43.65% Cu @ .05		<u>2.18</u>
Total	per ton	\$ 8.63

Feb 4, 1943

I understand that in certain instances, in order to stimulate the production of copper-bearing siliceous ore, Metals Reserve Company has allowed additional premium of 5¢ per pound eligible copper, upon proper application and presentation of facts. Request for such additional premium should be made to
Executive Secretary, Quota Committee
Premium Price Plan, War Production Board
Temporary "R" Bldg., Room 2047
Washington, D.C.

If you have done any further development at this property since the time Mr. Carpenter talked with me in May 1941 I should be glad to have you drop me a line, particularly if you contemplate starting operation. The next time I am in Ajo I will call on you and should like to see the mine.

Yours very truly,

BRENT N. RICKARD

cc: Mr. Geo. A. Ballum
P.O. Box 495, Tucson

P.S. If you contemplate making shipments from this property, you should establish zero quota for copper by making application to the Quota Committee at the address shown above, as explained in the enclosed outline of instructions.

B.N.R.

cc: R.D. Bradford
H.O. Woods
W.H. Leerpabel
F.M. Stephens

The sample Mr. Carpenter brought to the office in May 1941 looked like lime shale with green copper stain, mostly chrysocolla with some copper oxide and carbonate.

B.N.R.

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

16
Aa ~~25A~~ - 1 - 5

May 26, 1942

MEMORANDUM

to
Mr. W. M. Loerpabel
Tucson, Arizona

"85 MINE"

Pima County, Ariz.

Ajo

Pima

This property is presented by Mr. Edwin C. Holden.

There is nothing in our files regarding this particular group which lies 2 1/2 miles west of the Phelps Dodge pit.

The short report by A. C. Nebeker, which Holden submits, deals mainly in generalities. Some assays are given but there is nothing to show how they were taken or the widths represented. 4 churn drill holes have been put down but apparently without encouraging results.

25A - 1 - 8A → *Giant* Some time ago I gathered information on the Giant Copper Group to the south of the Phelps Dodge property and came to the conclusion that superficial mineralization was probably the result of staining and possibly some erratic concentration along strctures by mineralized surface waters during a long period of erosion.

Megascopic examination of several ore samples sent in by Mr. Alley seem to bear out this conclusion.

It is therefore, unlikely that there is anything of interest in these outlying areas around the New Cornelia ore body which areas have been considerably prospected without encouraging results.

I believe Mr. Holden can be advised that we would not be interested in making an examination.

F. M. Stephens

Submitted by:
William T. Kolloge
1130 North 22nd St.
Milwaukee, Wisconsin.

"85", Copper Rose, Cardigan Group
of
Mining Claims,
at
Ajo, Pima County, Arizona.

The facts stated as to the "85" may be taken as descriptive of the Copper Rose, and Cardigan properties, the three groups of claims adjoining in the order named, and extending from the U. S. Gun Range, to within two claims of the huge New Cornelia open pit mine, of the Phelps Dodge Company, which has and is produced and producing millions of dollars worth of ore.

This property comprises a total of 39 claims, of which, all but two, measure 600 x 1500 feet, each.

Property is reached by a fair auto road off the oiled highway water available by churn drill holes in ample amounts. Labor plentiful and experienced. No timber on this property.

Geology: Common to the rest of the Ajo district, consists of Monzonites, Diorites, quartz veins and andesites. The country has been more or less disturbed by faults which have fractured zones and smaller fissures.

The largest fractured zone seen by the writer is 20 feet across, in an open pit, sample across the face there assayed Gold 0.08; Silver 0.30; Copper 4.75%. The fracture mentioned above is a strong iron dike, which can be traced for 2000 feet across the property. At No. 1 shaft near the water tank, the sample assayed Gold 0.04, or Silver 1.70 oz; Copper 6.15%.

Development: consists of three shallow shafts on the "85" group, each about 60 feet deep, all showing copper; and several trenches. Four churn drill holes showed a good grade of copper at 160 feet. The churn drill holes near the water tank is reported at 16% copper.

Sulphides are said to come in at 300 feet, at that depth ores are enriched. The richest ore in the open pit (New Cornelia) is now being found in the lower parts of it.

Ores: Main value in copper carbonate.

Molybdenum has been reported in assays of some samples running up to 3%. The veins show considerable leaching action, and no sulphides were seen by me, but it is natural that sulphides will be found at water level, and will be enriched by coppers leached down from the oxidized zone.

Conclusion; Judging from what I have seen on the property, and what has been done at the big open pit mine, (Phelps Dodge) along what is making good mines in other districts, this "85" mine warrants development, and I think another big mine is in the making. Money spent here can make a mine worth several million dollars,

(signed) A. C. Nebeker, Mining Engineer,
(From report on "85" mine)

KEEP THIS ON TOP

AJO DISTRICT

Subject:

BLUESTONE GROUP & COPPER GIANT

Ajo District
Pima County, Arizona

Sec. 34, 35, T12S, R6W
Sec. 2, 3, 11, T13S, R6W
AJO 15 Min. QUAD
Ajo AMS

Formerly: Stone Group
Includes: Copper Giant

Also See USBM RI

Copper Giant drilling

(a- 16. 1. 3K

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT

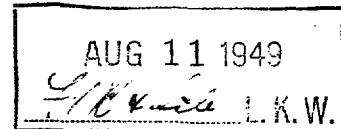
August 8, 1949

D. J. POPE, GENERAL MANAGER
W. R. LANDWEHR, CHIEF GEOLOGIST
J. FRED JOHNSON, MANAGER OF OPERATIONS
NORMAN WEISS, MILLING ENGINEER
L. H. HART, EXPLORATION ENGINEER

600 PACIFIC NATIONAL LIFE BUILDING
SALT LAKE CITY, UTAH

F. V. R.

AUG 15 1949



AIR MAIL

Mr. L. Kenneth Wilson, Chief Geologist
Southwestern Mining Division
American Smelting and Refining Company
813 Valley National Building
Tucson, Arizona

ARIZONA, PIMA COUNTY
AJO DISTRICT
BLUESTONE &
COPPER GIANT GROUPS

Dear Sir:

I have your letter of July 7 outlining your ideas on the prospecting possibilities of the Bluestone and Copper Giant groups. Previously, in your letter of April 19, you had suggested that we open negotiations with Mr. Smith for the former property.

