CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the Doug K. Martin 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.

51 CLAIMS

SKETCHY RPT.

DESIGNED TO TELL LITTLE

OF AREA GEOLOGY

WRITTEN FOR BOB HUGHES

Summit owner.

WD 1 – Maps

Lease option Big Horn Mining Corp.

	Claim	Record copy X / Checked copy ✓	Notice date	QC to Owen / Kennedy, McDaniel 241-272,273	WD to Goetz 241-274,275	QC McDaniel to Montague 223-128,129	QC Floyd Montague to Ella Pooch 190-103,104	WD Earl & Roy to Goetz 248-462	Blum Agreement Docket 90-1°30	QCD Montague to Goetz Book 78-324,25	Date of Recordation	Locator
1	Ada #1	X ✓	10-10-64			✓				✓	64	McDANIEL 1
2	Ada #2	X ✓	10-10-64			✓				✓	64	McDANIEL 2
3	Bonnie Jack	X ✓	A 10-1-66 M							✓	66	Montague 3
4	Bonnie Jack #1	X both ✓	A 1-5-67 M							✓	66	Montague 4
5	Bonnie Jack #2	X ✓	1-5-67 M							✓	67	Montague 5
6	Cashier	X ✓	A 1-5-67				✓			✓	64	Montague 6
7	Cashier Extention	X ✓	A 1-5-67				✓			✓	64	Montague 7
8	Charles G. #1	X ✓	4-1-67 M							✓	67	Montague 8
9	Charles G #2	X ✓	4-1-67 M							✓	67	Montague 9
10	Hassayampa A	X both ✓	A 1-5-67				✓			✓	64	Montague 10
11	✓ Little Boy Patented	Title insurance trans 1221-733		✓	✓							MS #2155 11
12	Little Boy #2 A	X ✓	3-16-61	✓	✓					✓	61	Owen, McKenzie 12
13	#3	X Not A ✓	orig 2-5-58	✓	✓					✓	61	Owen, McK 13
14	#4	X Not A ✓	✓	✓	✓					✓	58	Owen, McK 14
15	#5	X Not A ✓	✓	✓	✓					✓	58	Owen McK 15
16	#6	X Not A ✓	✓	✓	✓					✓	58	Owen McK 16
17	#7	X ✓	3-16-61	✓	✓					✓	61	Owen, McK 17
18	#8	X ✓	3-16-61	✓	implied					✓	61	Owen, McK 18
19	Mammoth #1 R	X both ✓	9-2-64				✓			✓	67	Montague 19
20	#2 R	X ✓	A 10-2-64				✓			✓	67	Montague 20
21	#3 R	X ✓	A 10-2-64				✓			✓	67	Montague 21
22	#4	X ✓	A 9-2-64				✓			✓	67	Montague 22
23	#5	X ✓	A 10-1-66 M							✓	67	Montague 23
24	#6	X ✓	1-5-67 M							✓	67	Montague 24
25	#7	X add 45 ✓	A 1-1-66 M							✓	67	Montague 25
26	#8	X add 45 ✓	A 1-1-66 M							✓	67	Montague 26
27	#9	X ✓	1-10-68 M							✓	68	Montague 27
28	#10	X ✓	1-10-68 M							✓	68	Montague 28
29	#11	X ✓	3-1-68 M							✓	68	Montague 29
30	#12	X ✓	3-1-68 M							✓	68	Montague 30
31	#13	X ✓	3-1-68 M							✓	68	Montague 31
32	#14	X ✓	3-1-68 M							✓	68	Montague 32
33	#15	X ✓	3-1-68 M							✓	68	Montague 33
34	#16	X ✓	A 3-1-68 M							✓	68	Montague 34
35	New Years	X ✓	A 10-2-64 M				✓			✓	67	Montague 35
36	New Years Extention	poor copy	A 10-2-64 M				✓			✓	67	Montague 36
37	Ninety-Eight "98"	X ✓	A 3-16-61	✓	✓					✓	61	Owens, McK 37
38	Panama	X poor copy ✓	A ? M				✓			✓	67	Montague 38
39	Panama Extention	X ✓	1-5-67 M							✓	67	Montague 39
40	Pasadena	X ✓	A 1-1-66 M					✓		✓	67	Montague 40

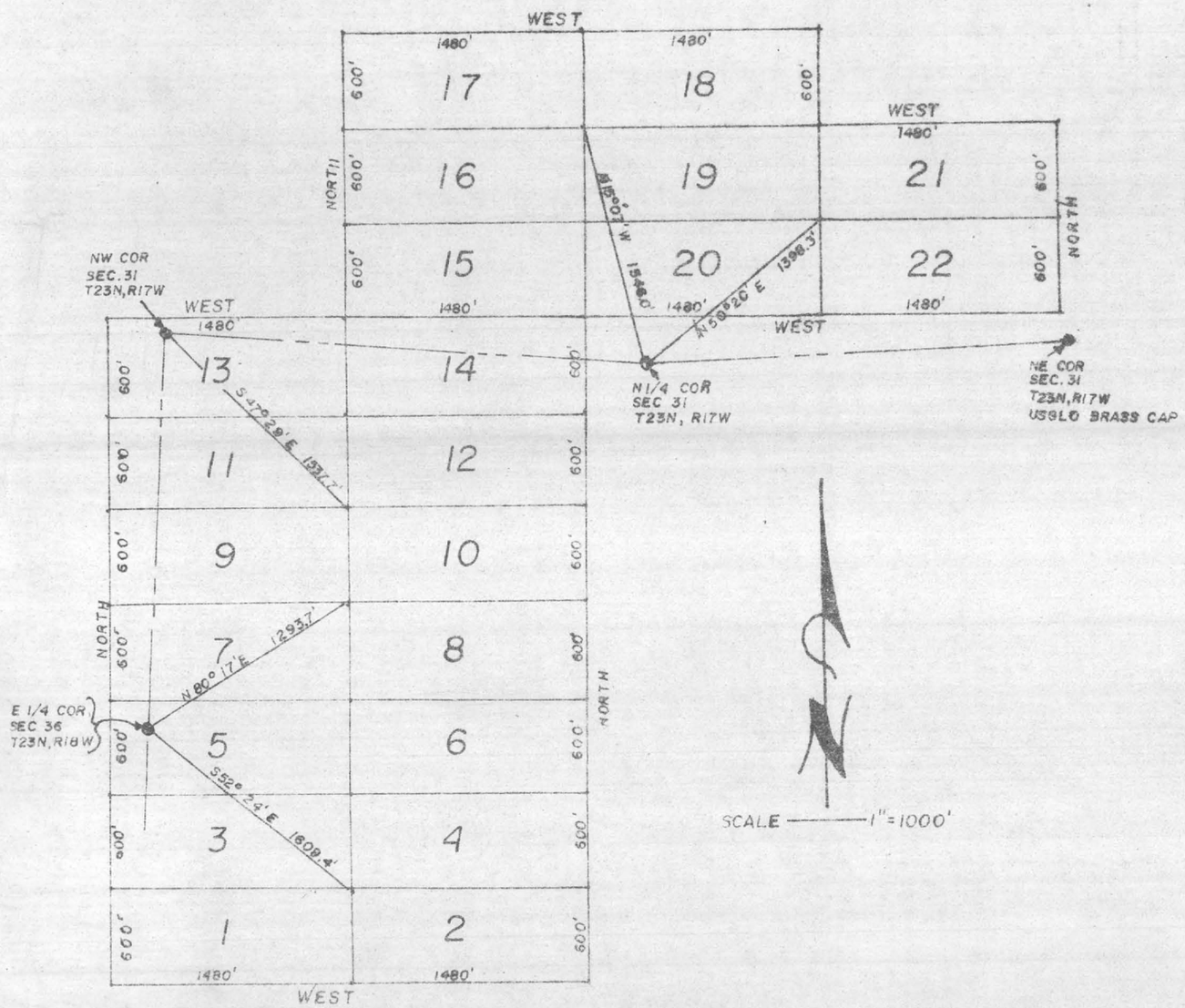
+ Floyd

© WILSON JONES COMPANY G7213 GREEN 7213 BUFF 1279 MADE IN U.S.A.

	1	2	3	4	5	6	7	8	9	10	11	12	13
	record copy X	Notice Date											
	Checked typed ✓									Chas R. Ward 240-698			
Pasadena #1	X ✓	A 1-1-66 M							✓				67 Montague
Scotty "Scottie"	X ✓	A 9-2-66 M				✓			✓				67 Montague
Scotty Extention "1"	X ✓	A 9-2-64 M				✓		✓	✓				67 Montague
"2"	X ✓	A 11-1-65 M							✓				67 Montague
True Blue							✓						74 WARD
WD #1	X ✓	8-29-74								✓			74 WARD
WD #2	X add896	8-29-74								✓			74 WARD
#3	X ✓	8-29-74								✓			74 WARD
#4	X add898	8-29-74								✓			74 WARD
#5	X add900	8-29-74								✓			74 WARD
#6	X ✓	8-29-74								✓			74 WARD

© WILSON JONES COMPANY G7213 GREEN 7213 BUFF 1279 MADE IN U.S.A.

CHICO CLAIMS 1-22 LOCATION - SECTIONS 30 & 31, T23N, R17W & SECTION 36, T23N, R18W
G.&S.R.B.M., WALAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA



MICROFILMED
PROOFED
INDEXED
INDEXED MINES
81-5958

Recorded at Request of Pacific Regal Operating Inc.
FEB 20 1991 - 11 20 AM
in book 693 of Official Records, Pages 242-243
Records of Mohave County, Arizona
Joan McCall Recorder
By B Fundator Deputy Recorder

BOOK 693 PAGE 242

"EXHIBIT A"

CHICO MINES PROPERTY

PARCEL NO. 1

Two patented mining claims, one being the Little Boy designated as Mineral Survey No. 2159, embracing a portion of Section 5, T22N, R17W in the Wallapai Mining District, Mohave County, Arizona, the United States Patent of which is of record in the Office of the County Recorder of said Mohave County, Arizona in Book 25 of Mining Deeds, Pages 271-273; and True Blue designated as Mineral Survey No. 2653, embracing a portion of Section 31, T23N, R17W in the Wallapai Mining District, Mohave County, Arizona, the United States Patent of which is of record in the Office of the County Recorder of said Mohave County, Arizona in Book 248 of Mining Deeds, Page 462.

PARCEL NO. 2

Forty-nine (49) unpatented mining claims located in Mohave County, Arizona:

Designation	Status	Original Book-Page	Amended Book-Page	BLM or MS #	Date of Location
Ada #1		5-X 237		A MC 34859	10-10-64
Ada #2		5-X 238		A MC 24860	10-10-64
Bonnie Jack	Amended	6-D 328	6-E 440	A MC 34861	10-01-66
Bonnie Jack #1	Amended	6-D 326	6-E 442	A MC 34862	10-01-66
Bonnie Jack #2		6-E 444		A MC 34863	1- 5-67
Cashier	Amended	5-W 70	6-E 417	A MC 34864	09-02-64
Cashier Extension	Amended	5-W 71	6-E 419	A MC 34865	09-02-64
Charles G. #1		6-F 160		A MC 34866	04-01-67
Charles G. #2		6-F 161		A MC 34867	04-01-67
Hassayampa	Amended	5-W 343	6-4 421	A MC 34868	10-02-64
Little Boy #2	Amended	5-D 400	5-M 283	A MC 34869	02-05-58
Little Boy #3	Amended	5-D 401	5-M 285	A MC 34870	02-05-58
Little Boy #4	Amended	5-D 402	5-M 287	A MC 34871	02-05-58
Little Boy #5	Amended	5-D 403	5-M 289	A MC 34872	02-05-58
Little Boy #6	Amended	5-D 404	5-M 291	A MC 34873	02-05-58
Little Boy #7		5-M 295		A MC 34874	03-16-61
Little Boy #8		5-M 297		A MC 34875	03-16-61
Mammoth #1	Amended	5-W 72	6-E 445	A MC 34876	09-02-64
Mammoth #2	Amended	5-W 344	6-E 447	A MC 34877	10-02-64
Mammoth #3	Amended	5-W 345	6-E 449	A MC 34878	10-02-64
Mammoth #4	Amended	5-W 73	6-E 451	A MC 34879	09-02-64
Mammoth #5	Amended	6-D 327	6-E 453	A MC 34880	10-01-66
Mammoth #6		6-E 455		A MC 34881	01-05-67
Mammoth #7	Amended	6-A 408	6-E 457	A MC 34882	01-01-66
Mammoth #8	Amended	6-A 409	6-E 459	A MC 34883	01-01-66
Mammoth #9		6-H 463		A MC 34884	01-10-68
Mammoth #10		6-H 464		A MC 34885	01-10-68
Mammoth #11		6-I 261		A MC 34886	03-01-68
Mammoth #12		6-I 262		A MC 34887	03-01-68
Mammoth #13		6-I 263		A MC 34888	03-01-68
Mammoth #14		6-I 264		A MC 34889	03-01-68
Mammoth #15		6-I 265		A MC 34890	03-01-68

Mammoth #16		6-I 266		A MC 34891 03-01-68
New Years	Amended	5-W 346	6-E 430	A MC 34892 10-02-64
New Years Extension	Amended	5-W 347	6-E 432	A MC 34893 10-02-64
Ninety Eight "98"	Amended	4-C 427	5-M 293	A MC 34894 01-11-52
Panama	Amended	5-W 74	6-E 427	A MC 34895 09-02-64
Panama Extension		6-E 429		A MC 34896 01-05-67
Pasadena	Amended	6-A 407	6-E 423	A MC 34897 01-01-66
Pasadena #1	Amended	6-A 406	6-E 425	A MC 34898 01-01-66
Scotty "Scottie"	Amended	5-W 75	6-E 434	A MC 34899 09-02-64
Scotty "Scottie" Extension "1"	Amended	5-W 76	6-E 436	A MC 34900 09-02-64
Scotty "Scottie" Extension "2"	Amended	6-B 91	6-E 438	A MC 34901 11-01-65
WD #1		235 859		A MC 34902 08-29-74
WD #2		235 895		A MC 34903 08-29-74
WD #3		235 858		A MC 34904 08-29-74
WD #4		235 897		A MC 34905 08-29-74
WD #5		235 899		A MC 34906 08-29-74
WD #6		235 901		A MC 34907 08-29-74

PARCEL NO. 3

Six (6) unpatented mining claims all located in the Wallapai Mining District in Section 31, T23N, R17W, Mohave County, Arizona, as follows:

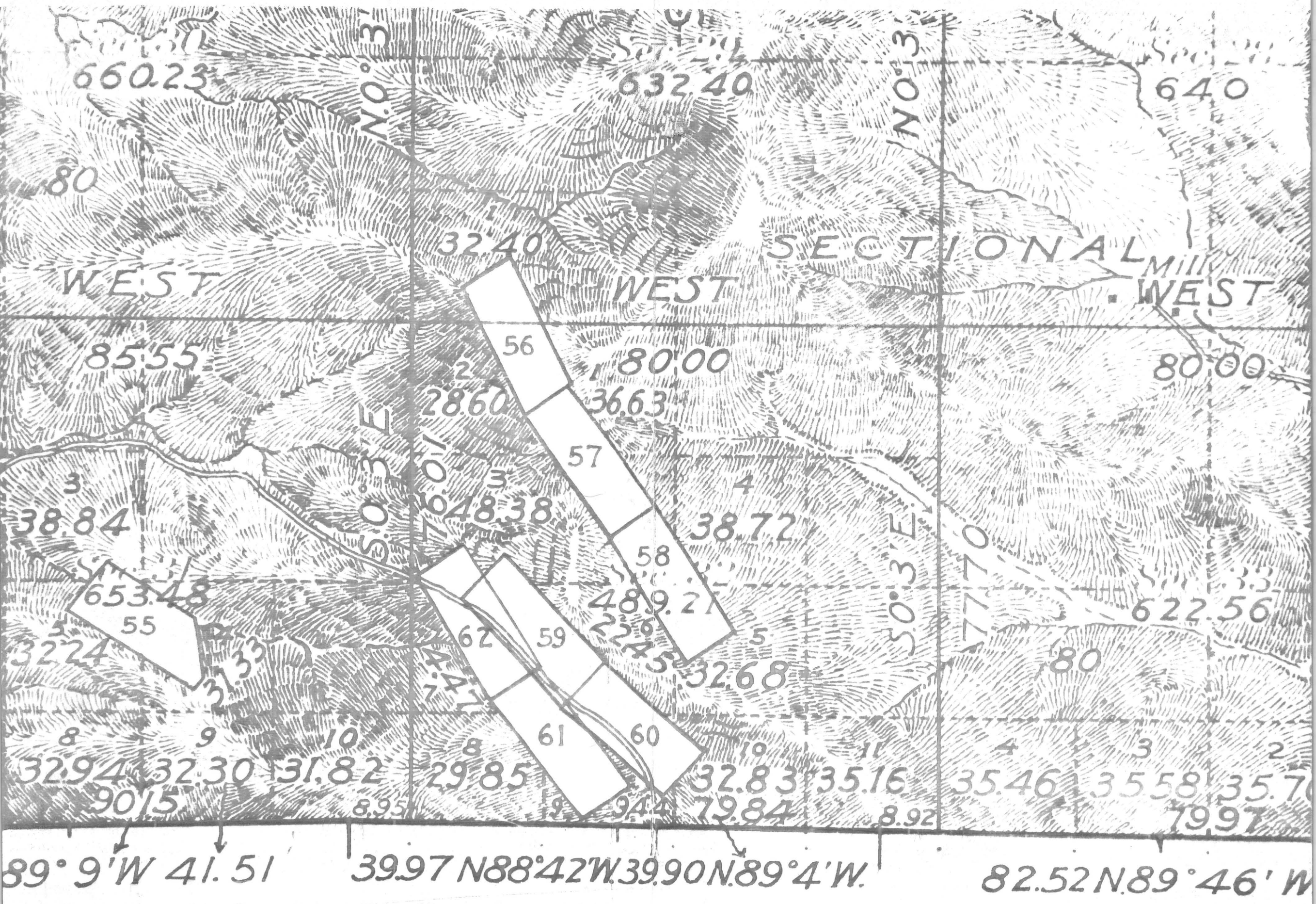
(1) Bromide #1, filed in Book 5N, Pages 178-179;
(2) Bromide #2, filed in Book 6B, Page 327;
(3) Black Hawk #1, filed in Book 5D, Pages 453-454;
(4) Black Hawk #2, filed in Book 5N, Pages 176-177;
(5) Black Hawk #3, filed in Book 5W, Pages 460-461; and
(6) Last Chance, filed in Book 5G, Page 18.

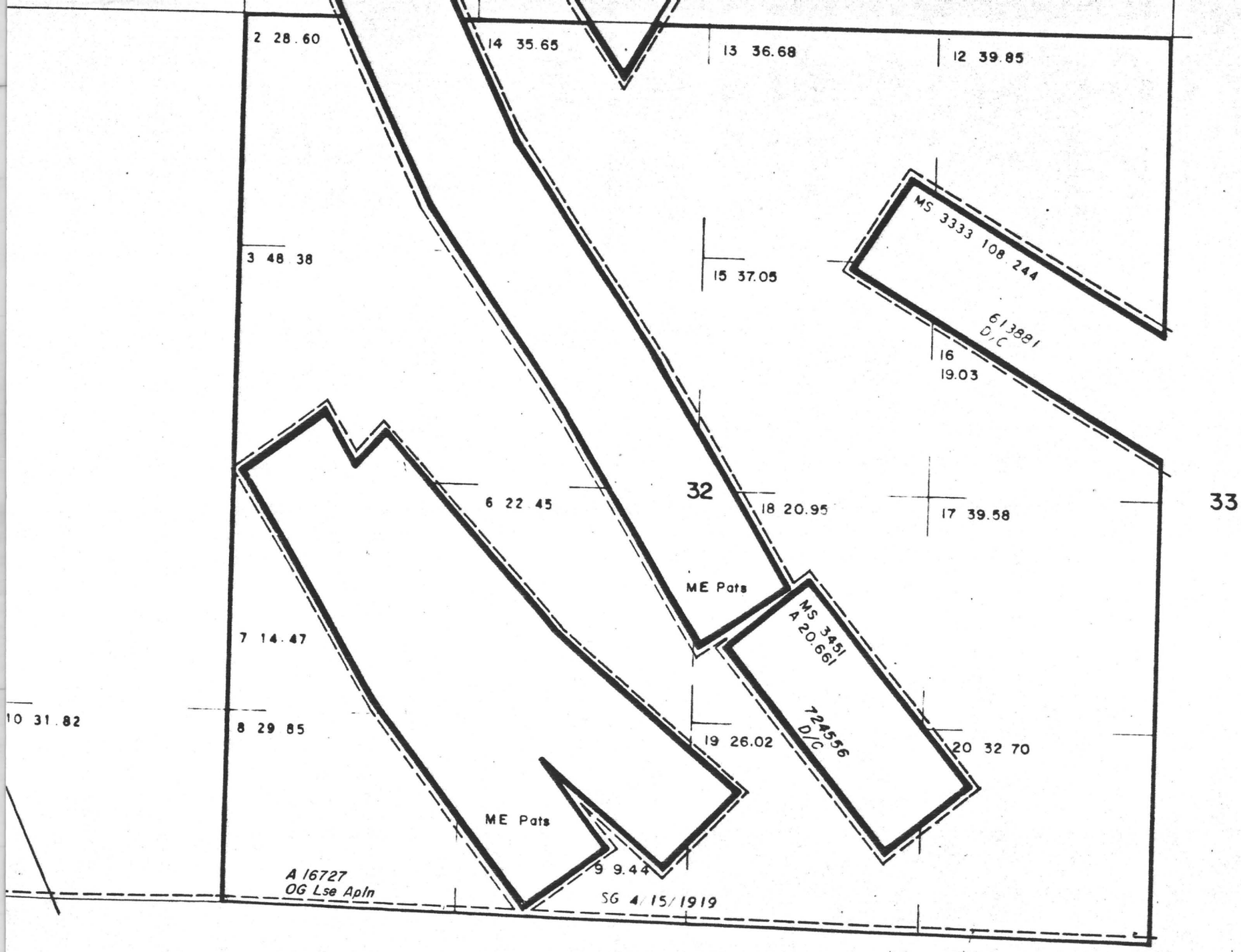
References to book and page for the unpatented claims of Parcels 2 and 3 are references to the County Recorder, Mohave County, Arizona.