We have discussed the matter here, and are of the opinion that the two groups are not attractive from an exploration standpoint. This conclusion is based upon: (1) the extreme depth of any possible extension of the New Cornelia mineralization in the ground in question; (2) the fact that it seems probable that only the very extreme northeastern corner of the Bluestone group will cover the extension of the high-grade part of the Cornelia ore body; and (3) that our relationship with Phelps Dodge is such that it would probably be inadvisable to begin negotiations with Smith.

Therefore, please drop the two properties from any further consideration.

Very truly yours,

W. R. Landwehr

W. R. Landwehr

WRL:si

cc:WHLoerpabel, with copy of W.R.Landwehr's letter of July 5
to L.K.Wilson

L. H. C.

AUG 12 1949

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

August 1, 1949

FILE MEMORANDUM

COPPER GIANT GROUP
Ajo District
Pima County, Arizona

In conversation today with Mr. Greenway Albert, who represents approximately 65 claims in the subject group, it is apparent that the U. S. Bureau of Mines will begin their expected diamond drilling the latter part of this month or early September.

A few weeks ago I had heard that Mr. Hedges recommended that the Bureau drill the Copper Giant with the sanction of C. A. Anderson, who geologized the area in May of this year.

Mr. Albert states that two holes, or about 4,000 feet of diamond drilling, are planned as a starter with holes to be drilled on the Hunter Group. On the outside chances that something might materialize for us here we will keep closely in touch with the Bureau's drilling and to that end I will visit the property again with Albert some time in September, upon my return to Tucson.

Needless to say, this diamond drilling considerably enhances Mr. Albert's bargaining position. He now asks a total purchase price of $3\frac{1}{2}$ million dollars with an immediate down payment of \$35,000.00 cash, without prior examination - that is, without any extended time for examination. Six months thereafter the next successive payment of \$35,000 would be asked and then payments would pyramid progressively higher in successive years. I pointed out to him that regardless of our interest in any exploration venture here, we would be unable to consider any cash payment without adequate time to conduct a thorough examination first. I stated that we might be willing to consider an option calling for the payment of \$35,000.00 at the end of six months and that in the interim we might consider holding him on some retainer up to \$500.00 per month, but that we could not consider an immediate cash payment. Although he indicates that he would not go along with this picture he is going to "think about it some more" and we will get together again in September.

In postscript to any consideration of the Ajo district, I would note that Albert states that Mr. Weed of Anaconda has indicated a willingness to compromise the difficult terms asked for the Bluestone property and this is confirmed by the fact that it is known to me that Mulchay has completed an examination in the past month. Apparently Mr. Weed would consider a down payment of \$50,000.00 on an ultimate purchase price of \$5,000,000.00 for the Bluestone in lieu of the demand for a cash payment of \$100,000.00 which Mr. Hoval Smith asks.

LKW:ar



L. KENNETH WILSON

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

July 7, 1949

AIR-MAIL

Mr. W. R. Landwehr, Chief Geologist
Western Mining Department
c/o W. H. Loerpabel, General Manager
American Smelting and Refining Company
120 Broadway, New York.

BLUESTONE COPPER PROPERTY
Ajo Mining District
Pima County, Arizona

Dear Sir:

This will reply to your letter of July 5th requesting that I write you describing the exploration possibilities in the subject area, and to again state my reasons for believing that these are of interest to us.

As you know, I have discussed verbally the exploration possibilities of this property on several occasions, but we have made no move here to negotiate the property because of your wish that the matter be handled from Salt Lake.

You will recall from our discussion in Salt Lake last November, and in Tucson this March, that early in 1948 I had learned that two 2000-foot diamond drill holes had been drilled on the Bluestone property in 1928, at a point approximately 2500 feet south of Arkansas Mountain. (Please see attached map).

Contrary to Gilluly's maps in Professional Paper #209, the bottom of the fanglomerate was cut at a depth of about 1500 feet below which the holes entered mineralized and altered Concentrator volcanics and Cornelia monzonite. (Compare on attached map).

Near the bed rock surface, at the base of the fanglomerate around 1500 feet, 28 feet of core assayed 0.97% copper, 12 feet of which ran 1.25%. The primary ore below this chalcocite zone was said to have approximated one-half percent copper down to a depth of 2250 feet. The oxidation and evidence of enrichment in the core continues to a depth of 1700 feet below the ground surface and intense hydrothermal alteration persists throughout to the bottom of drilling around 2000 feet of depth. This alteration in itself is indicative of widespread mineralization and, therefore, is of interest.

The factual display of good values recalled to my mind a two day visit to P-D's Cornelia operation in the spring of 1947 with Bill Hart and Mr. Blanchard, at which time we noted - - on a

model of the minable ore in the pit area -- that the high grade core of the Cornelia ore body showed a flat southeasterly plunge beyond the present pit boundaries and probably beyond an economic limit of any further open cut mining at this increasing depth.

By correcting Gilluly's section shown on Plate 20 of P.P. #209 using the above diamond drill information, it is immediately evident that the ore in the Bluestone drill holes appears to represent a fringe of a dipward extension of the new Cornelia ore body, an objective, of course, which could be measured in tonnages comparable to the Cornelia ore body, say, 100 million tons or so when within the main ore zone.

The two Bluestone holes were drilled about one-half mile west of the apparent plunge of the Cornelia ore body. A straight projection of the prevailing ore structure without regard for unknown faults would cut the northeastern portion of the Bluestone property instead of the northwestern part where the two holes were drilled.

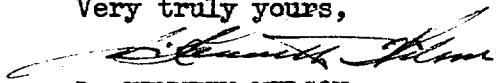
I have made a cursory inspection of the ground -- unknown to any of the principals involved or to Ajo residents -- and I find that the entire area is blanketed by fanglomerate which conceals any evidence of underlying structure. Here then the appraisal of the property becomes at once a question of deep exploratory drilling beginning, I would say, with the point of known copper concentrations in the two Bluestone holes. Needless to say, two holes is meagre penetration in a prospective disseminated deposit.

A careful and detailed geologic study might be able to add something more definite to Gilluly's geology, but, of course, it would not be advisable to attempt this unless the property becomes available on an acceptable basis. We would wish also to personally inspect the cores, of course. These, I am told, would only be available to us in the event an agreement were reached.

Our interest in the adjoining Copper Giant Group which lies to the south of the Bluestone is contingent upon reaching a working basis on the Bluestone. However, if it should develop in negotiation for the Bluestone ground that we could not touch the Bluestone, then we might consider the only remaining entry into the area of the Copper Giant. I have heard that the U.S. Bureau of Mines may drill here.

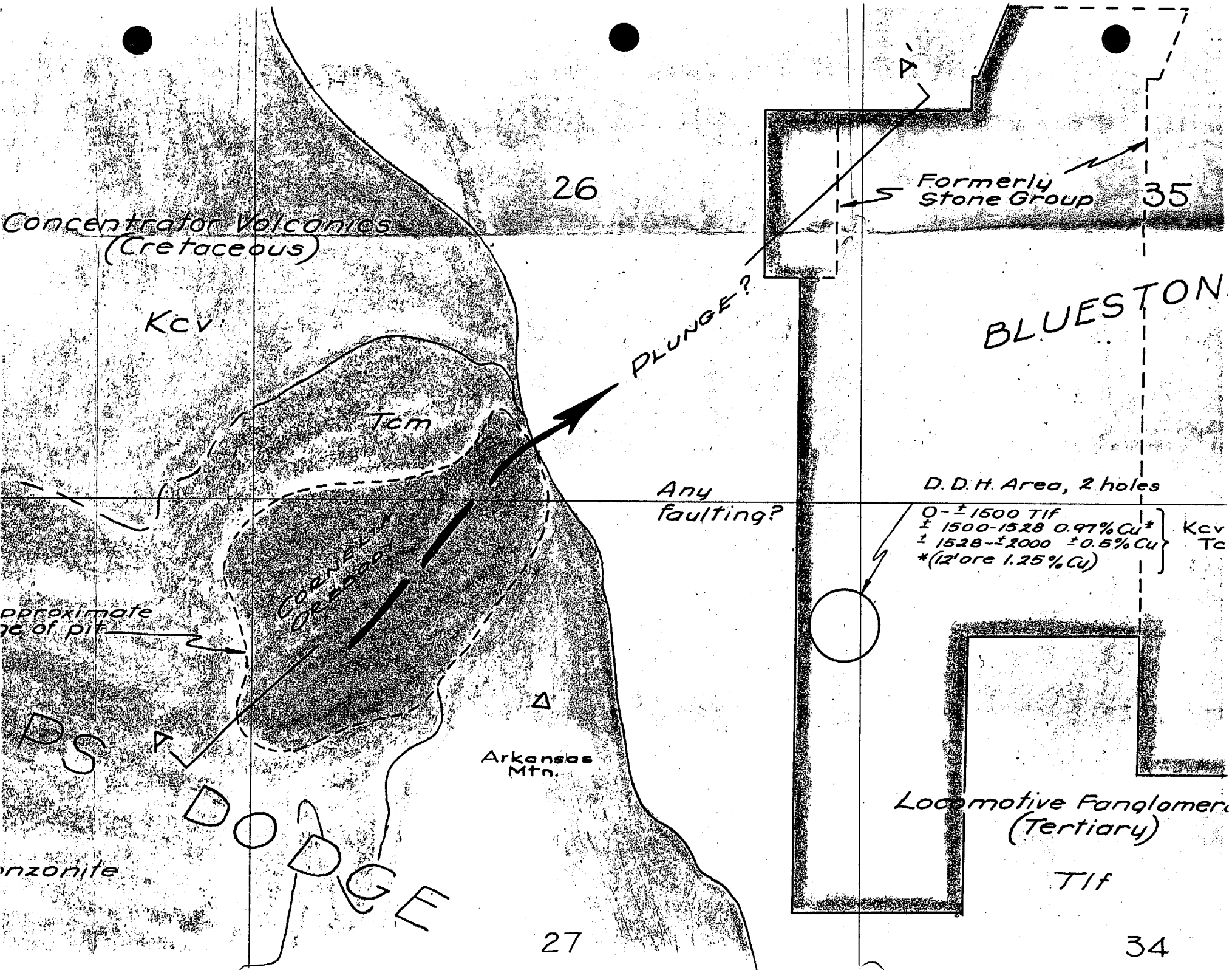
As I have mentioned before, I do not believe we can lose anything by approaching Hoval Smith and his associates, and at least we can determine precisely where we all stand. I would welcome an opportunity to open such conversations with Smith. At present we have no record of any Company dealings with him, although I understand that there was some consideration given the property in New York several years ago.

Very truly yours,



L. KENNETH WILSON

LKW/fh
Enc. Map No. 819, Ajo District
cc: DJPope with enc. CPPollock with enc.



26

Concentrator Volcanics
(Cretaceous)

Kcv

Tcm

CORNELIUS
002000

Approximate
top of pit

DODGE

Arkansas
Mtn.

27

Formerly
Stone Group

35

BLUESTON

Any
faulting?