PARCEL NO. 4

Twenty-two (22) unpatented mining claims all located in the Wallapai Mining District within Sections 30 & 31, T.23 N.,R.17 W., and Section 36, T.23 N.,R.18 W., which lies within the perimeter of the "Charles Goetz" Claims, more specifically shown in Exhibit B, and as follows:

Chico # 1	(partial)	693 242	A MC 127155 2/19/81
Chico # 2	(partial)	693 244	A MC 127156 "
Chico # 3	(partial)	693 245	A MC 127157 "
Chico # 4	(all)	693 246	A MC 127158 "
Chico # 5	(partial)	693 247	A MC 127159 "
Chico # 6	(partial)	693 248	A MC 127160 "
Chico # 7	(partial)	693 249	A MC 127161 "
Chico # 8	(partial)	693 250	A MC 127162 "
Chico # 9	(partial)	693 251	A MC 127163 "
Chico #10	(all)	693 252	A MC 127164 "
Chico #11	(partial)	693 253	A MC 127165 "
Chico #12	(all)	693 254	A MC 127166 "
Chico #13	(partial)	693 255	A MC 127167 "
Chico #14	(partial)	693 256	A MC 127168 "
Chico #15	(partial)	693 257	A MC 127169 "
Chico #16	(partial)	693 258	A MC 127170 "
Chico #17	(partial)	693 259	A MC 127171 "
Chico #18	(partial)	693 260	A MC 127172 "
Chico #19	(partial)	693 261	A MC 127173 "
Chico #20	(partial)	693 262	A MC 127174 "
Chico #21	(partial)	693 263	A MC 127175 "
Chico #22	(partial)	693 264	A MC 127176 "


660.23
63240
640
80
32.40
SECTIONAL
WEST
WEST
WEST
85.55
80.00
80.00
56
2
28.60
36.63
57
3
48.38
4
38.84
38.72
58
653.48
55
489.21
622.56
62
59
224.5
32.24
32.68
80
61
60
32.94
32.30
31.82
29.85
32.83
35.16
35.46
35.58
35.70
90.15
8.95
9.44
79.84
8.92
79.97
89° 9'W 41.51
39.97 N88°42W.39.90N.89°4'W.
82.52N.89°46'W



CURRENT TO	BY

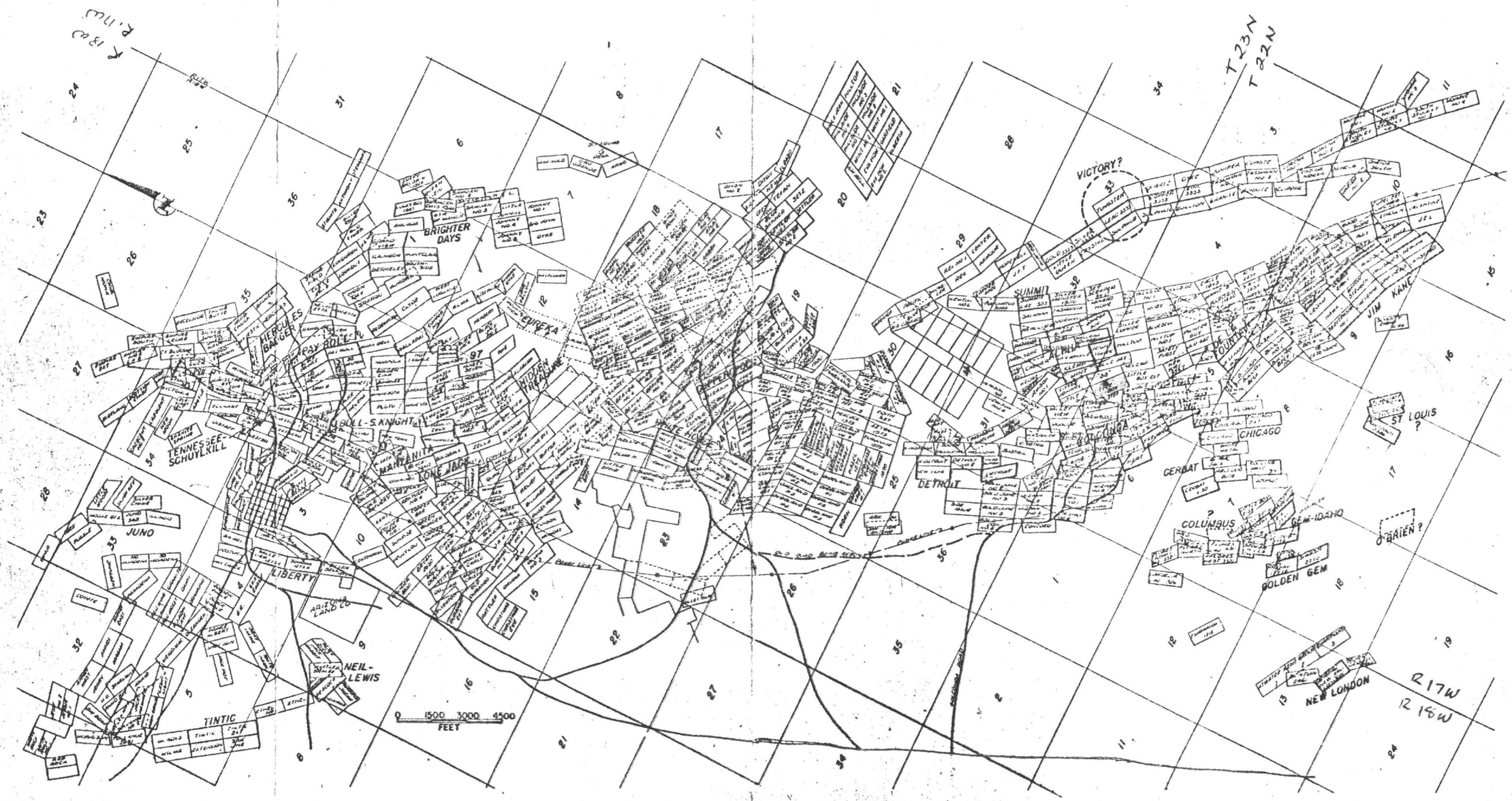
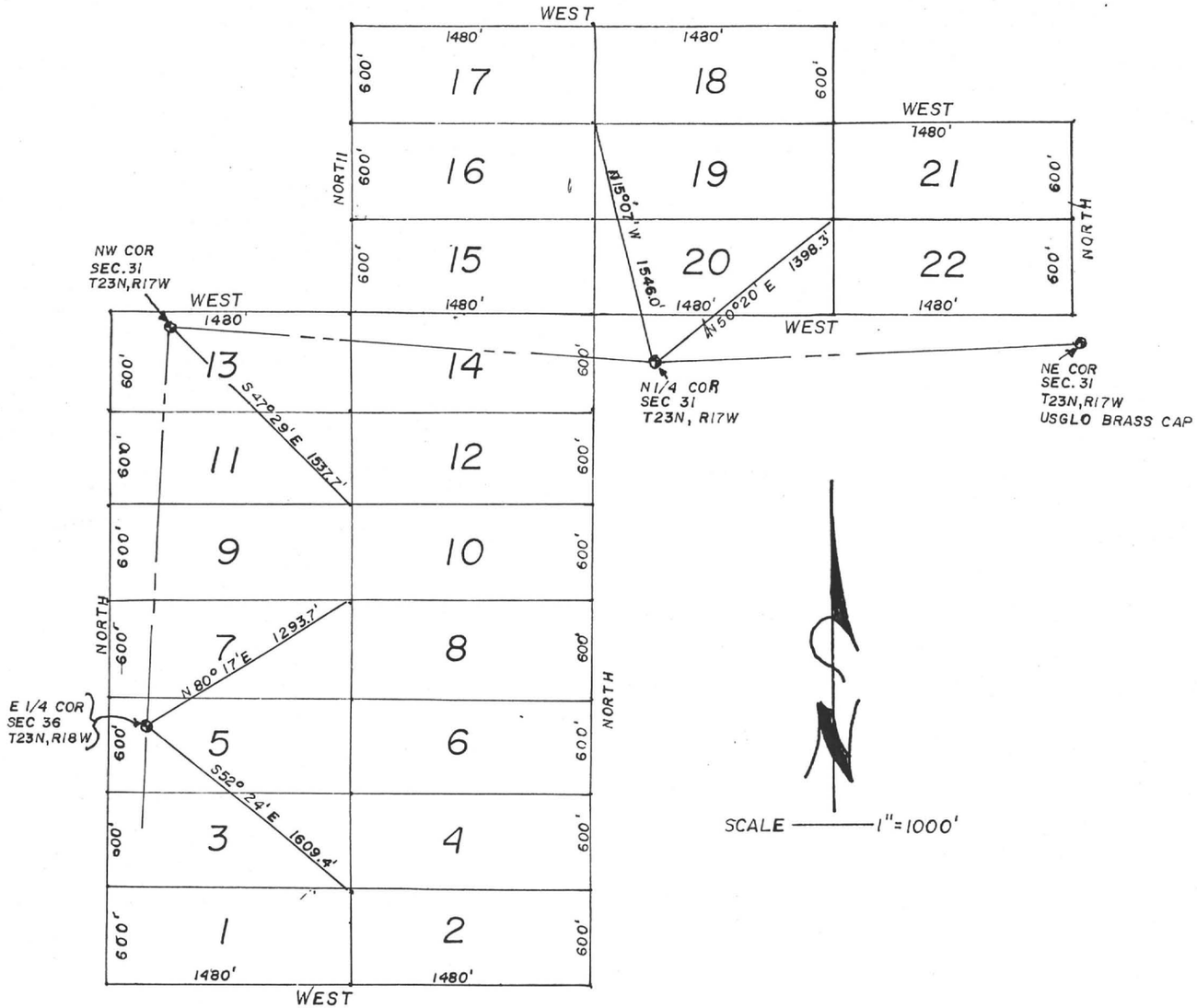


Figure 1. - Claim map of Wallapai mining district, Mohave County, Ariz.

CHICO CLAIMS 1-22 LOCATION - SECTIONS 30 & 31, T23N, R17W & SECTION 36, T23N, R18W
G.&S.R.B.M., WALAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA



MICROFILMED
PROOFED
INDEXED
INDEXED MINES
81-5958

Recorded at Request of Pacific Regal Operations Inc
FEB 20 1981 - 11 20 AM
in book 693 of Official Records, Pages 242-243
Records of Mohave County, Arizona
Joan McCall Recorder
By B Fuentes Deputy Recorder
3 pg

BOOK 693 PAGE 243

To Ely
PACIFIC STANDARD TIME
MOUNTAIN STANDARD TIME
To Salt Lake City
To Salt Lake City
LINCOLN
CLARK
MOHAVE
COCONINO
YAVAPAI
SAN BERNARDINO
WASHINGTON
NEVADA
UTAH
CALIFORNIA
Zion Nat'l Park
ZION NATIONAL PARK
Orderville
Mt. Carmel
Kanab
Fredonia
St. George
Santa Clara
Bloomington
Washington
Hurricane
Rockville
Springdale
Virgin
Verkin
Leeds
Shivwits
Colorado City
Cane Beds
Moccasin
Kaibab
Beaver Lodge
Littlefield
Mesquite
Bunkerville
Riverside
Moapa
Glendale
Logandale
Overton
Byron
Crystal
Dry Lake
Caliente
Rox
LAS VEGAS, NEV. 151 Miles SALT LAKE CITY, UTAH
North Las Vegas
Las Vegas
East Las Vegas
Henderson
Boulder City
Lake Mead
LAKE MEAD NATIONAL RECREATION AREA
Pierce Ferry
Temple Bar
HOOVER DAM
GRAND CANYON NATIONAL MONUMENT
GRAND CANYON
North Rim
Grand Canyon
Jacob Lake
KAIBAB NATIONAL
Tuweep
Mount Trumbull
Supai
Hualpai Hilltop
Topocoba Hilltop
Nelson
Searchlight
Willow Beach
White Hills
Chloride
Mineral Park
Claim Area
Hackberry
Valentine
Truxton
Peach Springs
Crozier
Nelson
Yampai
Pica
HUALPAI INDIAN RESERVATION
Seligman
Ash Fork
Williams
Valle
Kingman
McConnico
Hilltop
Davis Dam
Bullhead City
Colorado Riviera
Goldroad
Oatman
Searchlight Jct.
Goffs
Needles
Topock
FLAGSTAFF 329 Miles LOS ANGELES CALIF
Yucca
Wikieup
Signal
Bagdad
Fort Rock
Paulden
Prescott
Chino Valley
Clarkdale
Jerome
Skull Valley
Kirkland
Wilhoit
Yarnell
Peeples Valley
Congress
Stanton
Octave
Date Creek
Camp Wood
Simmons
Walnut Creek
Lake Havasu
Parker Dam
Parker
Earp
Cross Roads
Vidal Junction
Vidal
Rice
Swansea
Planet Ranch
Cordes
Bumble Bee
Crown King
Humboldt
Dewey
Mayer
Cleator
PHOENIX 208 Miles FLAGSTAFF
Whipple
Poland Jct.
Constellation
Wagoner

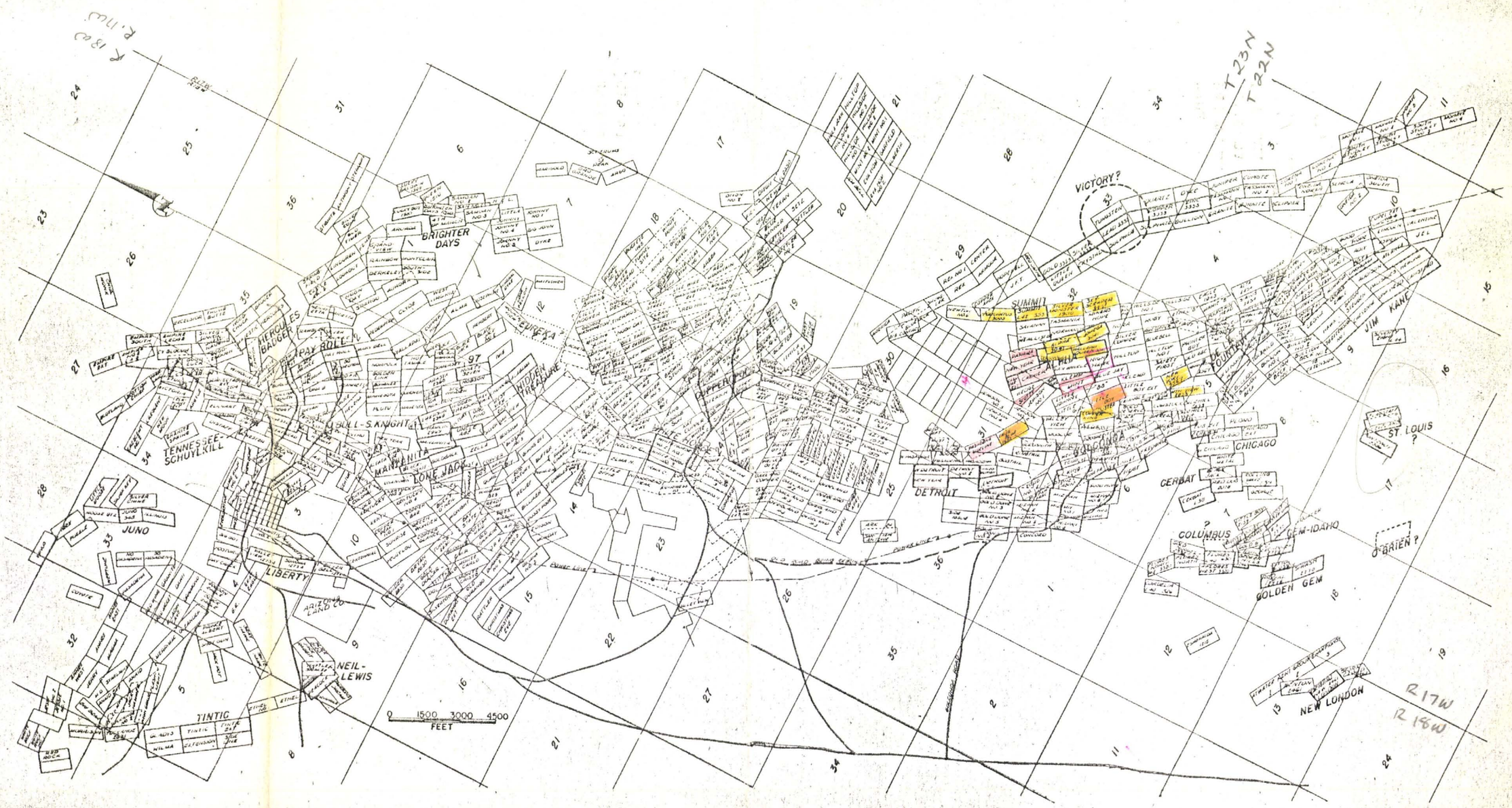
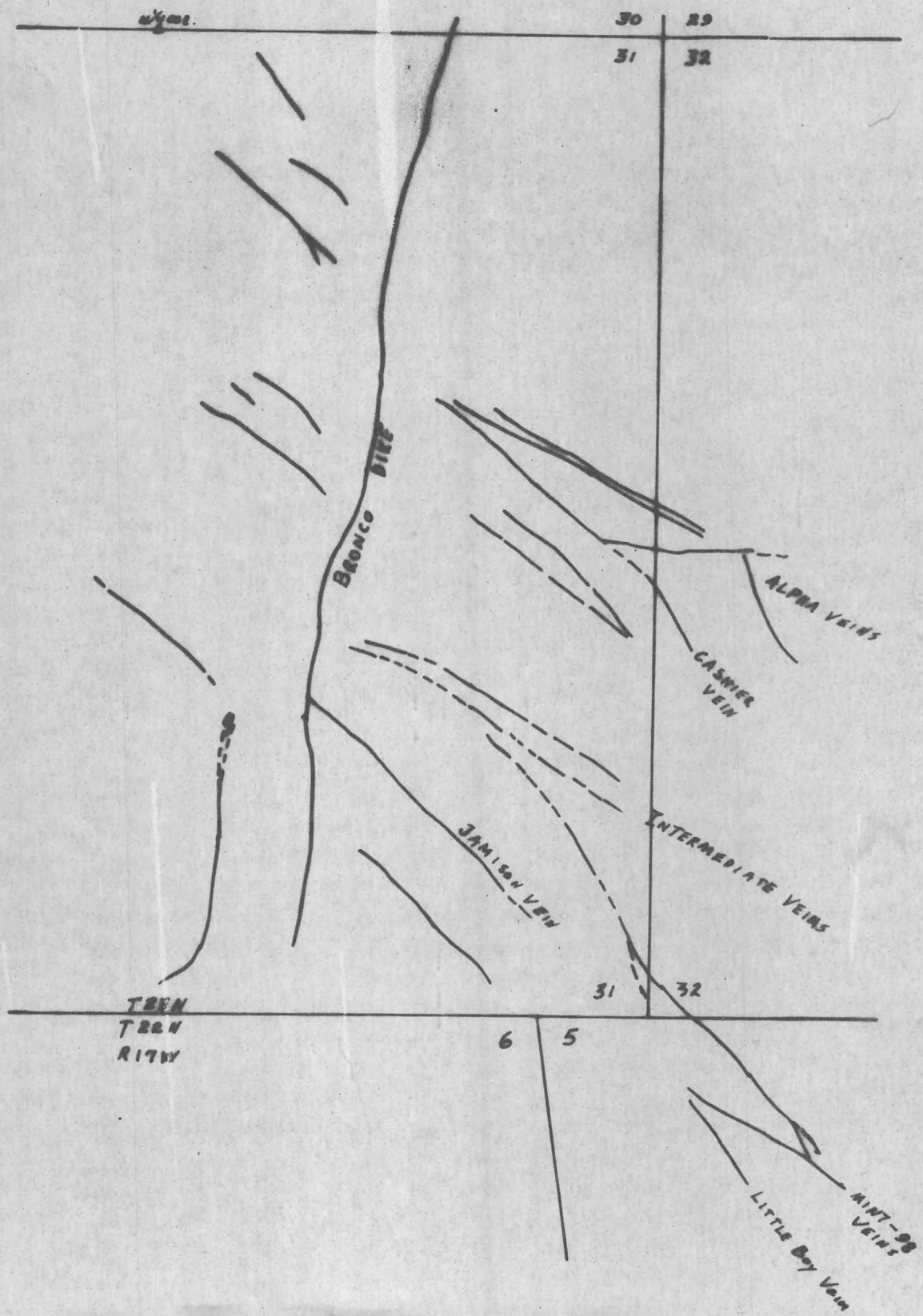
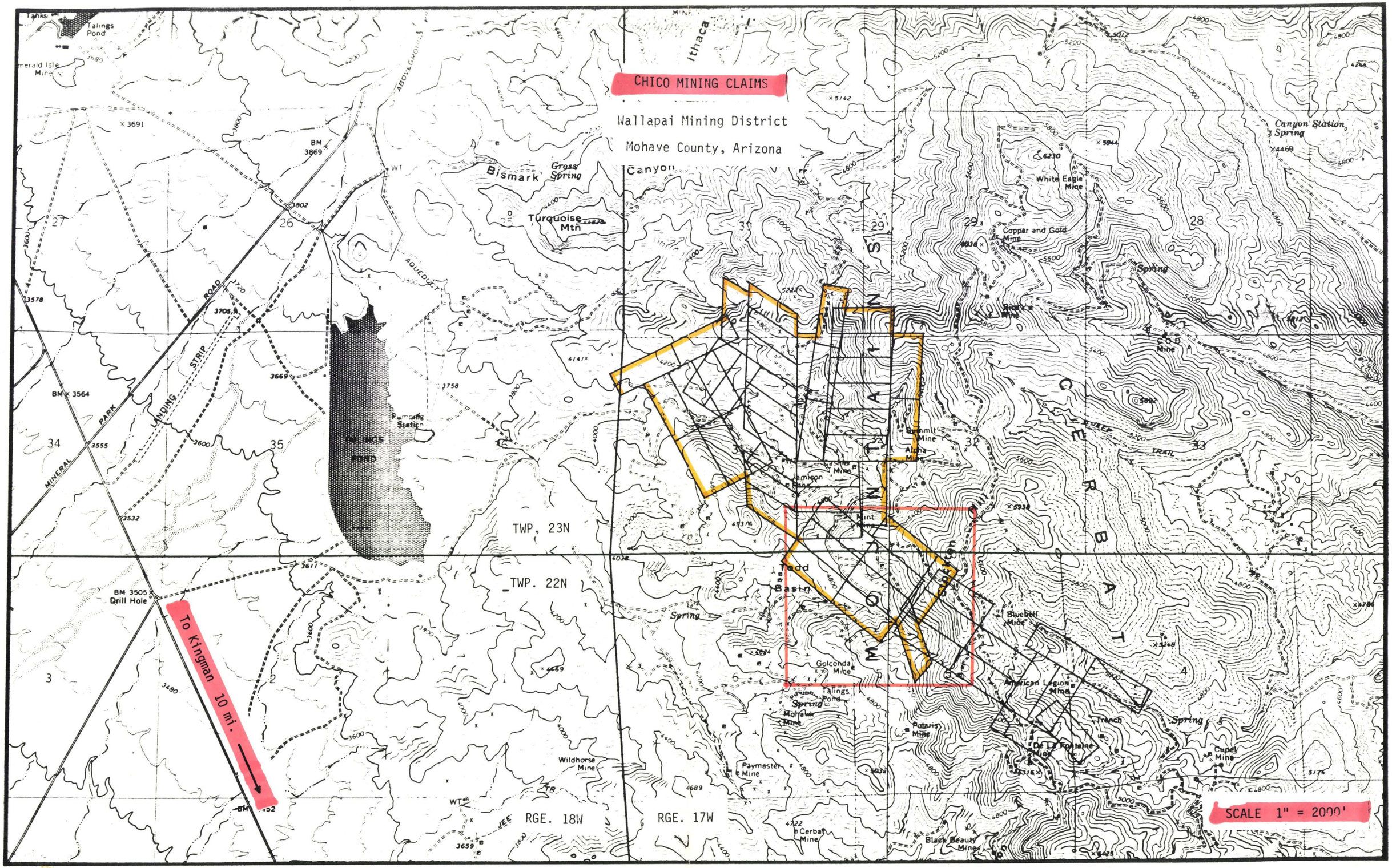