D.D.H. Area, 2 holes

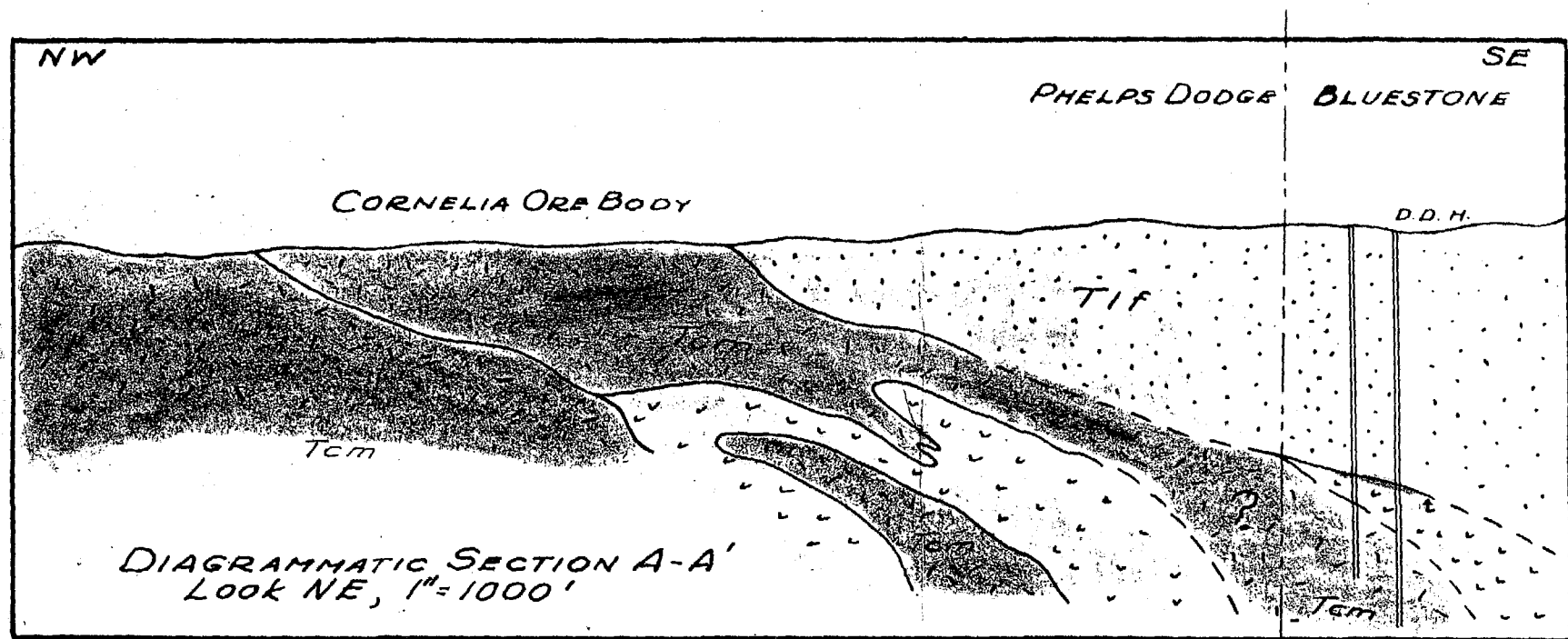
0-±1500 Tif
±1500-1528 0.97% Cu*
±1528-±2000 ±0.5% Cu
*(12' ore 1.25% Cu)

Kcv
Tc

Locomotive Fan glomer.
(Tertiary)

Tif

34



Note: Additional ground owned here
by H. Greenway Albert, unidentified

SUPPLEMENT TO U. S. GEOLOGICAL SURVEY PROFESSIONAL PAPER 209, The Ajo Mining District, Arizona

By James Gilluly

In 1928 two diamond drill holes were put down on the Bluestone claims south of the New Cornelia pit at Ajo, Ariz. During the preparation of Professional Paper 209, "The Ajo mining district, Arizona", Mr. Hoval A. Smith offered to make available to the U. S. Geological Survey the records of these drill holes. Unfortunately the information did not reach the author. Again in 1948, after the publication of the Ajo professional paper, Mr. Smith renewed his offer to make the drill records available to the Survey. These holes furnish data that necessitates some modification of the inferred position of the erosion surface on which the Locomotive fanglomerate was deposited. Accordingly, this supplementary note has been prepared. In addition, the following revised sections are included: sections B-B' and C-C' on plate 20; sections through coordinates 9 to 14 on plate 22; and the section through coordinate B on plate 23. Also a new map, plate 21A, has been prepared to show structure contours on the base of the Locomotive fanglomerate and the location of the two drill holes on the Bluestone claims.

The cores of these drill holes were examined in October 1948 by C. A. Anderson and N. P. Peterson of the Geological Survey, and they report mineralized bedrock below the Locomotive fanglomerate. Hole No. 1 is 2,253 feet deep, and the upper 1,492 feet is in fanglomerate. Hole No. 2 is 2,050 feet deep, and the upper 1,668 feet is in fanglomerate. The rock beneath the fanglomerate is highly silicified and sericitized, and locally brecciated. The upper part of the bedrock is oxidized and contains some native copper, limonite and a few seams of chalcocite. At depths 200 feet below the bedrock surface, primary pyrite and chalcopyrite show no signs of enrichment or oxidation.

Most of the bedrock resembles the Concentrator volcanics, and examination of representative thin sections of the cores confirms this identification. In hole No. 1, at a depth of 2,000 feet, specimens of core resemble diorite porphyry, and this rock may be related to the monzonite intrusive bodies; however, this rock is so altered hydrothermally as to make specific determination impossible.

The bedrock at these depths, beneath the Locomotive fanglomerate, may be part of an upfaulted block or of a buried hill which, after the tilting of the fanglomerate, would now appear as a more gently sloping basal surface of that formation. Although faults have been mapped at intervals along the northern contact of the Locomotive fanglomerate, no evidence has been found for a continuous northern fault contact, and the continuity of geologic boundaries north of the fanglomerate shows that no large fault can there exist. Movement along a fault near the southwest corner of section 27 (pl. 20) has brought the Concentrator volcanics against the Locomotive fanglomerate, but this fault seems to swing southeastward where it can be traced last near the boundary between sections 27 and 34. Hence

would have no effect on the altitude of the base of the fanglomerate as intersected in holes 1 and 2. Overlap of fanglomerate on bedrock is very evident where the contact is exposed. This is shown by the wedging out of the lower beds of the fanglomerate westward along the contact. The combined evidence now available from the drill holes in fanglomerate in this area (see pl. 21A) suggests strongly that the erosion surface on which the fanglomerate was deposited not only has irregularities but also, locally, has a relatively gentle slope. The presence of the bedrock in holes 1 and 2 at a higher elevation than would be inferred from the projection of the erosion surface is evidence that the irregularities, so evident along the strike, also exist down the dip. Although a concealed fault may exist and account for the relations, no fault of adequate displacement has been found.