Figure 1. - Claim map of Wallapai mining district, Mohave County, Ariz.

Partial Vein Map
(Incomplete)



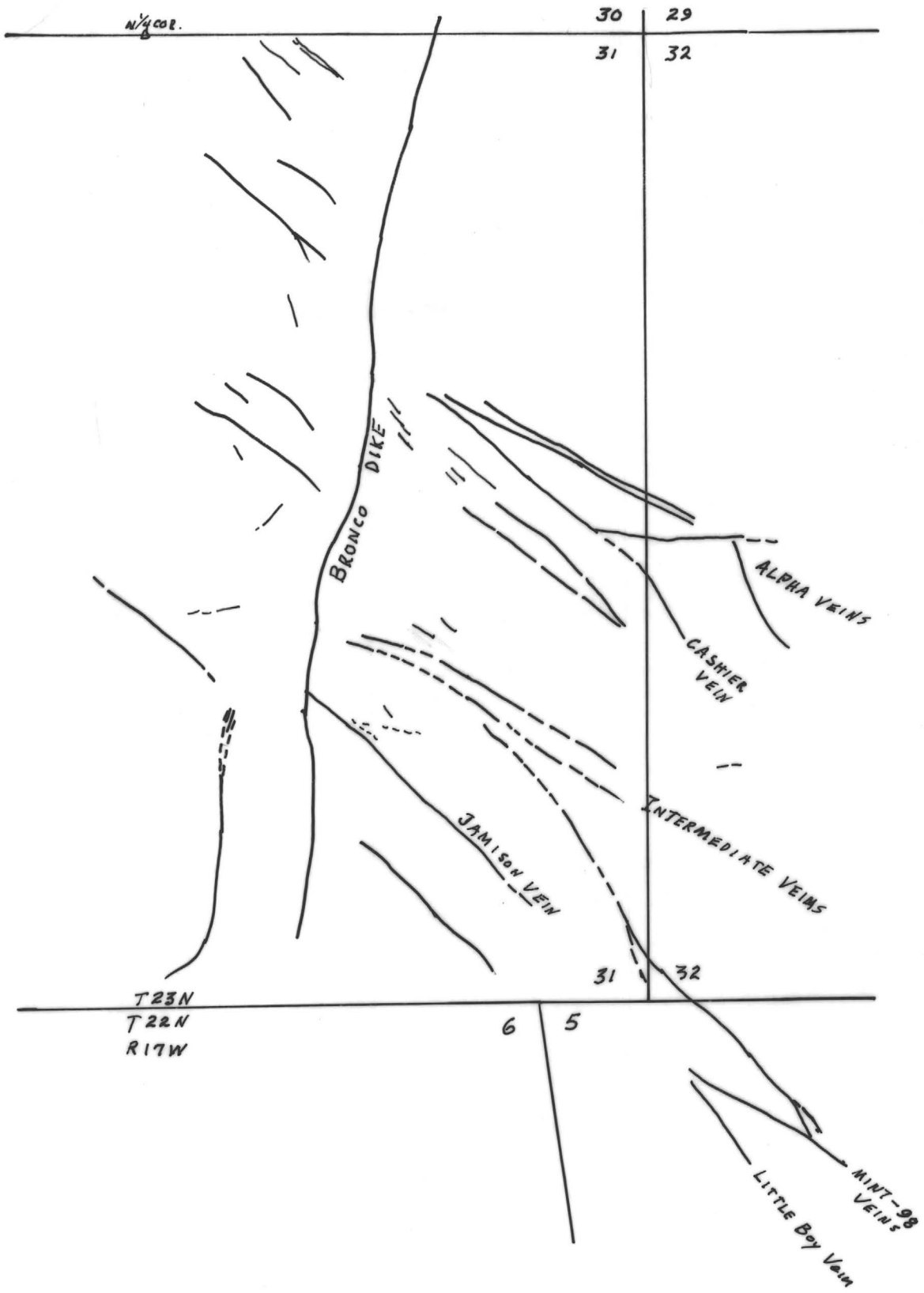

CHICO MINING CLAIMS
Wallapai Mining District
Mohave County, Arizona
Tailings Pond
Emerald Isle Mine
Ithaca
Bismark
Gross Spring
Canyon
Turquoise Mtn
Canyon Station Spring
White Eagle Mine
Copper and Gold Mine
Spring
C.O.D. Mine
Summit Mine
Alpha Mine
Jamison Mine
Paint Mine
Todd Basin
Golconda Mine
Tailings Pond
Spring
Mohawk Mine
Paymaster Mine
Wildhorse Mine
Cerbat Mine
Polaris Mine
Bluebell Mine
American Legion Mine
Trench
De La Fontaine Mine
Cupel Mine
Black Beauty Mines
Spring
BM 3869
BM 3564
BM 3505 Drill Hole
PARK
MINERAL
LANDING STRIP
ROAD
AQUEDUCT
ABOVE GROUND
PUMPING Station
PUMPING POND
TWP. 23N
TWP. 22N
RGE. 18W
RGE. 17W
To Kingman 10 mi.
SCALE 1" = 2000'

[redacted]

INDEX MAP

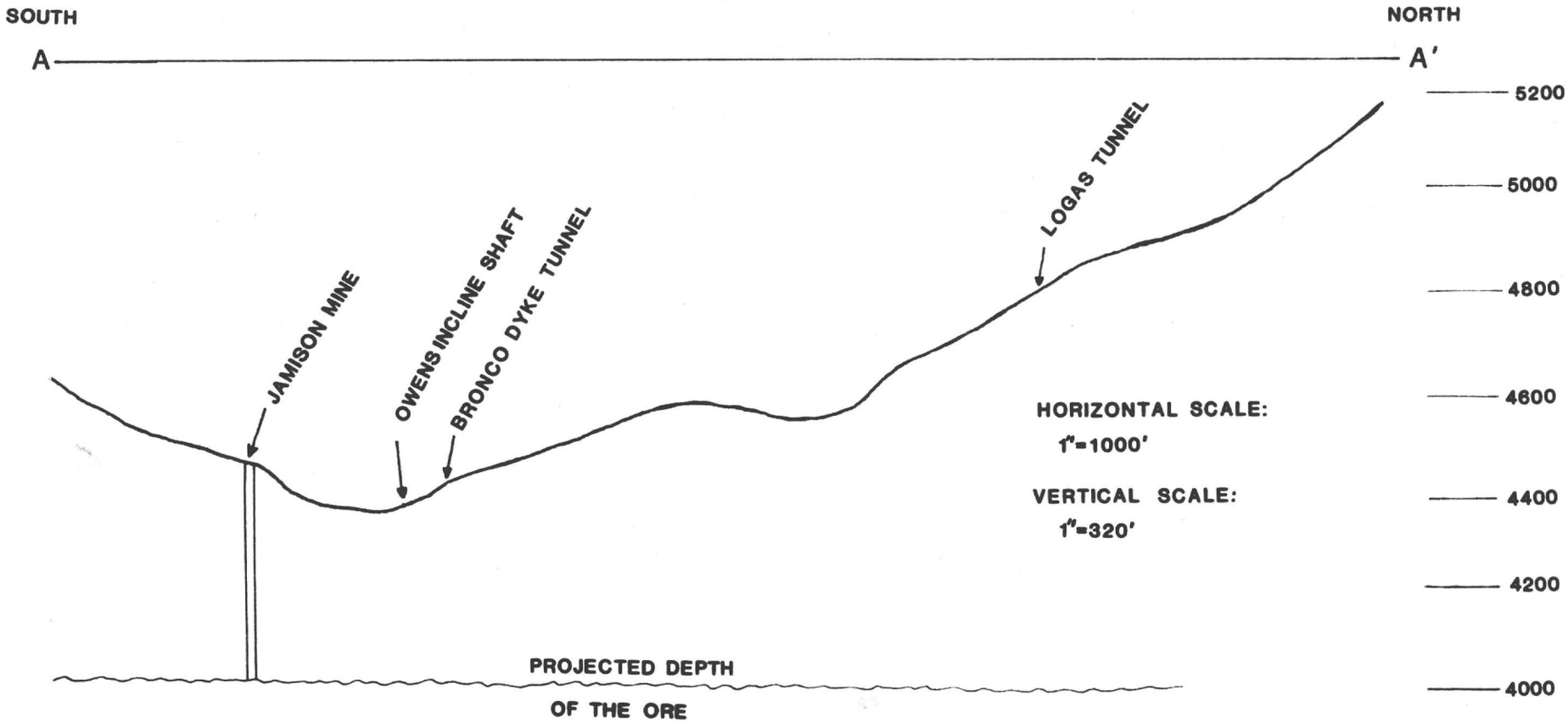
[redacted]

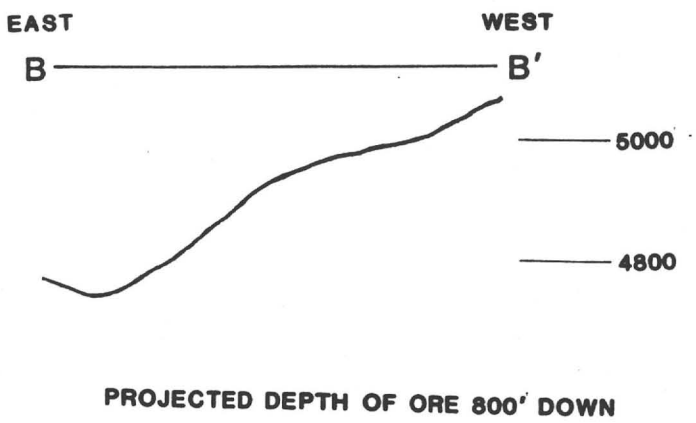
[redacted]



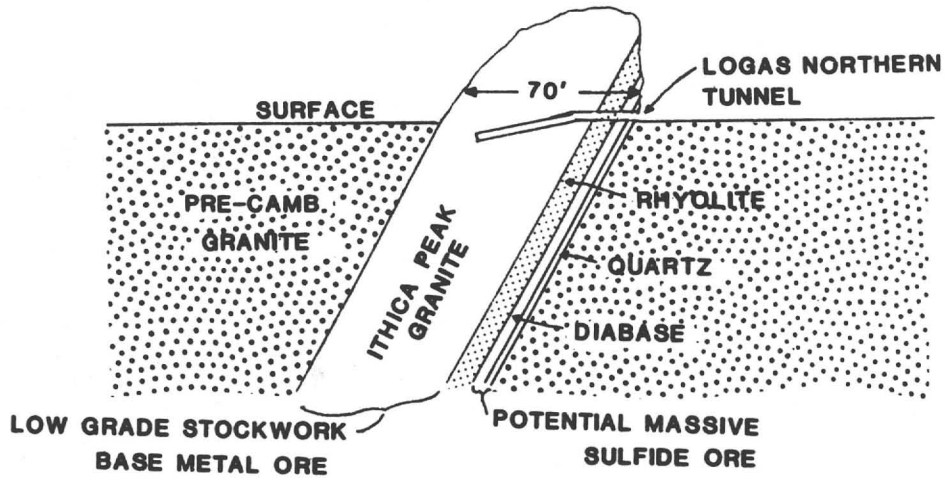
Vandervoll/
Shigley - Western Civil Engrs