Possibly future exploration will reveal beneath the Locomotive fanglomerate other areas where the bedrock is relatively near the surface. Some of them may be underlain by bedrock sufficiently mineralized in copper and close enough to the surface to constitute minable ore.

APR 28 1949

Aljo Site L.K.W.

GEOLOGY OF THE AJO DISTRICT
AS OF 1941

To understand and give the proper value to any report or statements as to the geology of the Ajo District ^{it} is of the greatest importance to find out just when the report was made.

Reports by the most eminent engineers and geologists were so conservative, lacking in vision of possibilities, of the extent of commercial ore bodies made prior to 1915, are of no practical value.

In 1915, according to the most eminent mining engineers and geologists, the commercial ore bodies would be limited to a total of sixty million tons, which was then demonstrated to exist in a formation largely constituted of monzonite porphyry.

See paper by J. A. J. Salt Lake City 1914.
Since then mining work and exploration has shown a tonnage of commercial ore over three times that amount, most of which has little to do with the original monzonite porphyry ore body. Instead it occurs in andesite, conglomerate, rhyolite and other porphyries.

To form an understanding of the present conditions and the undoubted possibilities of other great bodies of ore being disclosed, a consideration of the history of the district is of great help.

Ajo is an old camp - mining was carried on there by the Spaniards hundreds of years ago. Up until early in this Century considerable gold was being recovered from dry placer operations.

About the time of the Civil War considerable mining operations were being carried on. Rich copper ore was handled by oxen in heavy carts to the sea and shipped to Swansea Wales.

(2)

This ore all came from Copper Mountain, a low green stained hill of Monzonite porphyry, all low grade disseminated copper ore. But it also contained veins and masses of bornite and other rich copper ore from which the high grade was shipped.

About 1900 John R. Boddie and associates of St. Louis became interested and took over the ground in the middle of the district, forming the Cornelia Copper Co.

Many other claims were slated out and other companies formed. The Cornelia ground was centered on and about three low hills only a few hundred feet high, all green stained from the copper content.

These hills were the outcropping of a locolith of monzonite porphyry, *'i South end* all of which was mineralized with fine specs of copper ore, to a depth not yet fully ascertained although there are drill holes over 1000 ft. deep still in ore.

part of this
This mineralized monzonite porphyry intrusion occupied an area of only a few claims. On all sides were formations of many varied kinds of rocks. All these showed mineralizations particularly to the East and South.

In 1909 the Lewisohns took an option on the New Cornelia ground. J. Parke Channing was their consulting engineer and geologist.

Seeley W. Mudd and associates took an option on the ground to the East and Southeast, a little later known as the Ajo Consolidated.

The United States Smelting and Refining Co. also took an option on ground adjoining the New Cornelia on the East.

An English syndicate also took an option on a group of claims in the Ajo basin.

Many prominent mining engineers and geologists were consulted among whom were John Hays Hammond and A. Chester Beatty.

Considerable work was done and numbers of drill holes were sunk.

But all of the foregoing options were given up and the whole county *except New Cornelia ground* turned down. It seemed that each of these great mining engineers and geologists had a different theory regarding the formations and deposits in Ajo and that they were all wrong.

Then in 1911 the Calumet and Arizona Mining Co. took an option on the New Cornelia, mainly because John C. Greenway, the company's general manager, had operated on the Messaba Iron range and wanted a steam shovel copper mine. In three years they had proved a large tonnage in the New Cornelia ground and worked out treatment for the ores. They had a proven ore body of about sixty million tons in the monzonite porphyry.

Right then another big change in the ore possibilities of the district was to take place.

The Ajo Consolidated was a company which had acquired a large group of claims adjoining the New Cornelia ground on the East and Southeast. Not having sufficient capital to exploit their ground they tried to sell to the New Cornelia offering an option at a price of \$150,000. The New Cornelia would have none of this, not believing that there would be commercial ore bodies in the rhyolite, conglomerate and andesite formations.

The Ajo Consolidated interested James Phillips of Boston in 1915, found an ore body a few feet below the surface about 1500 ft. long, 100 to 200 ft. wide and several hundred feet deep, so rich it became known as the Glory Hole.

After a couple of years of shipping rich ore the Ajo Con. was taken over by the New Cornelia, costing them nearly five millions dollars.

The surface of the Ajo Consolidated ground before any amount of work was done was very similar in appearance to that of the present Copper Giant ground two miles to the South. There was the same conglomerite with bands of carbonate ore, ~~outcroppings of~~ ^{mineralized} rhyolite, andesite, occasionally some monzonite and other porphyries. And through all, seams, struers, small masses and bands of ore. The same rocks and formations are to be found on the Copper Giant as on the New Cornelia ground of the Phelps Dodge Co., with the exception of that small part of their open pit in the Northwest part where the formations are almost exclusively monzonite porphyry. Between the New Cornelia pit and the Copper Giant ground there are few showing of mineralizations on the surface, it being covered with conglomerate, wash and debris. The writer believes that there is ore under all this ground at an uncertain depth.

To the South, nearing the Copper Giant ground, surface showings of ore begin to appear again. Either the mineralizations from the pit South to the Copper Giant ground are continuous, or there has been an upsurge of mineralization on and in the vicinity of the Copper Giant claims, similar to that on the old Ajo. Con. ground of the New Cornelia, now the Southeastern part of the open pit.

If any of the government data on the geology of the Ajo district is based on reports or examinations earlier than 1920 they are certainly erroneous.

There probably will be many more great ore bodies disclosed in the Ajo district and so is it beyond reason to expect some of these to be not only large but very rich as were the two big "Glory Holes" found on the Ajo Con. ground, one about 1915 and another several years later, a short distance to the South?

(10)
The Government geologists, like all others, write their best reports after the prospector, developer and miner has done his work in discovering and exploiting the ore bodies.

Respectfully submitted

Joseph A. Hunter

June, 1941

*This statement prepared upon request of my
opinion of the geology of the Ajo District, in
relation to the Copper Giant ground.*

SUPPLEMENT TO U. S. GEOLOGICAL SURVEY PROFESSIONAL PAPER 209

THE AJO MINING DISTRICT, ARIZONA

by James Gilluly

In 1928 two diamond drill holes were put down on the Bluestone claims south of the New Cornelia pit at Ajo, Ariz. During the preparation of Professional Paper 209, "The Ajo mining district, Arizona," Mr. Hoval A. Smith offered to make available to the U. S. Geological Survey the records of these drill holes. Unfortunately the information did not reach the author. Again in 1948, after the publication of the Ajo professional paper, Mr. Smith renewed his offer to make the drill records available to the Survey. These holes furnish data that necessitate some modification of the inferred position of the erosion surface on which the Locomotive fanglomerate was deposited. Accordingly, this supplementary note has been prepared. In addition, the following revised sections are included: sections B-B' and C-C' on plate 20; sections through coordinates 9 to 14 on plate 22; and the section through coordinate B on plate 23. Also a new map, plate 21A, has been prepared to show structure contours on the base of the Locomotive fanglomerate and the location of the two drill holes on the Bluestone claims.

The cores of these drill holes were examined in October 1948 by C. A. Anderson and N. P. Peterson of the Geological Survey, and they report mineralized bedrock below the Locomotive fanglomerate. Hole No. 1 is 2,253 feet deep, and the upper 1,492 feet is in fanglomerate. Hole No. 2 is 2,050 feet deep, and the upper 1,668 feet is in fanglomerate. The rock beneath the fanglomerate is highly silicified and sericitized, and locally brecciated. The upper part of the bedrock is oxidized and contains some native copper, limonite, and a few seams of chalcocite. At depths 200 feet below the bedrock surface, primary pyrite and chalcopyrite show no signs of enrichment or oxidation.

Most of the bedrock resembles the Concentrator volcanics, and examination of representative thin sections of the cores confirms this identification. In hole No. 1, at a depth of 2,000 feet, specimens of core resemble diorite porphyry, and this rock may be related to the

monzonite intrusive bodies; however, this rock is so altered hydrothermally as to make specific determination impossible.

The bedrock at these depths, beneath the Locomotive fanglomerate, may be part of an upfaulted block or of a buried hill which, after the tilting of the fanglomerate, would now appear as a more gently sloping basal surface of that formation. Although faults have been mapped at intervals along the northern contact of the Locomotive fanglomerate, no evidence has been found for a continuous northern fault contact, and the continuity of geologic boundaries north of the fanglomerate shows that no large fault can there exist. Movement along a fault near the southwest corner of section 27 (pl. 20) has brought the Concentrator volcanics against the Locomotive fanglomerate, but this fault seems to swing southeastward where it can be traced last near the boundary between sections 27 and 34. Hence it would have no effect on the altitude of the base of the fanglomerate as intersected in holes 1 and 2. Overlap of fanglomerate on bedrock is very evident where the contact is exposed. This is shown by the wedging out of the lower beds of the fanglomerate westward along the contact. The combined evidence now available from the drill holes in fanglomerate in this area (see pl. 21A) suggests strongly that the erosion surface on which the fanglomerate was deposited not only has irregularities but also, locally, has a relatively gentle slope. The presence of the bedrock in holes 1 and 2 at a higher elevation than would be inferred from the projection of the erosion surface is evidence that the irregularities, so evident along the strike, also exist down the dip. Although a concealed fault may exist and account for the relations, no fault of adequate displacement has been found.

Possibly future exploration will reveal beneath the Locomotive fanglomerate other areas where the bedrock is relatively near the surface. Some of them may be underlain by bedrock sufficiently mineralized in copper and close enough to the surface to constitute minable ore.

KEEP THIS ON TOP

Subject:

AJO DISTRICT

GILLARD

Ajo District

Pima County, Arizona

Sec. 11, T13S, R6W

AJO 15 Min. QUAD

Ajo AMS

Gillard Group of Claims,
Ajo, Arizona.

Tucson, Arizona, Octo. 28, 1916.

Mr. H. A. Guss,
Managing Director, Mining Dept.,
A.S. & R. Co., 120 Broadway, New York.

Dear Sir:

I am handing you for your files copy of Mr. Russell's report on
the Gillard Group of Claims, near Ajo, Arizona, which he examined while in
charge of Copper Mountain drilling campaign.

You will note that this report is unfavorable.

Yours very truly,

Original signed.



JCH
ED

Gillard

NOTES
on

Preliminary Examination of Gillard Group of Claims,
Ajo Mining District, Pima County, Arizona.

Location.

The Gillard Group of claims is located four miles south of the mining camp of Ajo. The claims are adjacent to and south of the South Cornelia Copper Mining Company's group.

Description.

The group consists of eight unpatented claims located in the valley that runs due south from the camp of Ajo. The located ground is quite level, being slightly broken up by shallow washes and ravines and is easily reached from Ajo over good roads. Gillard, an old prospector, has held these claims for many years.

Geology.

A part of the surface is covered by a coarse conglomerate which is quite shallow and has been eroded away along the washes and over a part of the surface; where the conglomerate has been removed, an igneous complex is exposed showing a wide range of igneous rocks ranging from a coarsely crystalline to fine grained. The bedding shows the formations to have been tilted to steep angles and afterward planed off by erosion to a comparatively level surface, after which the conglomerate was deposited.

Mineralization.

The mineralization shown in the claims is not confined to any particular kind of rock or in any defined zone. It occurs pretty wide spread over the claims and is nearly all the different kinds of rocks. It consists of two different types. The most common type consists of a coating of copper oxides and carbonates along the fracture planes of the country rock. This is

quite as well developed as the occurrence at the New Cornelia four miles away but occurs in narrow strata or bands generally at the contact of one type of rock with another. It occurs both in the crystalline and fine grained rocks, but not cutting across bedding planes from one into another. These mineralized seams are too widely separated and too narrow to be of commercial importance. The second type is not as common or as frequent of occurrence as the first. This mineralization occurs as chalcocite as a replacement or impregnation of the igneous rocks. The chalcocite sometimes shows as minute kernels or nodules in the country rock, again as a replacement of the rock itself. The occurrences are in the form of narrow streaks or veins parallel to the bedding planes. The chalcocite occurs irregularly in pockets or lenses along these veins. These veins are very narrow, generally a few inches wide.