CROSS SECTIONS: BRONCO DYKE





CROSS SECTION OF BRONCO DYKE AT LOGAS TUNNEL



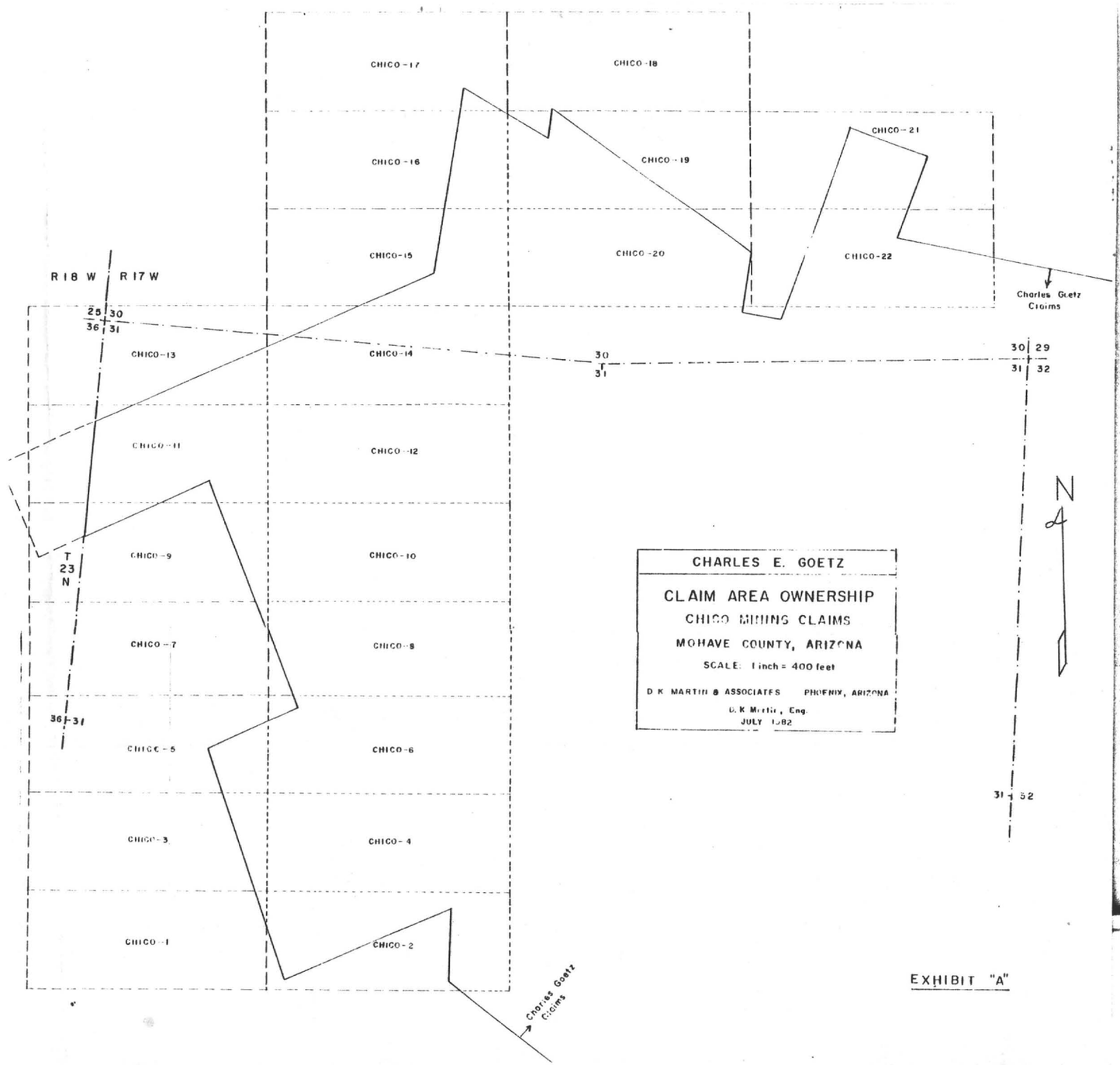
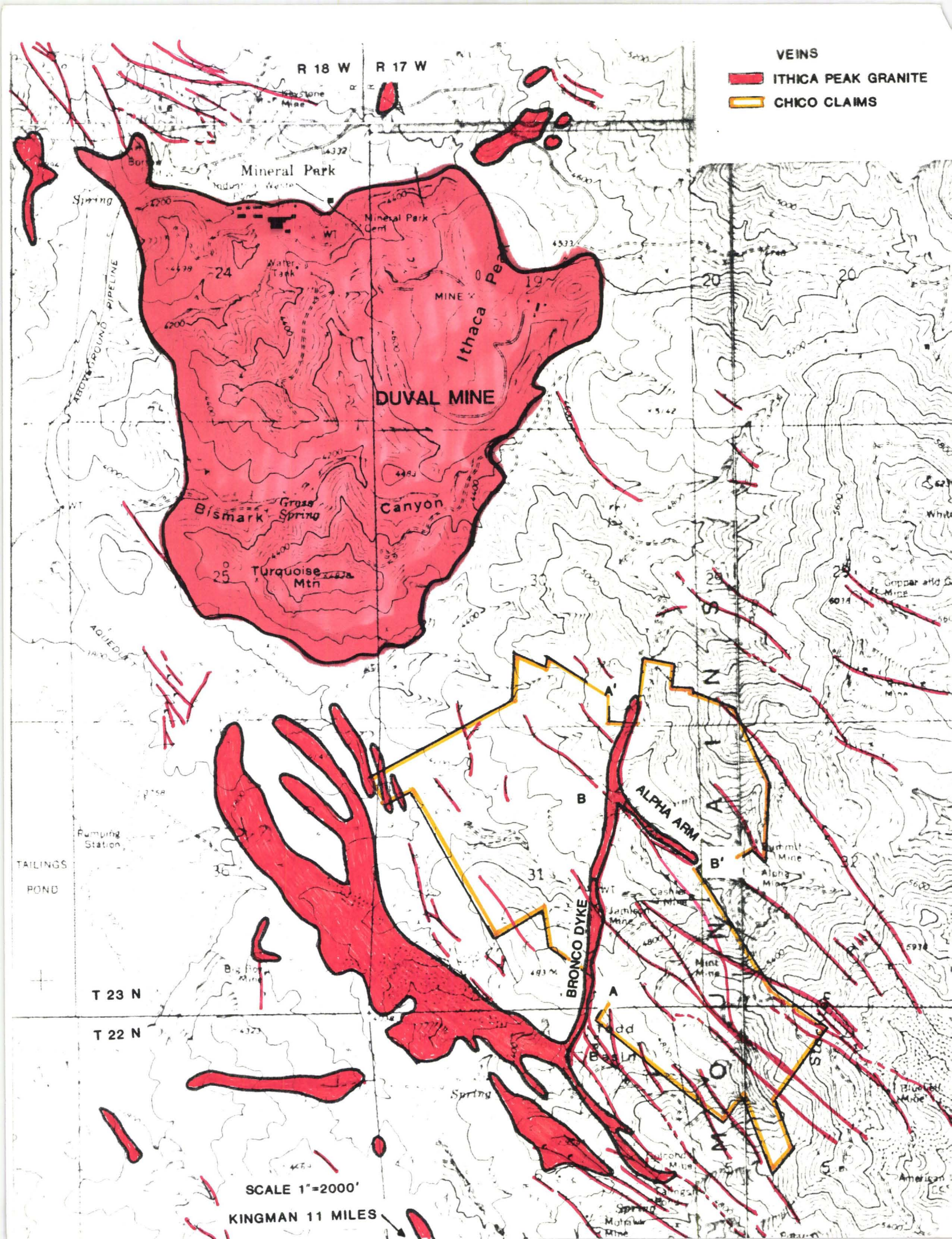
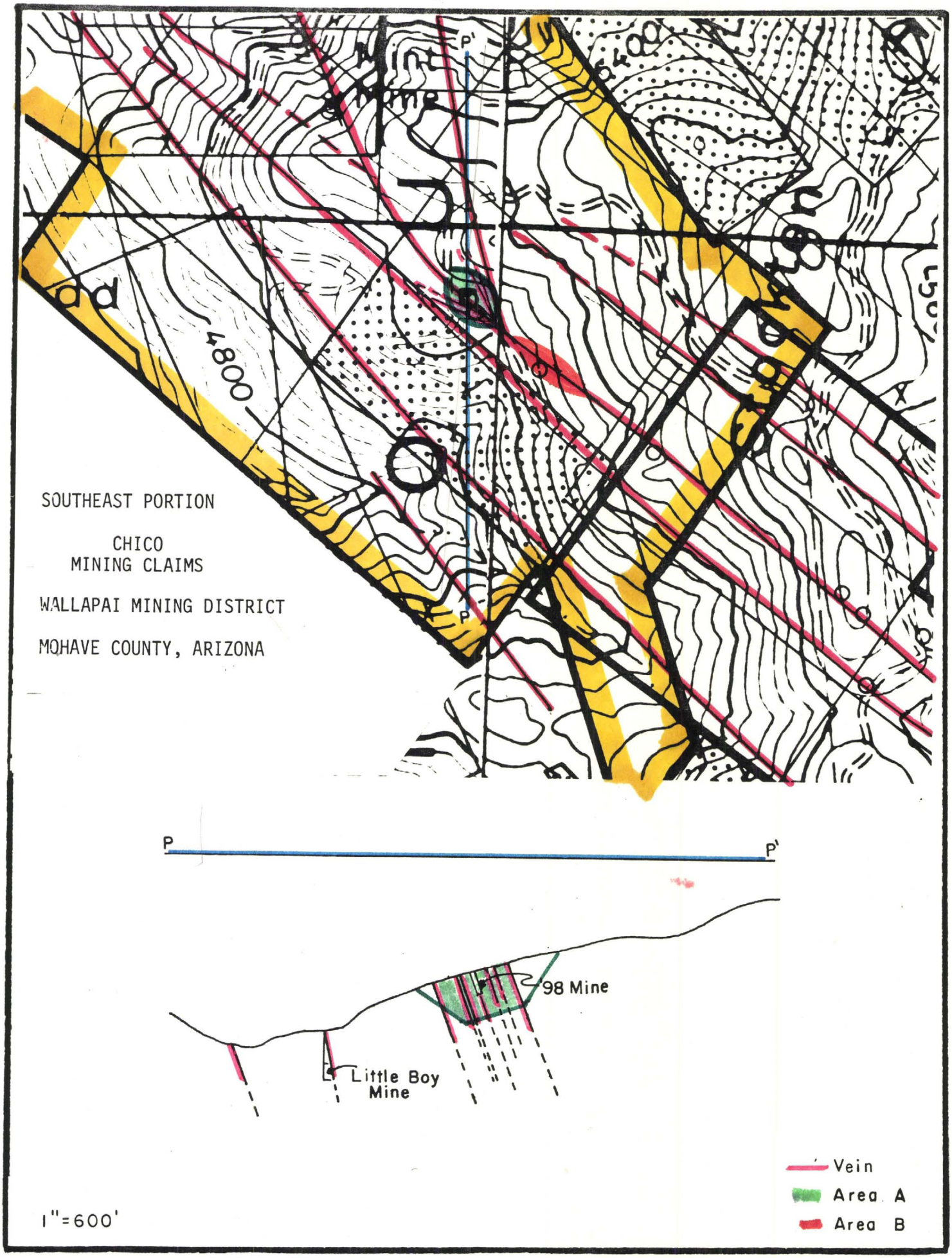
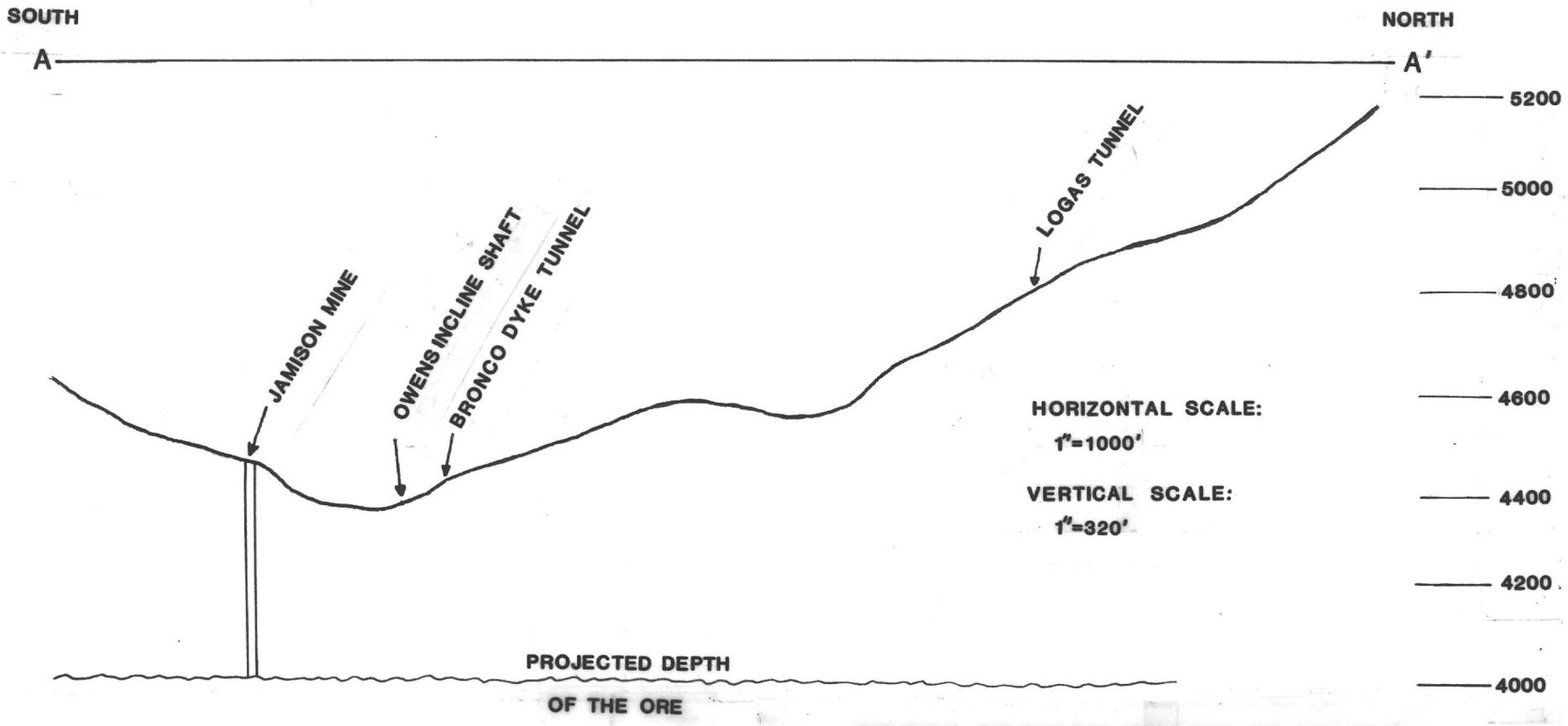

CHICO-17
CHICO-18
CHICO-16
CHICO-19
CHICO-21
CHICO-15
CHICO-20
CHICO-22
Charles Goetz Claims
R 18 W
R 17 W
25 30
36 31
CHICO-13
CHICO-14
30
31
30 29
31 32
CHICO-11
CHICO-12
T 23 N
CHICO-9
CHICO-10
CHICO-7
CHICO-8
36 31
CHICO-5
CHICO-6
31 32
CHICO-3
CHICO-4
CHICO-1
CHICO-2
Charles Goetz Claims
N
CHARLES E. GOETZ
CLAIM AREA OWNERSHIP
CHICO MINING CLAIMS
MOHAVE COUNTY, ARIZONA
SCALE: 1 inch = 400 feet
D K MARTIN & ASSOCIATES PHOENIX, ARIZONA
D. K. Martin, Eng.
JULY 1982

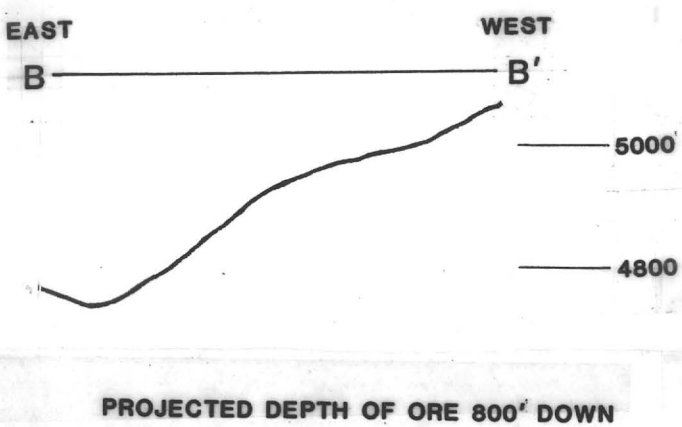
EXHIBIT "A"


VEINS
ITHICA PEAK GRANITE
CHICO CLAIMS
R 18 W
R 17 W
Mineral Park
Mineral Park Cem
Water Tank
MINE
Ithaca Peak
DUVAL MINE
Bismark
Gross Spring
Canyon
Turquoise Mtn
ABOVE GROUND PIPELINE
AQUEDUCT
Pumping Station
TAILINGS POND
ALPHA ARM
BRONCO DYKE
A
A'
B
B'
Cashier Mine
Jamieson Mine
Mint Mine
Alpha Mine
Summit Mine
Copper and Gold Mine
Big Boy Mine
Todd Basin
Spring
Falconer Mine
Mohawk Mine
Bluebell Mine
American
T 23 N
T 22 N
SCALE 1"=2000'
KINGMAN 11 MILES

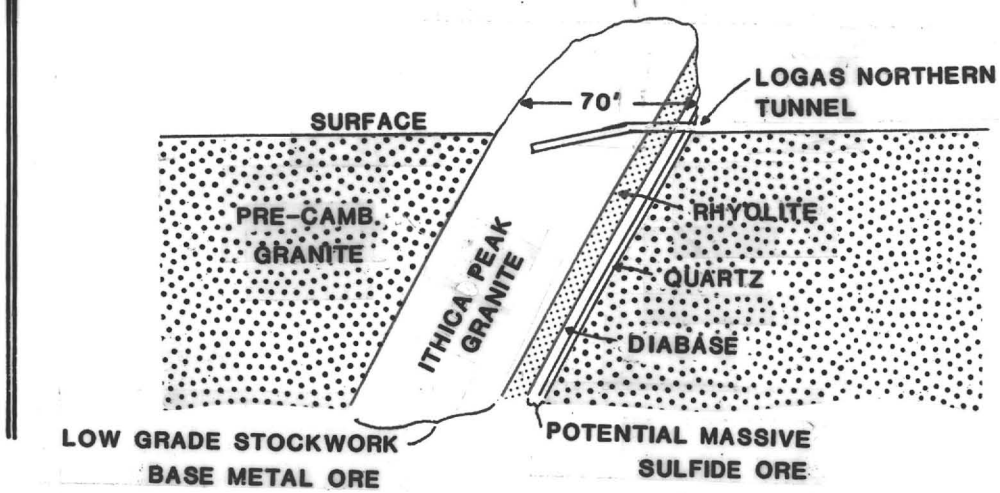

SOUTHEAST PORTION
CHICO
MINING CLAIMS
WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA
4800
P
P'
98 Mine
Little Boy
Mine
Vein
Area A
Area B
1"=600'

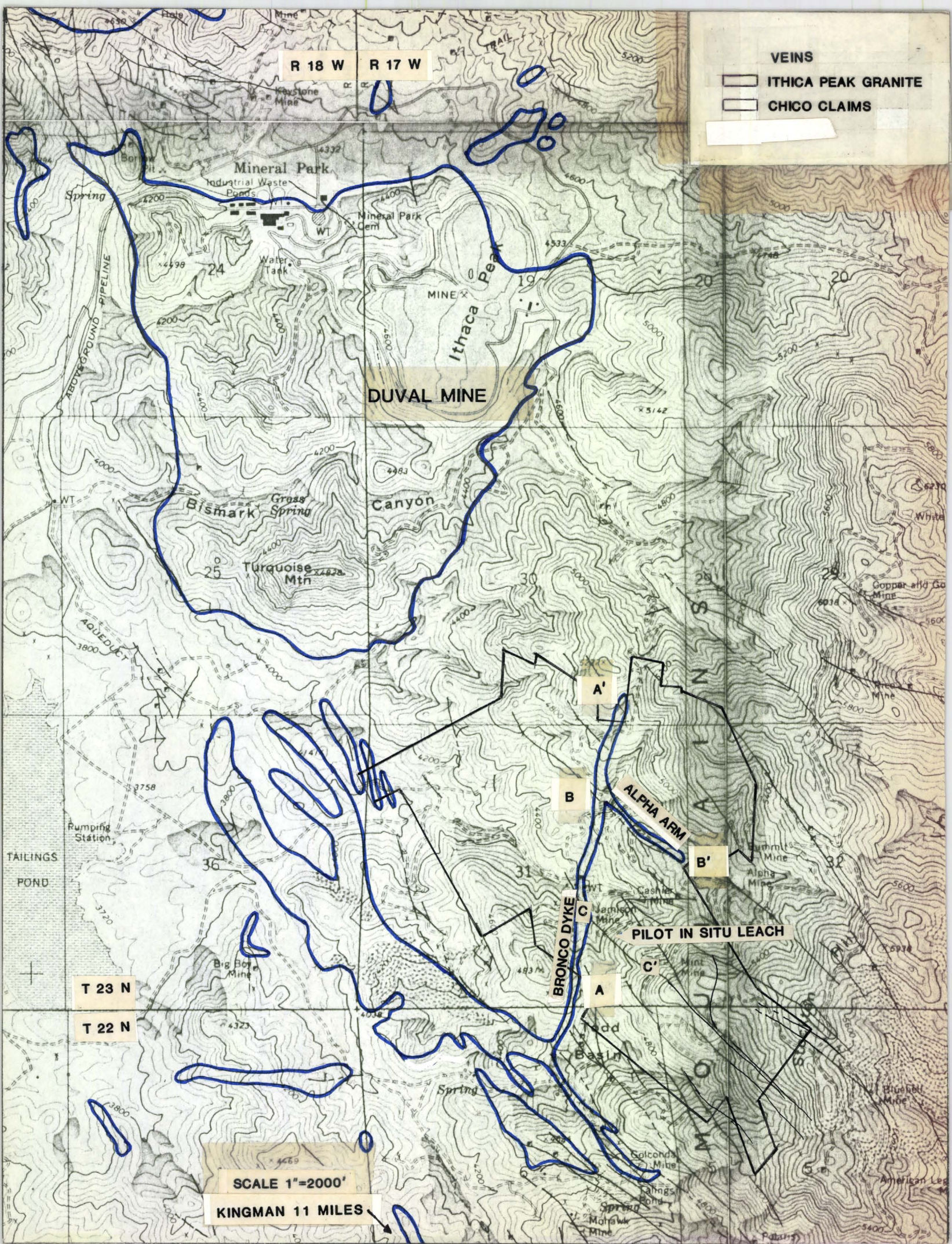
CROSS SECTIONS: BRONCO DYKE

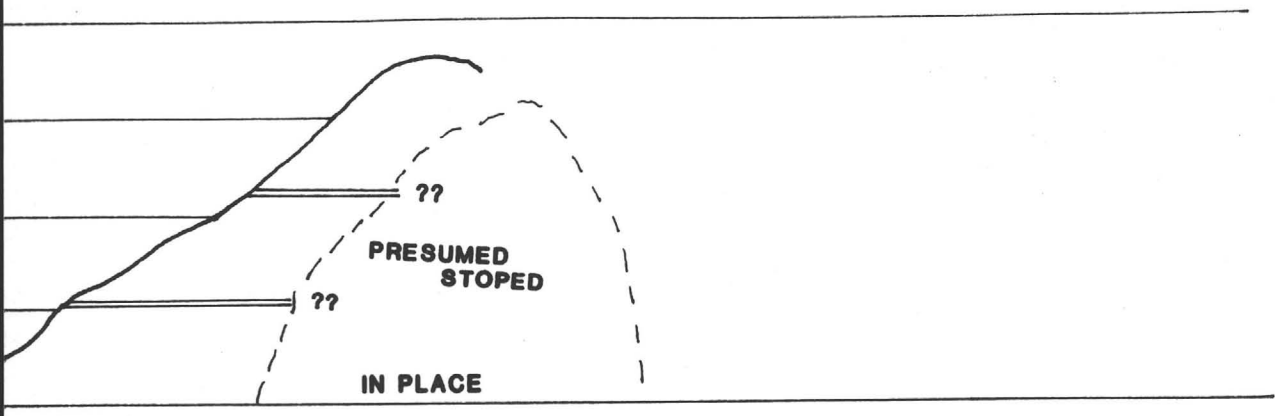




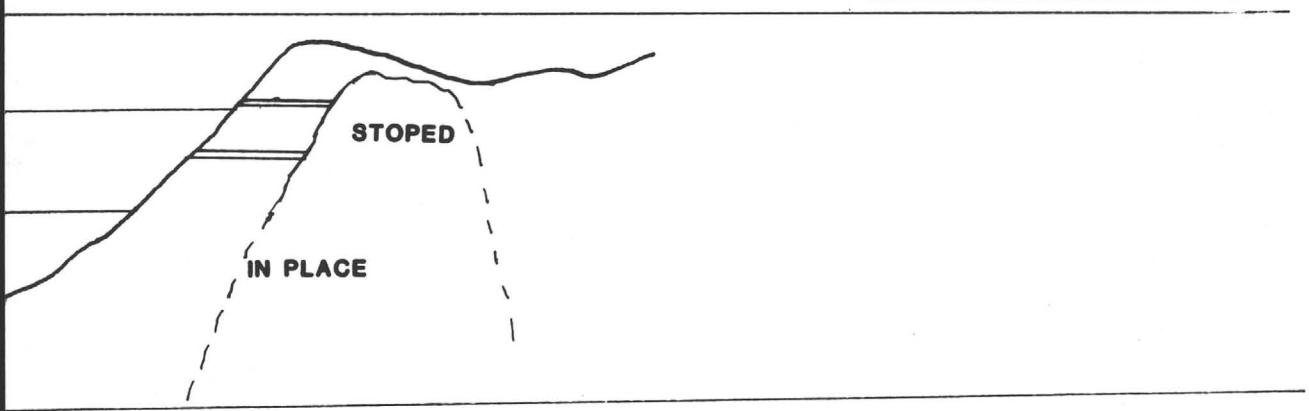
CROSS SECTION OF BRONCO DYKE AT LOGAS TUNNEL




VEINS
ITHICA PEAK GRANITE
CHICO CLAIMS
R 18 W
R 17 W
Mineral Park
Industrial Waste Ponds
Mineral Park Cem
Water Tank
Spring
ABOVE GROUND PIPELINE
Ithaca Peak
MINE
DUVAL MINE
Bismark Canyon
Gross Spring
Turquoise Mtn
AQUEDUCT
Pumping Station
TAILINGS POND
Big Boy Mine
A'
B
ALPHA ARM
B'
BRONCO DYKE
C
A
C'
PILOT IN SITU LEACH
Todd Basin
Spring
T 23 N
T 22 N
SCALE 1"=2000'
KINGMAN 11 MILES

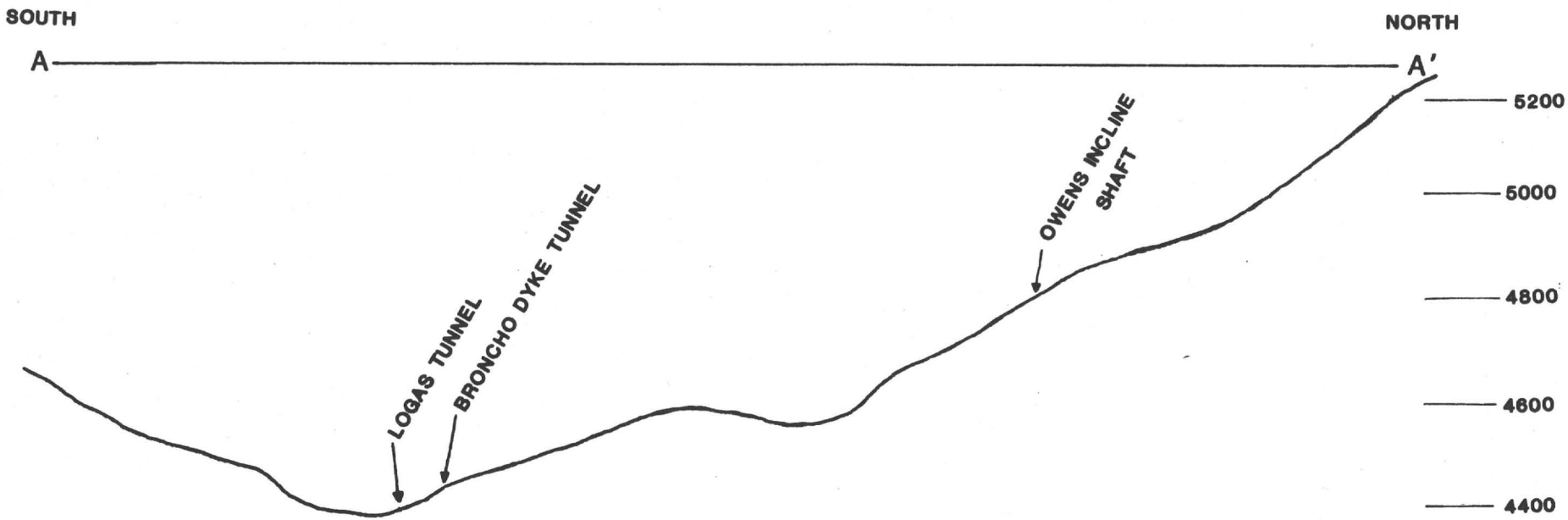


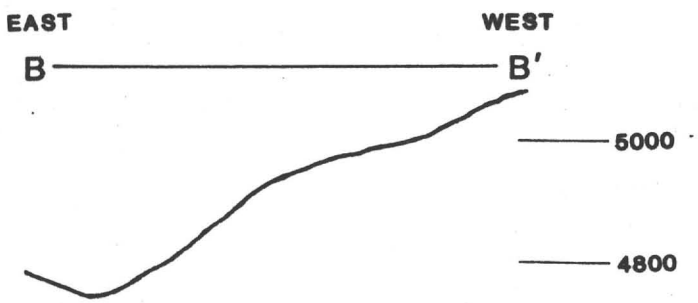
HTHAWK OREPOD



MINT OREPOD

CROSS SECTIONS: BRONCHO DYKE



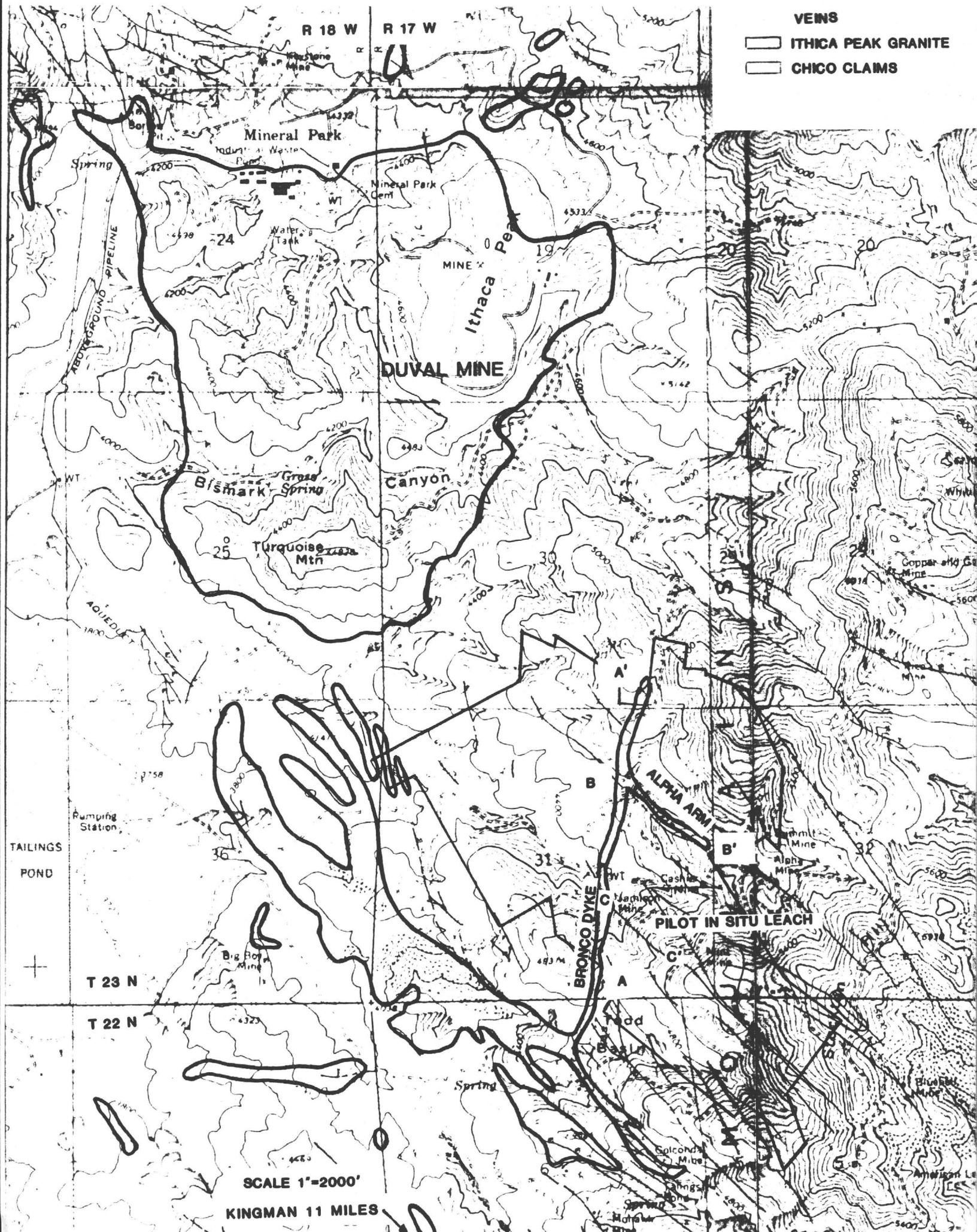


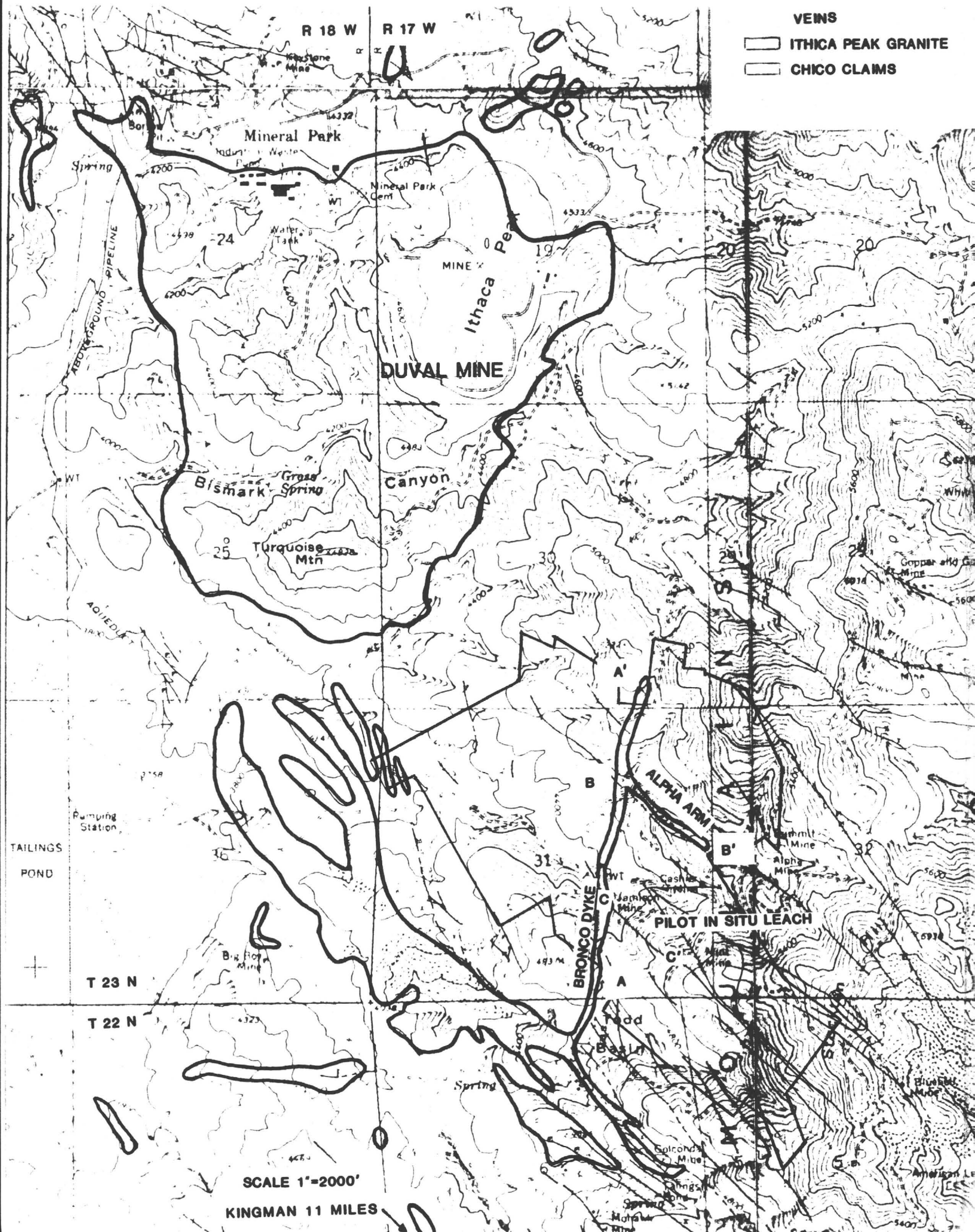
HORIZONTAL SCALE

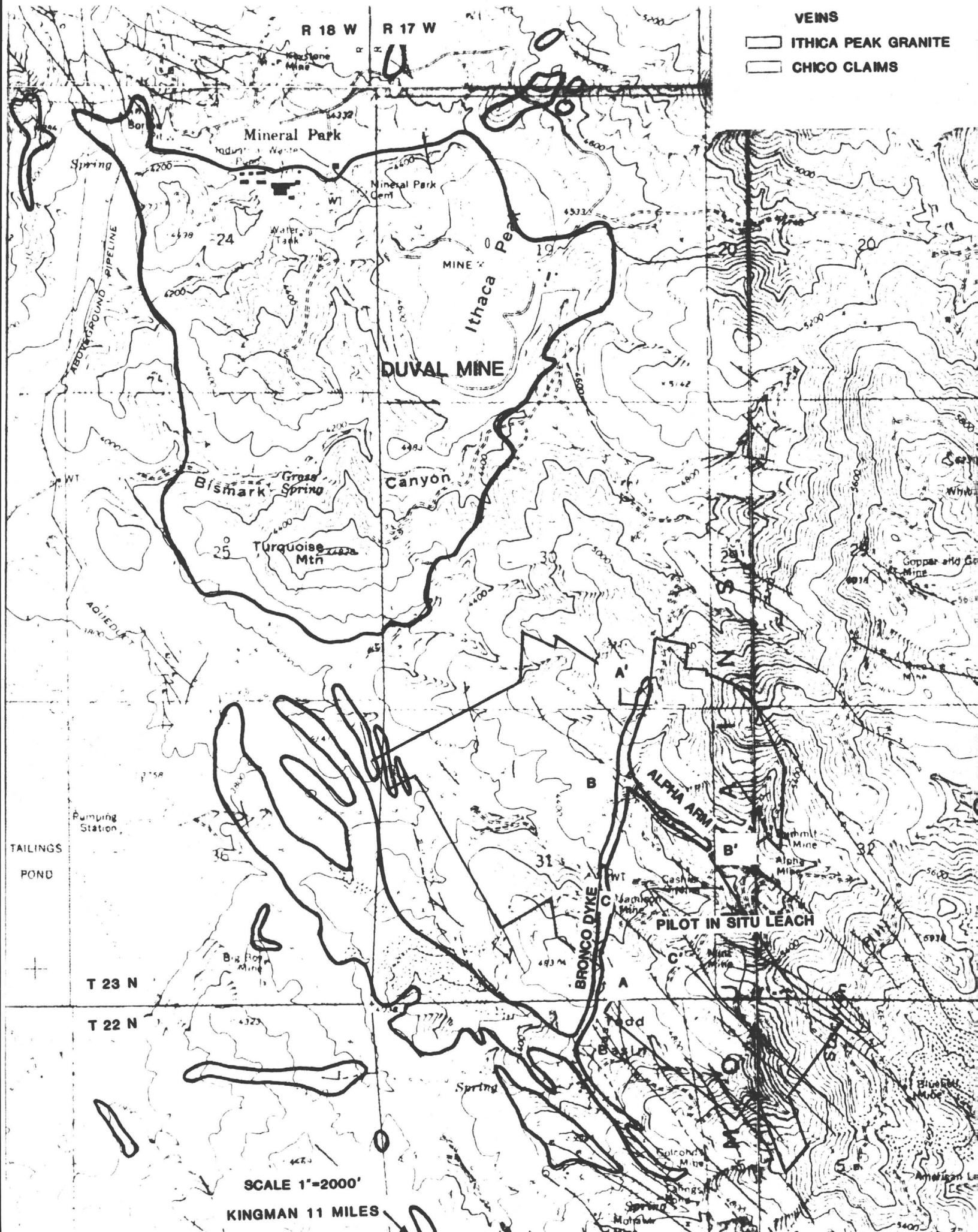
1"=1000'

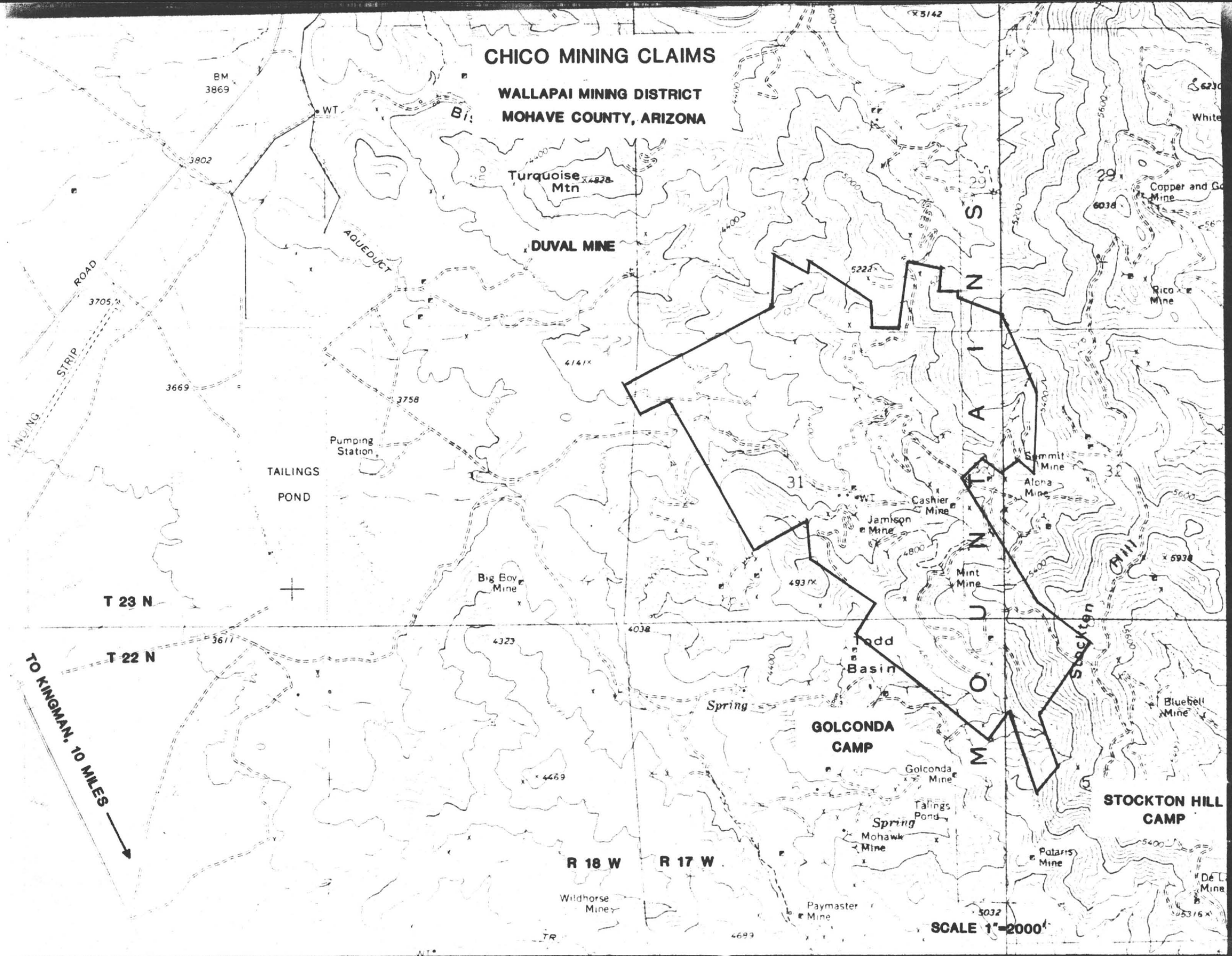
VERTICAL SCALE

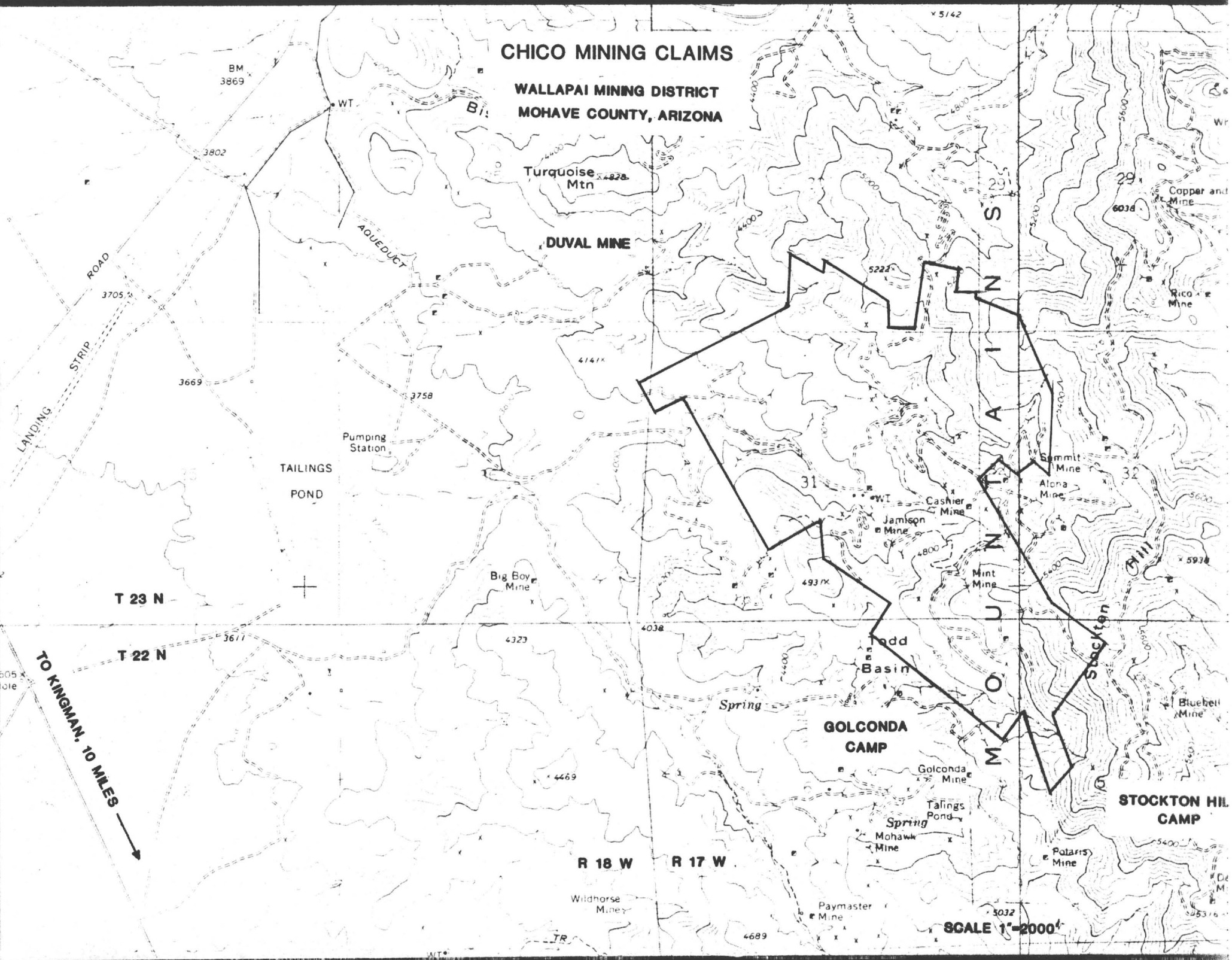
1"=320'