Workings.

The best spots along the outcropping of the chalcocite ore have been trenched and gophered for shallow depths. The little ore obtained was sorted to as high a grade as possible and freighted for long distances out of the country before the arrival of the railroad at Ajo. These trenches and gopher holes are very shallow and it looks as if the better part of the vein lies close to the surface.

No ore has been shipped from the other type of mineralization, as it is of too low a tenor in copper and cannot be so readily sorted to a better grade. Location shafts are the only workings on this group, besides the trenching and gophering. There are some seven or eight of these from eight to ten feet deep, and they show little except the narrowness of the fracture zones that have the copper coatings and filling.

Possibilities.

This group of claims is not interesting as a prospect as the occurrence is so limited and trifling as to preclude any expectation if explored.

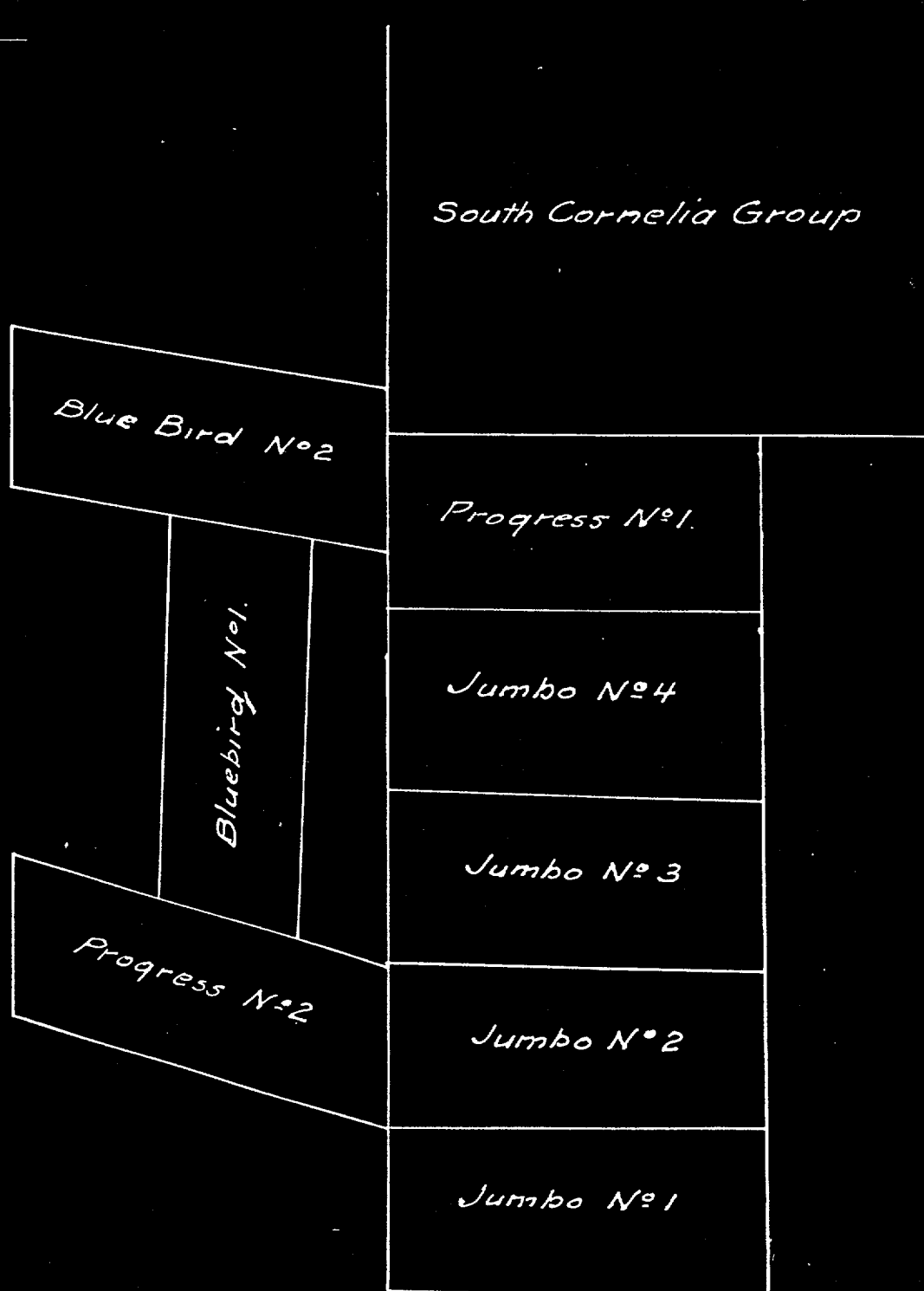
Terms.

The Gillard Group is held at a price of \$80,000.00 on a eighteen months' bond and lease with first payment in six months; commence work in sixty days. The group was presented by Mr. J. Donald Mitchell of Ajo, Arizona.

Respectfully submitted,

John Russell

Tucson, Arizona, Octo. 27, 1916.



Sketch Map of Gillard Group
of Claims - Ajo Mining District
Ajo - Ariz.

KEEP THIS ON TOP

Subject:

AJO DISTRICT

CARLOTA COPPER CO.

Ajo District
Pima County, Arizona

Sec. 14 & 15, T13S, R6W
AJO 15 Min. QUAD
Ajo AMS

Cornelia & Jumbo Claims

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

May 5, 1947

MEMORANDUM FOR MR. POPE

CARLOTTA COPPER COMPANY
Cornelia and Jumbo Claims
Ajo
Pima County, Arizona

Reference is made to Mr. Rickard's memorandum to me under date of April 28th with copies to you and Mr. Loerpabel and Mr. Tittman, in which he calls attention to the subject property and notes that if we are interested in this ground the representative, Mr. H. Greenway Alberts, would like to present the matter in more detail.