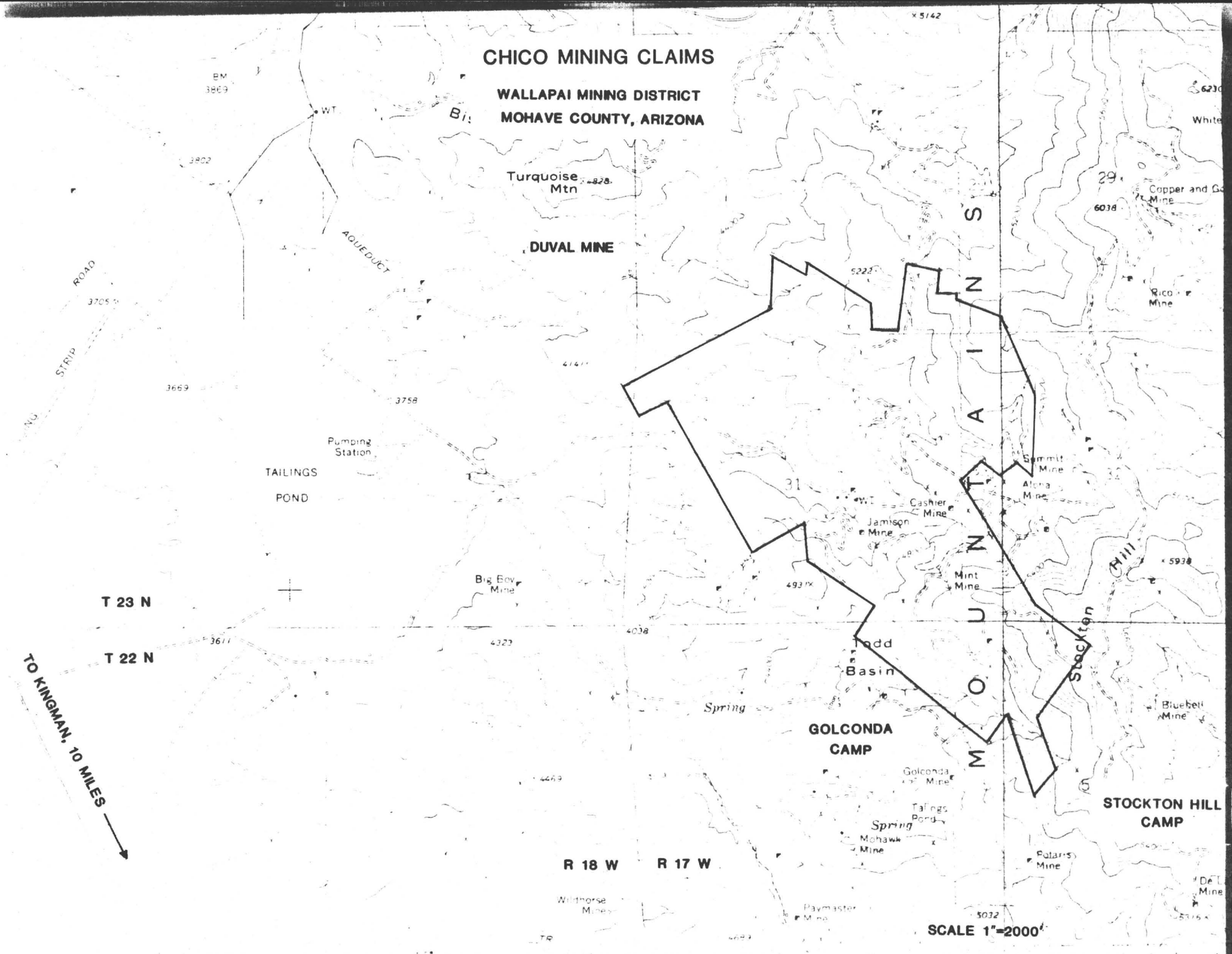

VEINS
ITHICA PEAK GRANITE
CHICO CLAIMS
R 18 W
R 17 W
Mineral Park
Mineral Park Cem
Water Tank
MINE
Ithaca Peak
DUVAL MINE
ABOVEGROUND PIPELINE
Bismark Spring
Grass Spring
Canyon
Turquoise Mtn
AQUEDUCT
Pumping Station
TAILINGS POND
Big Boy Mine
T 23 N
T 22 N
Spring
A'
B
B'
A
C
C'
ALPHA ARM
BRONCO DYKE
PILOT IN SITU LEACH
Alpha Mine
Hamilton Mine
Todd Basin
Golconda Mine
Copper King Mine
SCALE 1"=2000'
KINGMAN 11 MILES

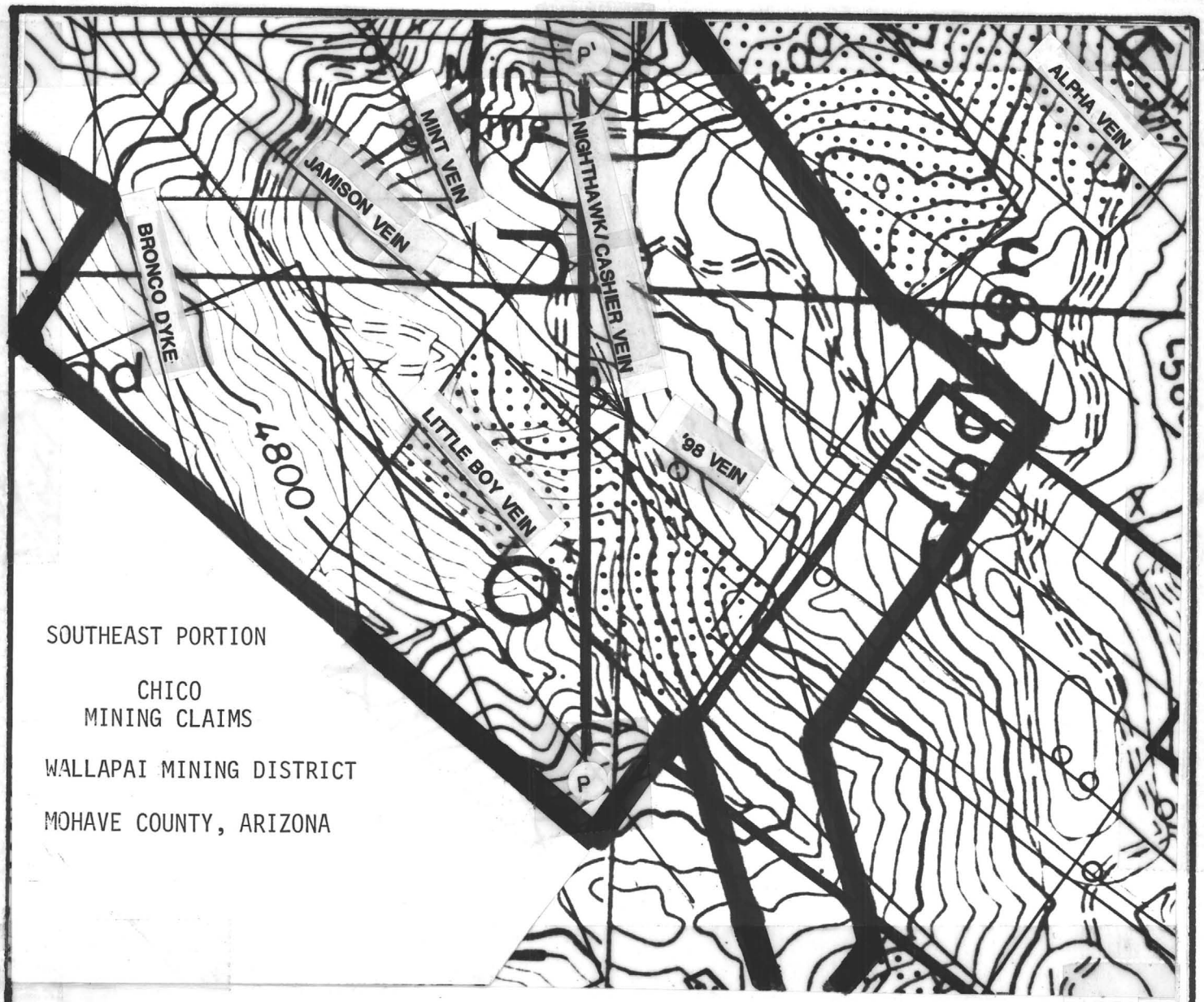

VEINS
ITHICA PEAK GRANITE
CHICO CLAIMS
R 18 W
R 17 W
Mineral Park
Mineral Park Cem
Water Tank
MINE
Ithaca Peak
DUVAL MINE
Canyon
Bismark Spring
Turquoise Mtn
ABOVEGROUND PIPELINE
AQUEDUCT
Pumping Station
TAILINGS POND
A'
B
B'
A
C
C'
ALPHA ARM
Alpha Mine
PILOT IN SITU LEACH
BRONCO DYKE
Hamilton Mine
Big Hot Mine
T 23 N
T 22 N
Todd Basin
Golconda Mine
Tailings Pond
SCALE 1"=2000'
KINGMAN 11 MILES


VEINS
ITHICA PEAK GRANITE
CHICO CLAIMS
R 18 W
R 17 W
Mineral Park
Mineral Park Cem
Water Tank
MINE
Ithaca Peak
DUVAL MINE
Bismark Spring
Gross Canyon
Turquoise Mtn
ABOVEGROUND PIPELINE
AQUEDUCT
Pumping Station
TAILINGS POND
ALPHA ARM
BRONCO DYKE
PILOT IN SITU LEACH
Alpha Mine
Cashier Mine
Big Boy Mine
Todd Basin
Spring
T 23 N
T 22 N
A
A'
B
B'
C
C'
SCALE 1"=2000'
KINGMAN 11 MILES


CHICO MINING CLAIMS
WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA
BM 3869
WT
3802
Turquoise Mtn
DUVAL MINE
AQUEDUCT
ROAD
STRIP
3705
3669
3758
4141
Pumping Station
TAILINGS POND
T 23 N
T 22 N
TO KINGMAN, 10 MILES
Big Boy Mine
4323
4038
3611
4469
4699
Wildhorse Mine
TR
R 18 W
R 17 W
Todd Basin
Spring
GOLCONDA CAMP
Golconda Mine
Tailings Pond
Mohawk Mine
Paymaster Mine
5032
SCALE 1"=2000'
Jamison Mine
Cashier Mine
Mint Mine
Summit Mine
Alpha Mine
Stockton Hill
STOCKTON HILL CAMP
Bluebell Mine
Polaris Mine
Rico Mine
Copper and Go Mine
White
5142
5223
4800
4931
5600
5200
6038
6230
6938
5316
29
31
32
5
S U N N O M A


CHICO MINING CLAIMS
WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA
BM 3869
WT
3802
Turquoise Mtn
DUVAL MINE
AQUEDUCT
ROAD
STRIP
LANDING
3705
3669
3758
4141
Pumping Station
TAILINGS POND
Big Boy Mine
T 23 N
T 22 N
3611
4323
4038
4931
TO KINGMAN, 10 MILES
Spring
Todd Basin
GOLCONDA CAMP
Golconda Mine
Tailings Pond
Mohawk Mine
Wildhorse Mine
Paymaster Mine
4689
4469
R 18 W
R 17 W
29
31
32
5222
Cashier Mine
Jamison Mine
Mint Mine
Summit Mine
Alona Mine
Copper and Mine
Rico Mine
6038
5937
Stockton Hill
Bluebell Mine
STOCKTON HILL CAMP
Polaris Mine
5032
5142
SCALE 1"=2000'


CHICO MINING CLAIMS
WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA
Turquoise Mtn
DUVAL MINE
AQUEDUCT
ROAD
STRIP
Pumping Station
TAILINGS POND
Big Boy Mine
T 23 N
T 22 N
TO KINGMAN, 10 MILES
R 18 W
R 17 W
Wildhorse Mines
Todd Basin
Spring
GOLCONDA CAMP
Golconda Mine
Tailings Pond
Mohawk Mine
Paymaster Mine
Jamison Mine
Cashier Mine
Mint Mine
Summit Mine
Alpha Mine
Stockton Hill
Polaris Mine
Bluebell Mine
STOCKTON HILL CAMP
Rico Mine
Copper and Go Mine
White
SCALE 1"=2000'

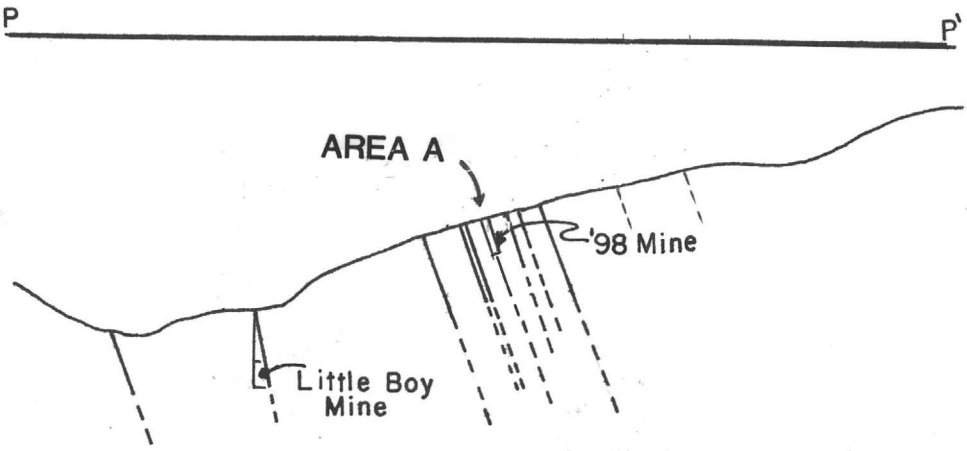


SOUTHEAST PORTION

CHICO
MINING CLAIMS

WALLAPAI MINING DISTRICT

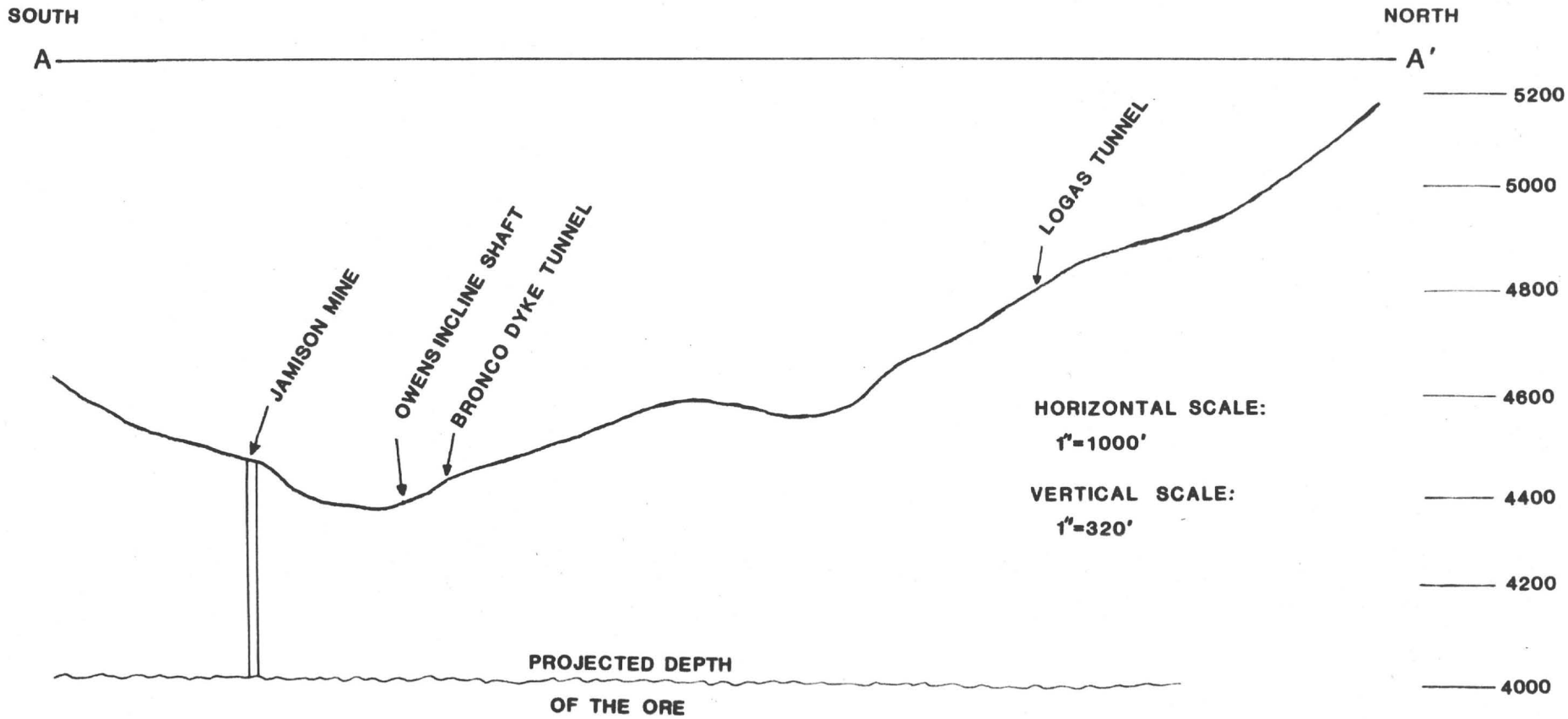
MOHAVE COUNTY, ARIZONA

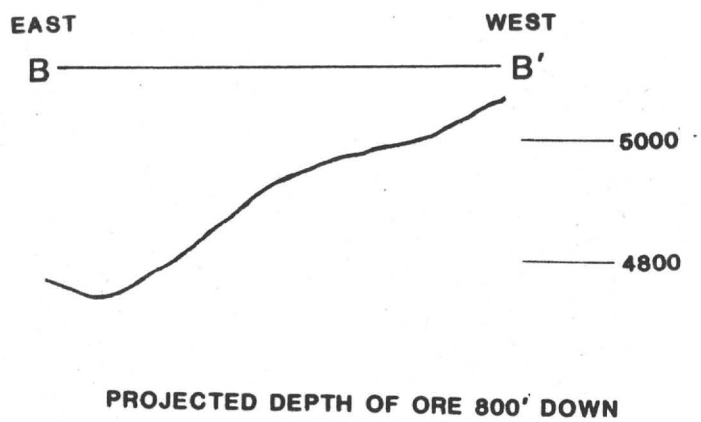


1"=600'

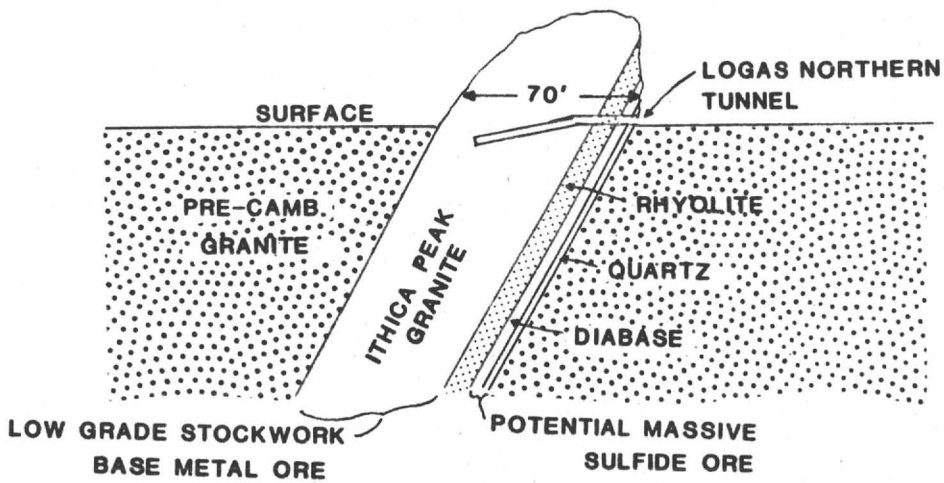
Vein
Area A
Area B

CROSS SECTIONS: BRONCO DYKE





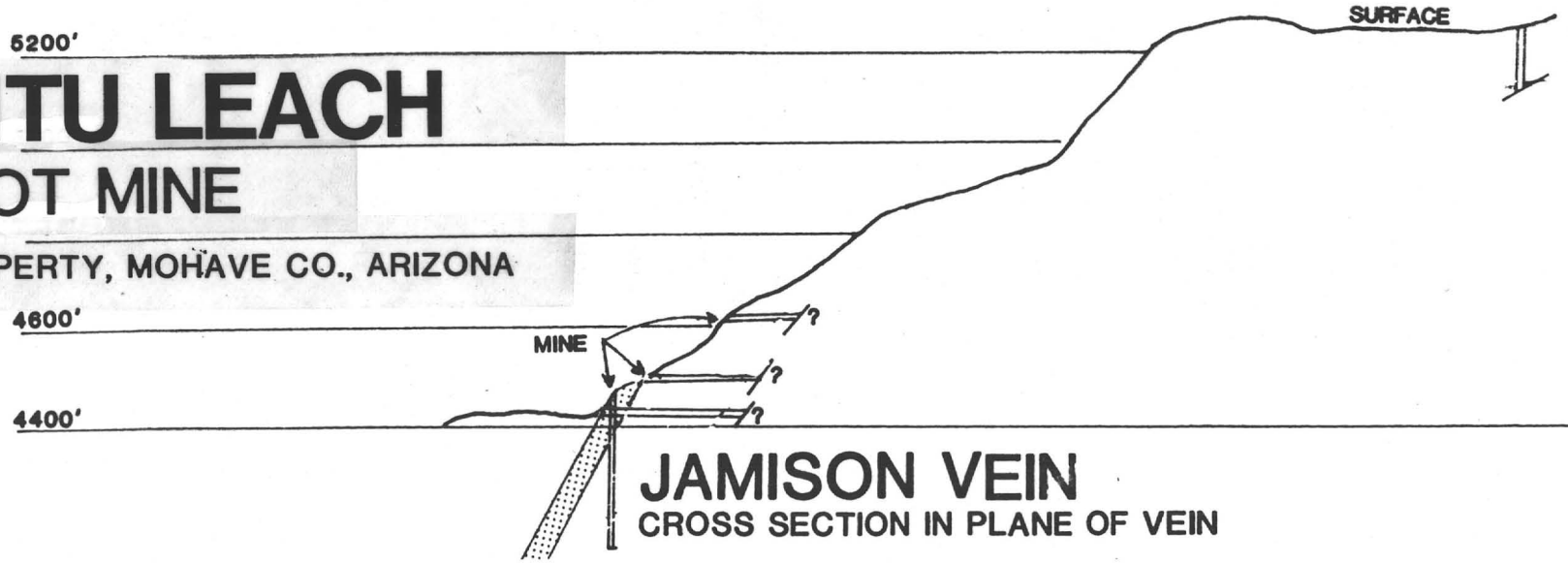
CROSS SECTION OF BRONCO DYKE AT LOGAS TUNNEL



IN SITU LEACH

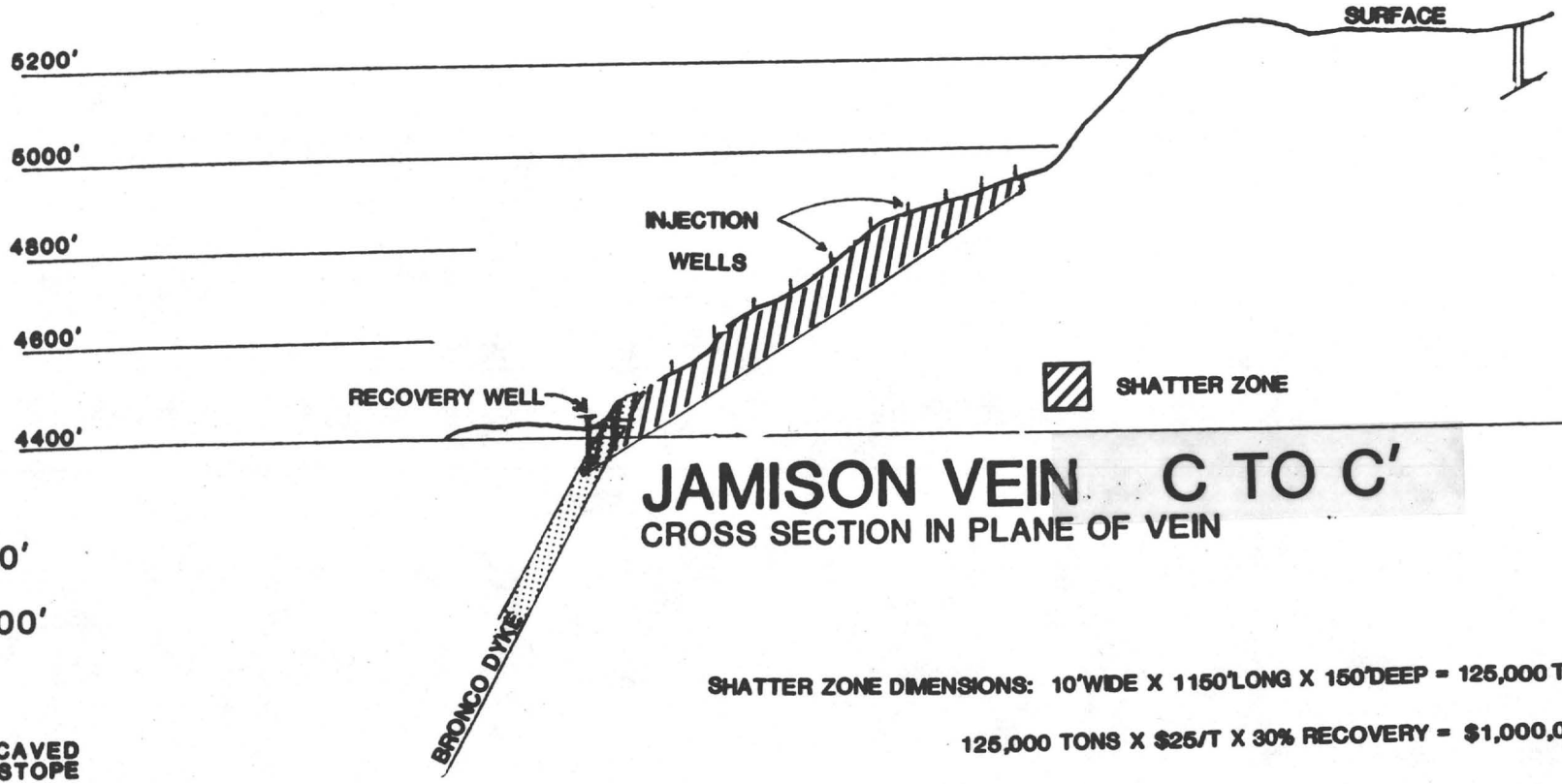
PILOT MINE

CHICO PROPERTY, MOHAVE CO., ARIZONA



JAMISON VEIN

CROSS SECTION IN PLANE OF VEIN



JAMISON VEIN C TO C'

CROSS SECTION IN PLANE OF VEIN

SHATTER ZONE DIMENSIONS: 10'WIDE X 1150'LONG X 150'DEEP = 125,000 TONS

125,000 TONS X $25/T X 30% RECOVERY = $1,000,000

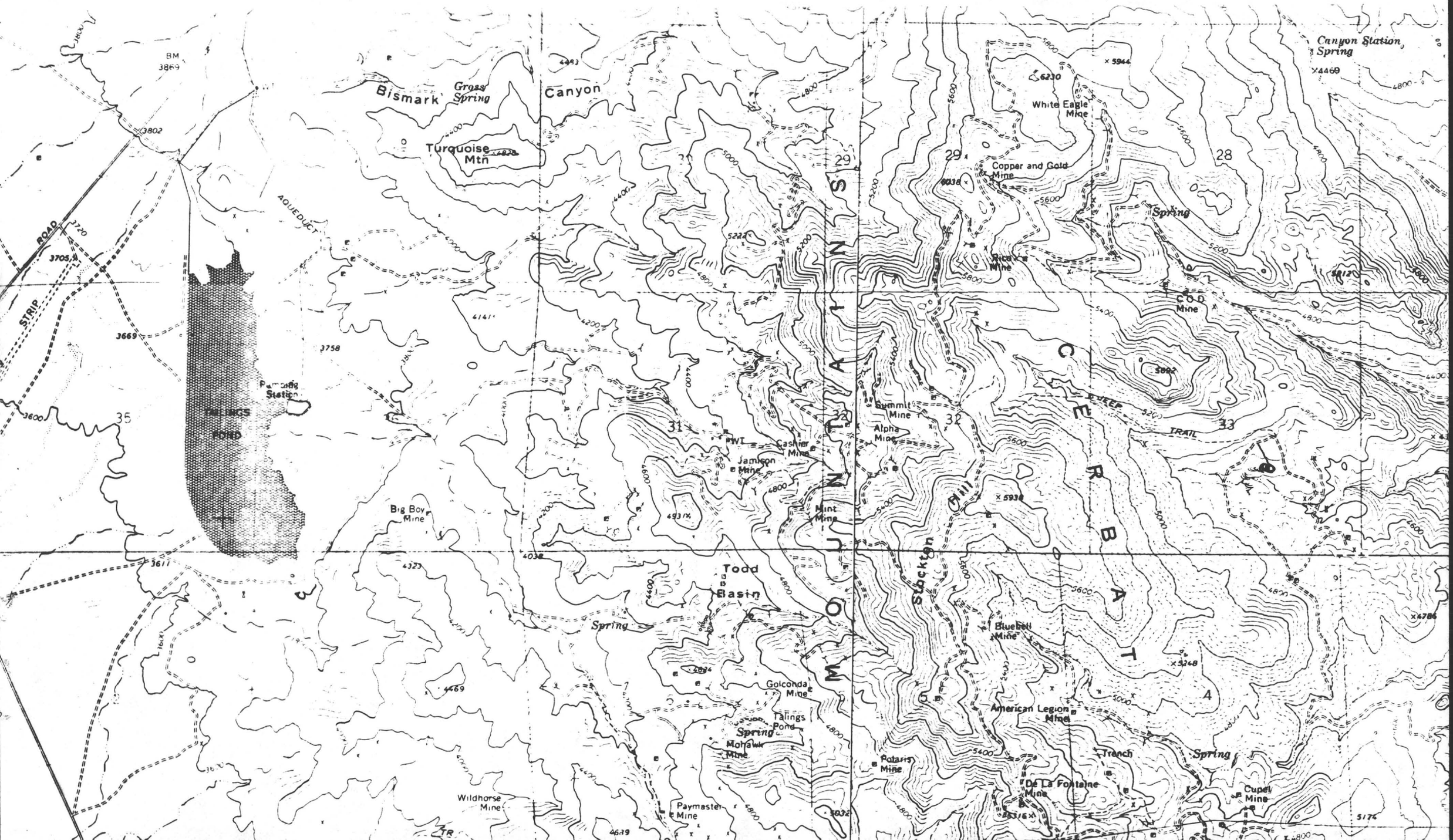
SCALE:

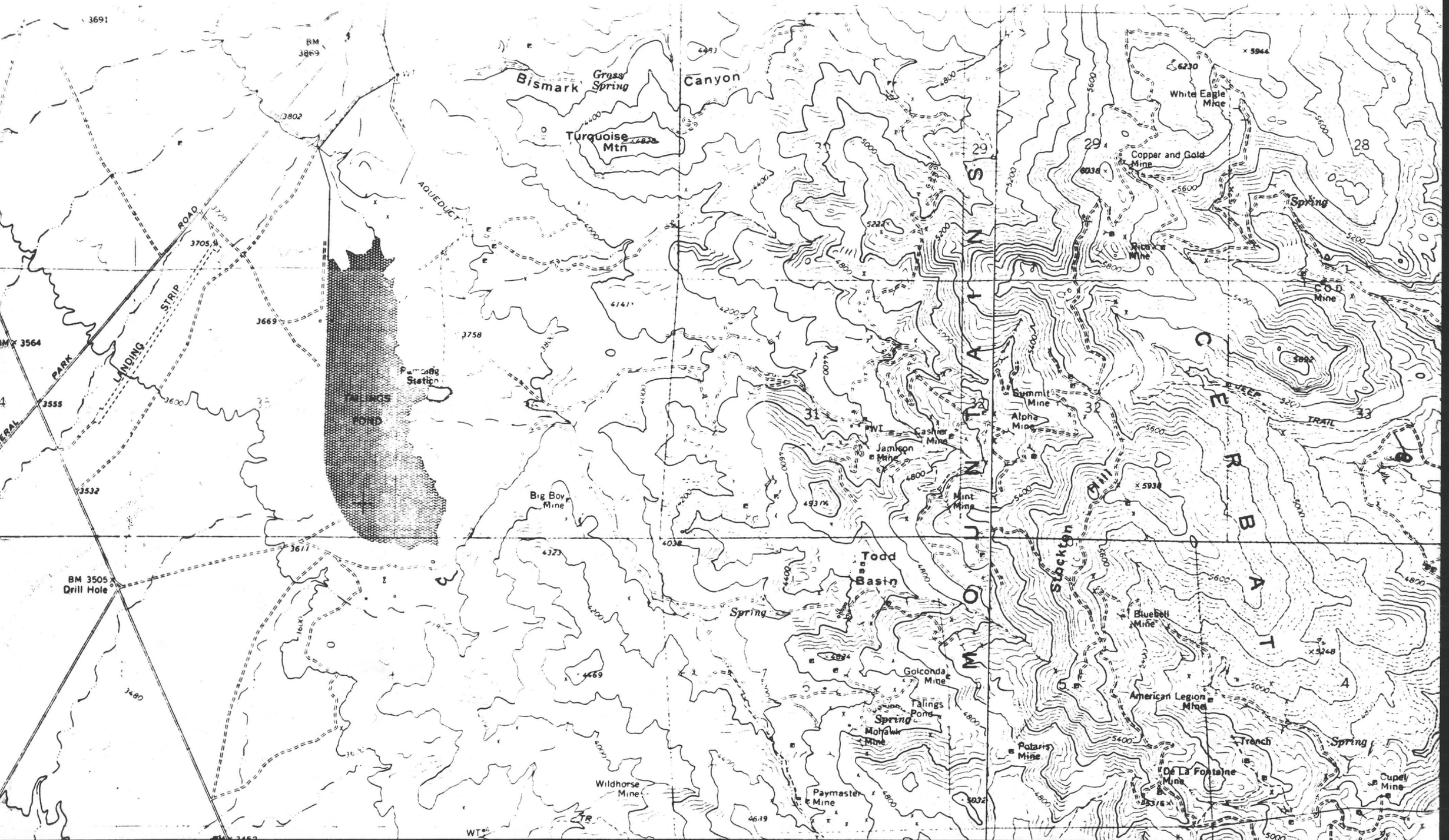
VERT.: 1"=400'

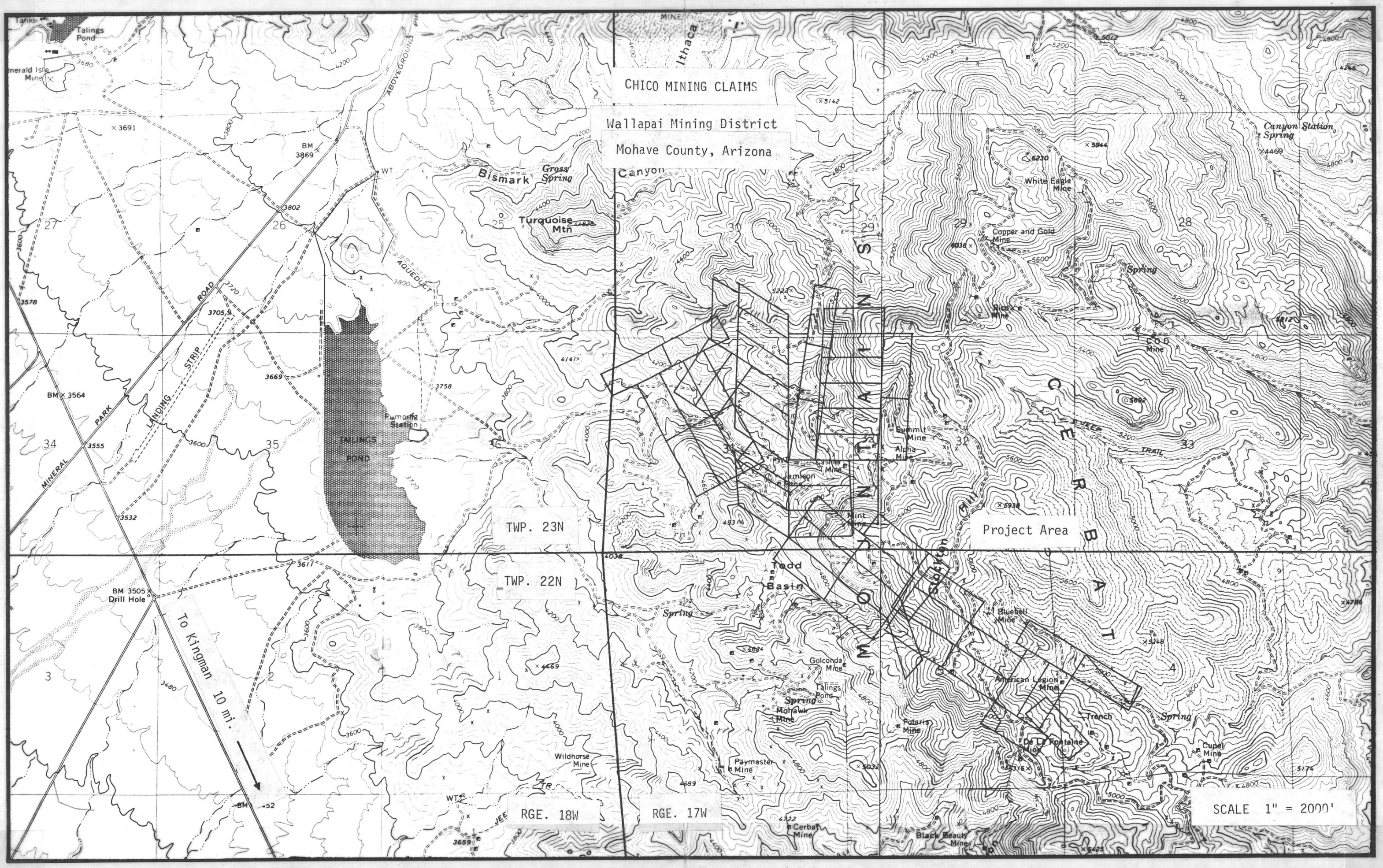
HORIZ.: 1"=600'

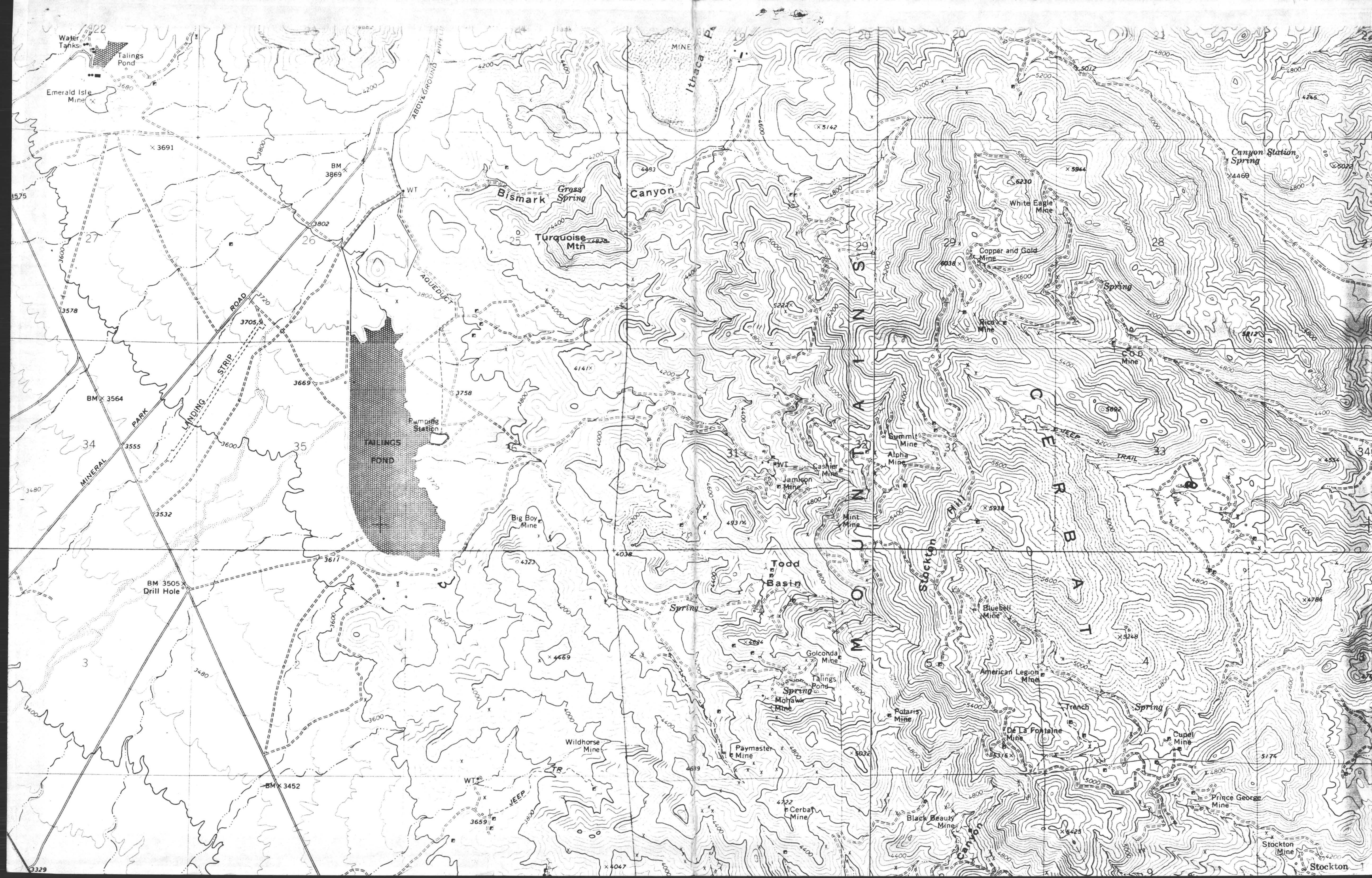
LEGEND:

TUNNEL/CAVED AT STOPE


Canyon Station Spring
Bismark
Gross Spring
Canyon
Turquoise Mtn
White Eagle Mine
Copper and Gold Mine
Spring
Rico Mine
C.O.D. Mine
AQUEDUCT
ROAD
STRIP
TAILINGS POND
Pumping Station
Summit Mine
Alpha Mine
Cashier Mine
Jamison Mine
Mint Mine
Big Boy Mine
Stockton Hill
DEER TRAIL
Todd Basin
Spring
Bluebell Mine
Golconda Mine
Talings Pond
Spring
Mohawk Mine
American Legion Mine
Trench
Spring
Polaris Mine
De La Fontaine Mine
Cupel Mine
Wildhorse Mine
Paymaster Mine
TR
MOUNTAINS
CERBAT


Bismark
Gross Spring
Canyon
Turquoise Mtn
AQUEDUCT
ROAD
STRIP
LANDING
PARK
TAILINGS POND
Pumping Station
Big Boy Mine
BM 3505 Drill Hole
Wildhorse Mine
Todd Basin
Spring
Golconda Mine
Tailings Pond
Mohawk Mine
Paymaster Mine
Polaris Mine
Jamison Mine
Cashier Mine
Mint Mine
Alpha Mine
Summit Mine
Stockton Hill
Bluebell Mine
American Legion Mine
Trench
De La Fontaine Mine
Cupel Mine
White Eagle Mine
Copper and Gold Mine
Rico Mine
C.O.D. Mine
JEEP TRAIL
MOHAVE MOUNTAINS
CERBAT