Mr. Alberts called at my office this morning at Mr. Rickard's invitation with specimens of ore and a claim map of the property which he owns outright, and other ground which he proposes to tie up. At present he is making preparations to ship a small quantity of ore from his Jumbo No. 1 claim.

The proposal doesn't sound particularly enticing to judge from our first discussion. Therefore, I explained to Mr. Alberts that our present position was one which is complicated by an unusual schedule of many obligations and consequently, although I was greatly interested in looking further into his proposal, the urgency of these earlier obligations would require that we defer further consideration until some later date.

Present schedules indicate that Mr. Blanchard's inspection of copper properties here in the Southwest will be completed some time after the 15th or 20th of this month and thereafter we shall be able to resume consideration of the properties which already appear in our exploration reports.

LKW:ar
cc: WHLoerpabel
EMcLTittman
BNRickard

*DJP requests
"hold in file."*

KW L. KENNETH WILSON

D. J. P.

MAY - 6 1947

SOUTHWESTERN ORE PURCHASING DEPARTMENT
Tucson Arizona

April 28, 1947

MEMORANDUM FOR MR. WILSON

Mr. H. Greenway Alberts
Copper Prospect
Ajo, Arizona

Copper Prospect
Ajo, Arizona
H. Greenway Alberts

On April 26th Mr. H. Greenway Alberts called at the office in reference to what he believes to be a rather substantial mineralized area located three miles south of the New Cornelia Pit.

The holdings consist of 65 contiguous mining claims, 40 of which are owned by Alberts and the remaining 25 are optioned to him. In October, 1946 this property was examined for Mr. Alberts by John L. Alexander, one of the owners of Carlotta Copper Company, P. O. Box 1745, Miami. Mr. Alexander took 12 samples of the deposit with results as shown on the attached sheet.

It seems the possibilities for development are greater than Carlotta Copper Company can undertake. If you are interested, Mr. Alberts would like to talk with you and have you look over the ground. I am writing and asking for a claim map and the location thereon of the various pits represented by Alexander's samples.

Mr. Alberts can be reached at P. O. Box 246, Tombstone, Ariz., or telephone 2466 before 8:30 a.m. His home is on the right hand side of the road entering Tombstone, just beyond Boot Hill Cemetery. Part of the house was recently destroyed by fire. Mr. Alberts is living in the basement.

BRENT N. RICKARD
Yours truly,

cc: D.J. Pope
E.H. Wilson

BRENT N. RICKARD

cc: W.H. Loerpabel
D.J. Pope
E. McL. Tittmann

D. J. P.

MAY - 1 1947

ARIZONA TESTING LABORATORIES

ASSAY CERTIFICATE

John L. Alexander
P. O. Box 1745
Miami, Arizona

October 29, 1946

<u>Lab.No.</u>	<u>Sample</u>	<u>Copper</u>
62032	#1-6 1/2' E. side #1 Pit	2.65%
33	#2-5' S. side #1 Pit	0.90%
34	#3-3' Pit #2	2.25%
35	#4-5' Pit #3	2.85%
36	#5-5' Pit #4	5.20%
37	#6-5' Pit #5	2.70%
38	#7-5' Pit #6	3.40%
39	#8-3' Pit #7	2.30%
40	#9-6' Pit #8 Dump Grab	3.55%
41	#10-Pit #9 Grab Dump	2.05%
42	#12-Pit #25	5.00%
43	#13-Pit #26	3.25%

October 9, 1946

61774	#1 Pits	3.20%
75	#2 Dump-Conglomerate	4.45%
76	#3 Pits-600 Zone	4.70%

October 31, 1946

62078	Composite 12 samples	<u>Silica</u> 62.44%
-------	----------------------	-------------------------

Tucson, Arizona
April 28, 1947

SOUTHWESTERN ORE PURCHASING DEPARTMENT
Tucson Arizona

May 2, 1947

MEMORANDUM FOR MR. WILSON

H. GREENWAY ALBERTS--MINING CLAIMS NEAR AJO PIT

Mr. H. Greenway Alberts of Tombstone called at the office this morning with his maps, reports, and assays on the group of claims which appeared to lie about three miles south and southeast of the New Cornelia Pit. Mr. Alberts is on his way to Phoenix and may return Monday. He would like to have you let him know when you wish to visit the property, and he will show you the location of his ground. He could give me no definite land marks, although I noticed that on his maps there are roads pretty well covering the two groups of claims, one being the Jumbo Group or the 200 foot zone, the other the Midnight Group or the 600 foot zone.

I quote below an assay and analysis of three samples. No. 1 is an average from the Jumbo Group, No. 2 from the Midnight Group, and No. 3 is a sample of selected carbonate ore taken from the New Cornelia outcrops about three miles north of the point where Sample No. 1 and No. 2 were taken.

	<u>OZ.</u>			<u>PERCENT</u>					
	<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>SiO2</u>	<u>Al2O3</u>	<u>Fe</u>	<u>CaO</u>	<u>MgO</u>	<u>Zn</u>
No. 1	tr	0.42	4.02	64.6	13.7	3.5	0.7	.8	0.7
No. 2	tr	0.36	3.43	65.8	13.0	3.9	0.9	.9	0.7
No. 3	Nil	tr	4.52	69.8	12.7	2.0	0.2	.4	0.6

The claim map brought in by Mr. Alberts was made by Mineral Surveyor Stevens in July, 1930 and is marked "Cornelia Group". Mr. Alberts had a report by Joseph A. Hunter, deceased, and by Miles M. Carpenter, mining engineer of Tucson now deceased. This report was dated February 29 1924. Carpenter speaks of the exposures of monzonite porphyry on the Jumbo claims similar in appearance to those in the nearby New Cornelia deposit.

Yours truly,

BRENT N. RICKARD

cc: E. McL. Tittmann
D. J. Pope ✓

D. J. P.

MAY - 7 1947