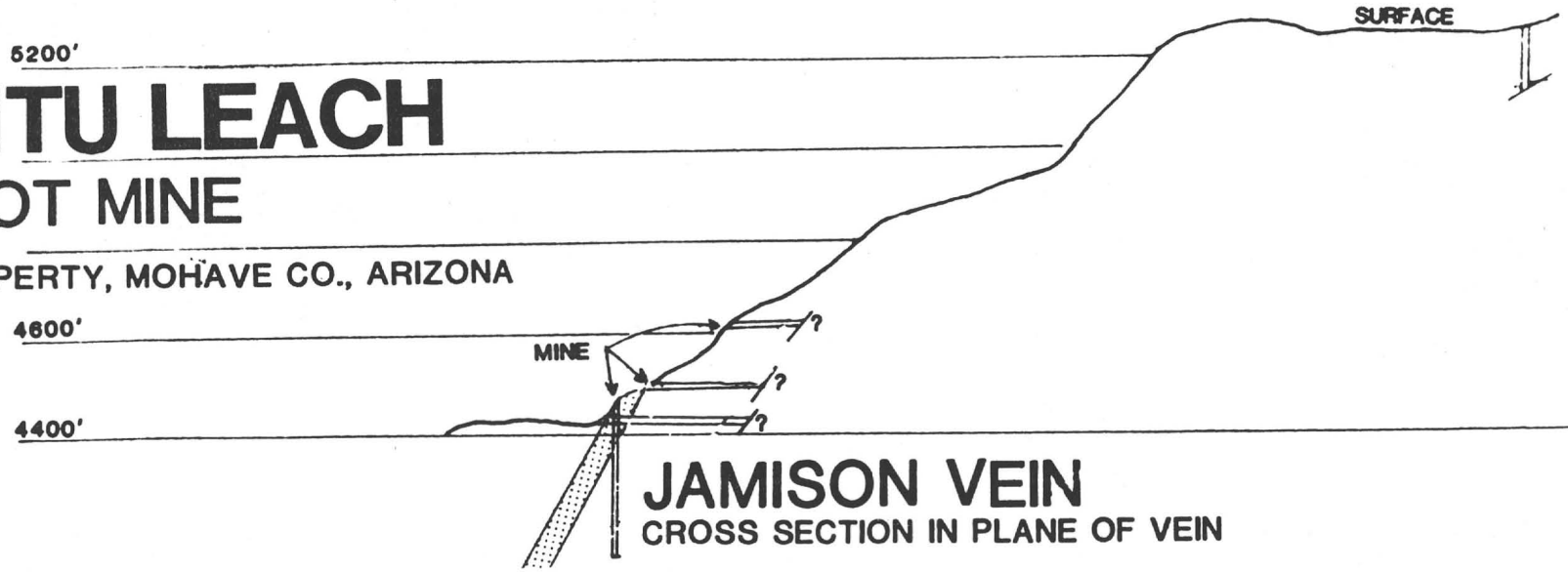

CHICO MINING CLAIMS
Wallapai Mining District
Mohave County, Arizona
Project Area
SCALE 1" = 2000'
TWP. 23N
TWP. 22N
RGE. 18W
RGE. 17W
To Kingman 10 mi.
Talings Pond
Emerald Isle Mine
Bismark Canyon
Gross Spring
Turquoise Mtn
TAILINGS POND
Pumping Station
MINERAL PARK ROAD
LANDING STRIP
ABOVEGROUND AQUEDUCT
BM 3564
BM 3505 Drill Hole
Wildhorse Mine
Todd Basin
Spring
Golconda Mine
Talings Pond
Mohawk Mine
Paymaster Mine
Cerbat Mine
Black Beauty Mine
Polaris Mine
American Legion Mine
Trench
De La Fontaine Mine
Cupel Mine
Bluebell Mine
Summit Mine
Alpha Mine
Jamison Mine
Mint Mine
Copper and Gold Mine
White Eagle Mine
Rico's Mine
C.O.D. Mine
Canyon Station Spring
Sockton Hill
CHINO VALLEY
CERBAT RANGE
JEEP TRAIL


Water Tanks
Talings Pond
Emerald Isle Mine
Ithaca P
MINE
ABOVEGROUND PIPELINE
AQUEDUCT
Bismark Gross Spring Canyon
Turquoise Mtn
TAILINGS POND
Pumping Station
Big Boy Mine
MINERAL PARK LANDING STRIP ROAD
BM 3564
BM 3869
BM 3505 Drill Hole
BM 3452
WT
Wildhorse Mine
JEEP TR
Todd Basin
Spring
Golconda Mine
Talings Pond
Mohawk Mine
Paymaster Mine
Cerbat Mine
MOUNTAINS
CERBAT
Jamison Mine
Cashier Mine
Mint Mine
Summit Mine
Alpha Mine
Stockton Hill
Bluebell Mine
American Legion Mine
Polaris Mine
De La Fontaine Mine
Trench
Black Beauty Mine
Canyon
Copper and Gold Mine
White Eagle Mine
Rico Mine
COD Mine
JEEP TRAIL
Canyon Station Spring
Cupel Mine
Prince George Mine
Stockton Mine
Stockton

IN SITU LEACH

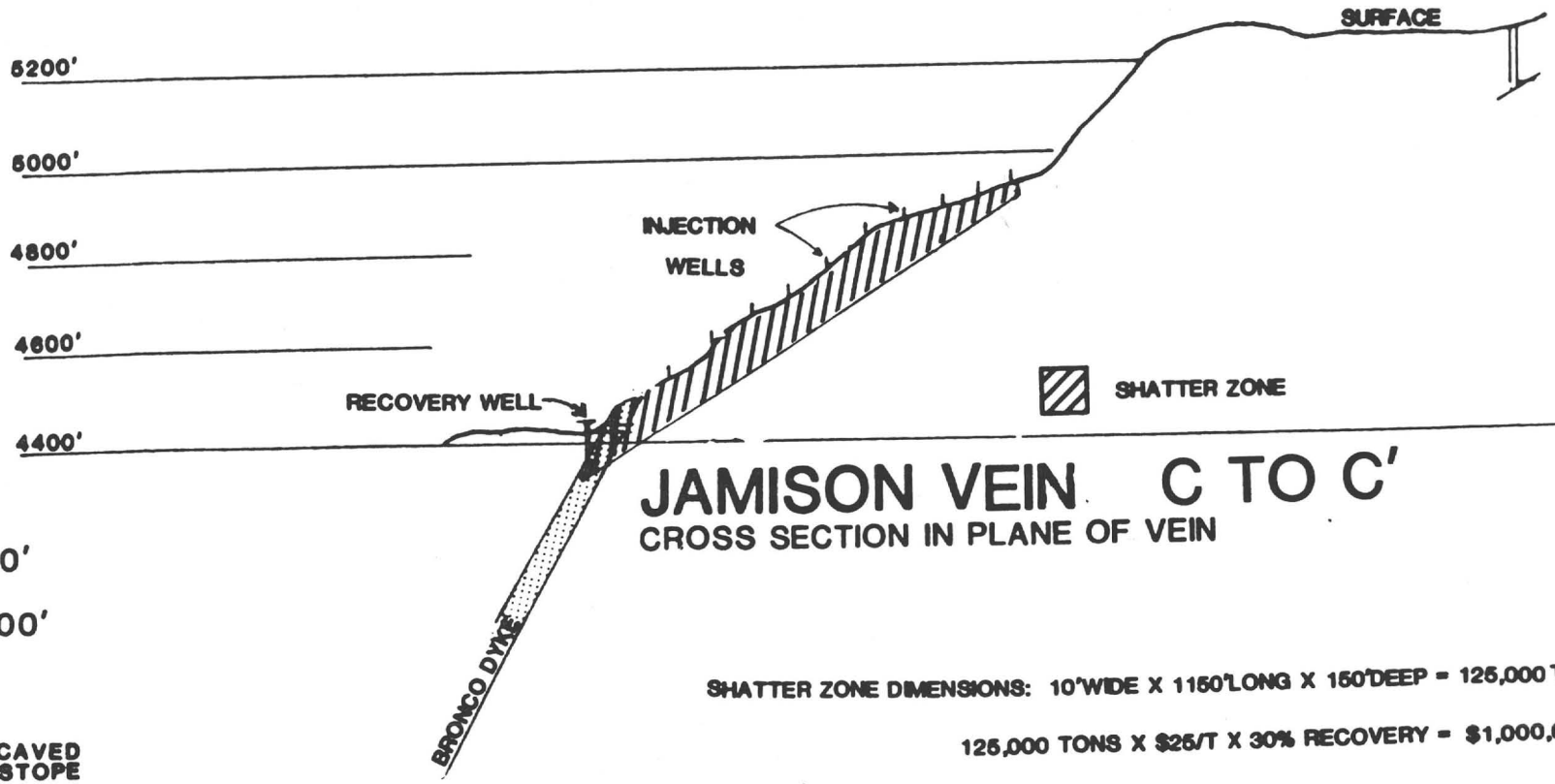
PILOT MINE

CHICO PROPERTY, MOHAVE CO., ARIZONA



JAMISON VEIN

CROSS SECTION IN PLANE OF VEIN



JAMISON VEIN C TO C'

CROSS SECTION IN PLANE OF VEIN

SCALE:

VERT.: 1"=400'

HORIZ.: 1"=600'

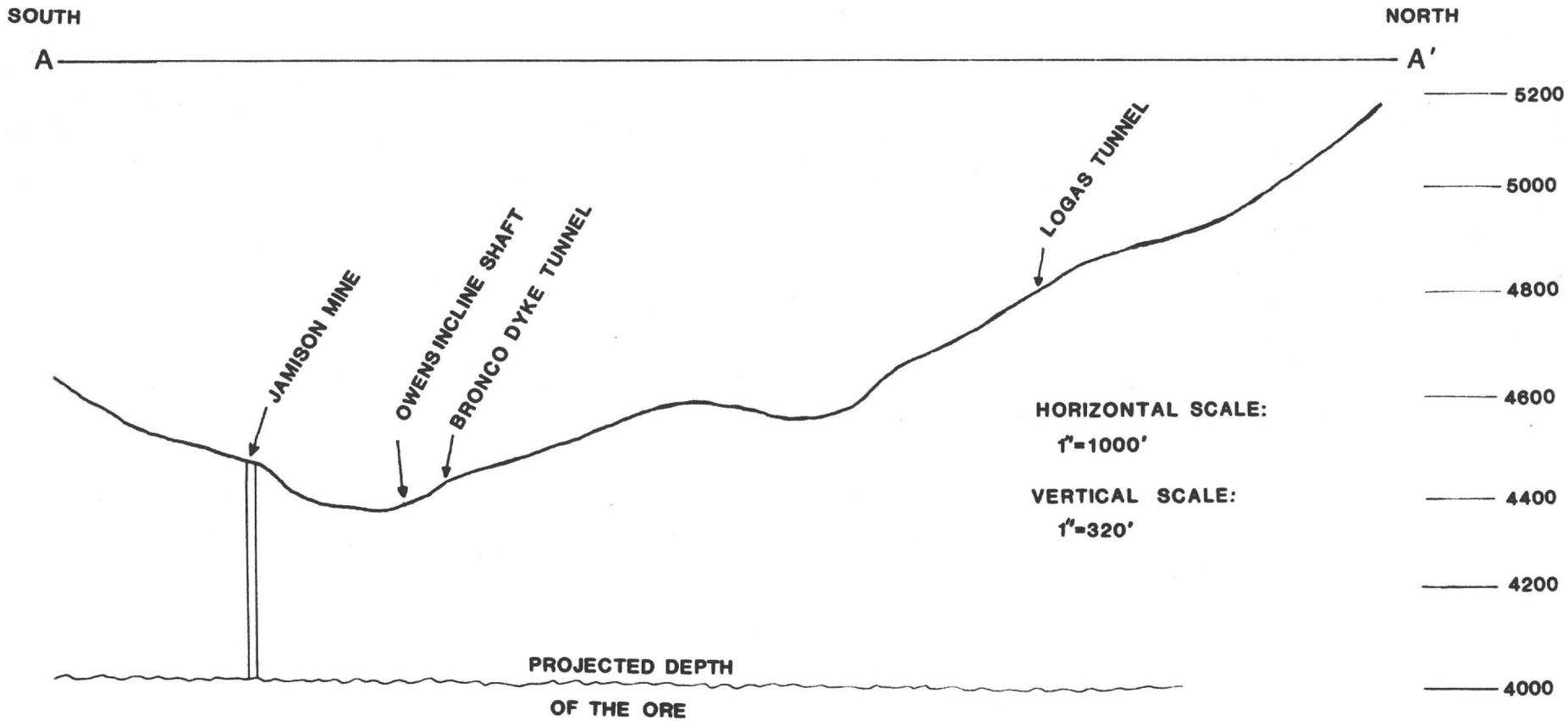
LEGEND:

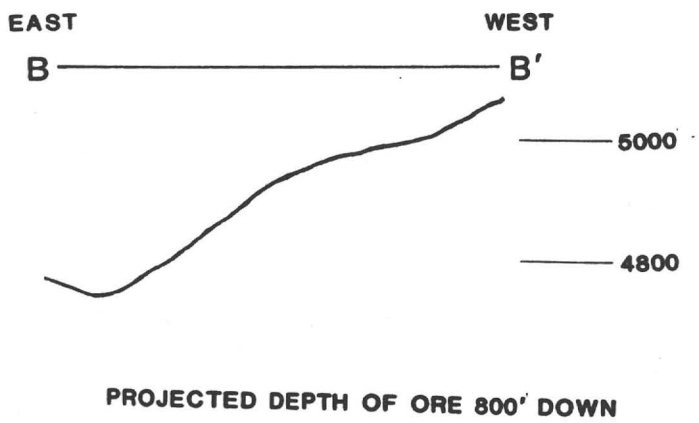
TUNNEL/CAVED AT STOPE

SHATTER ZONE DIMENSIONS: 10'WIDE X 1150'LONG X 150'DEEP = 125,000 TONS

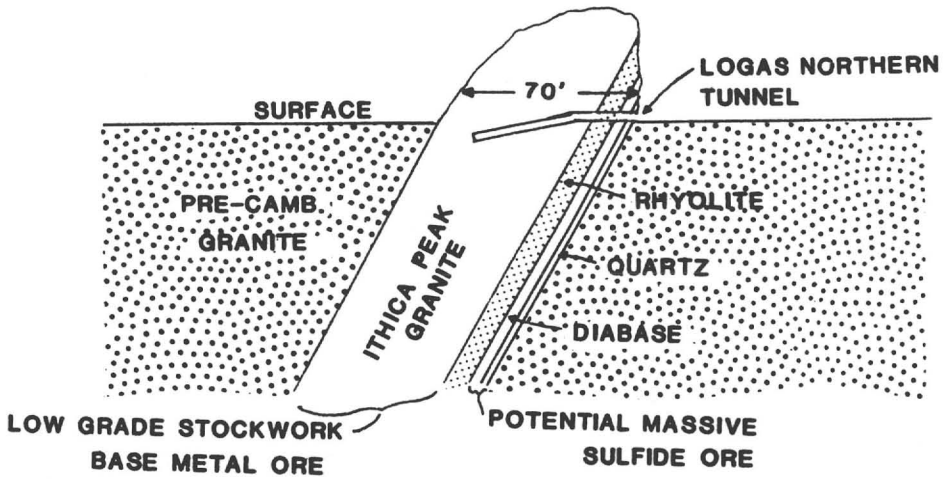
125,000 TONS X $25/T X 30% RECOVERY = $1,000,000

CROSS SECTIONS: BRONCO DYKE





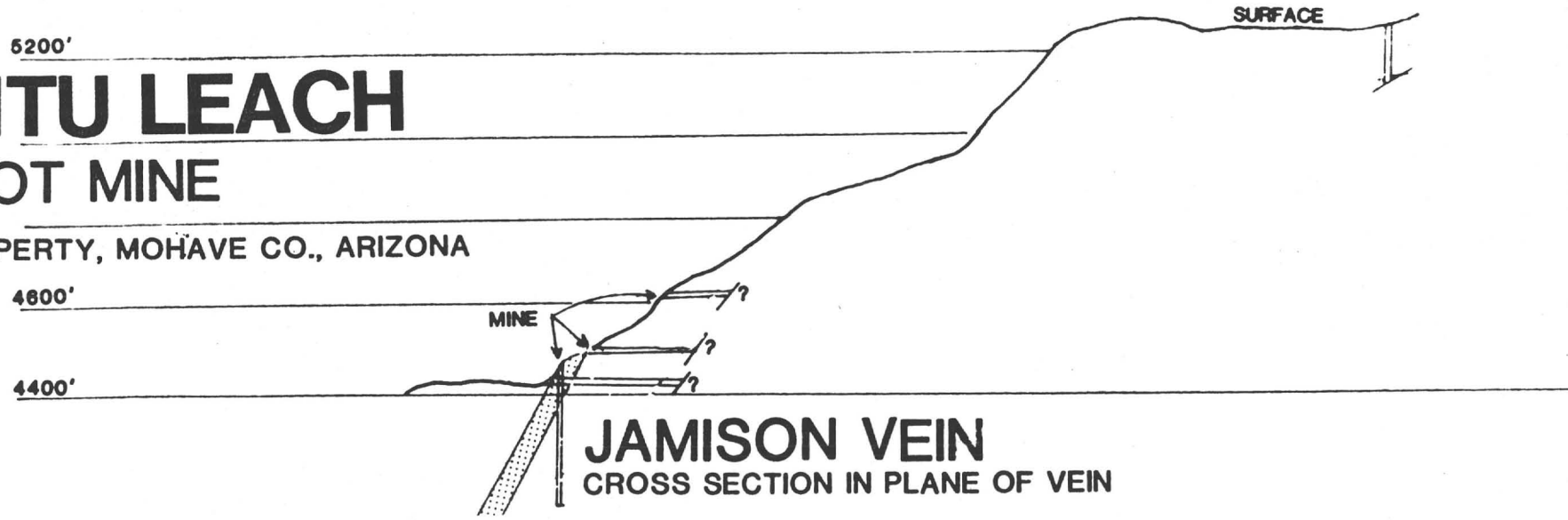
CROSS SECTION OF BRONCO DYKE AT LOGAS TUNNEL



IN SITU LEACH

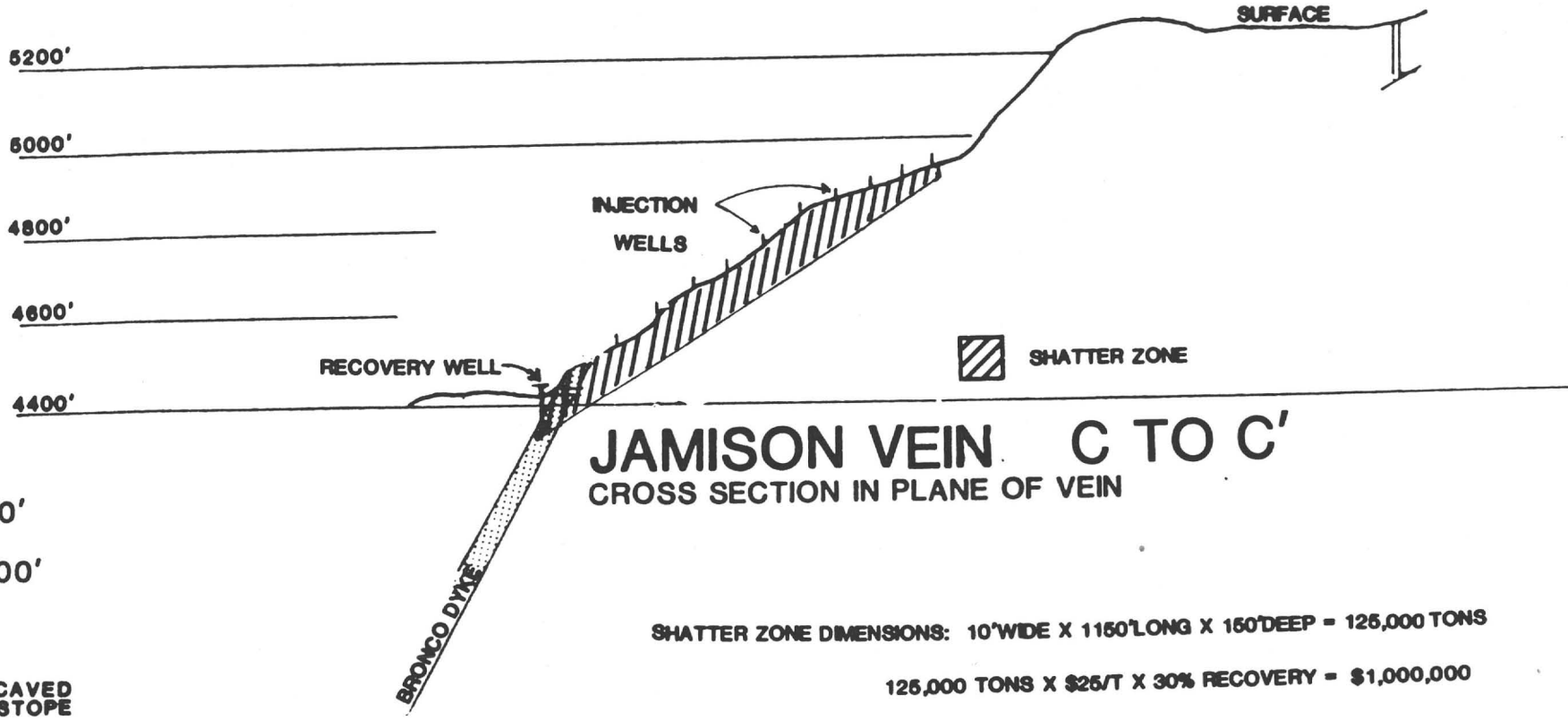
PILOT MINE

CHICO PROPERTY, MOHAVE CO., ARIZONA



JAMISON VEIN

CROSS SECTION IN PLANE OF VEIN



JAMISON VEIN C TO C'

CROSS SECTION IN PLANE OF VEIN

SCALE:

VERT.: 1"=400'

HORIZ.: 1"=600'

LEGEND:

TUNNEL/CAVED AT STOPE

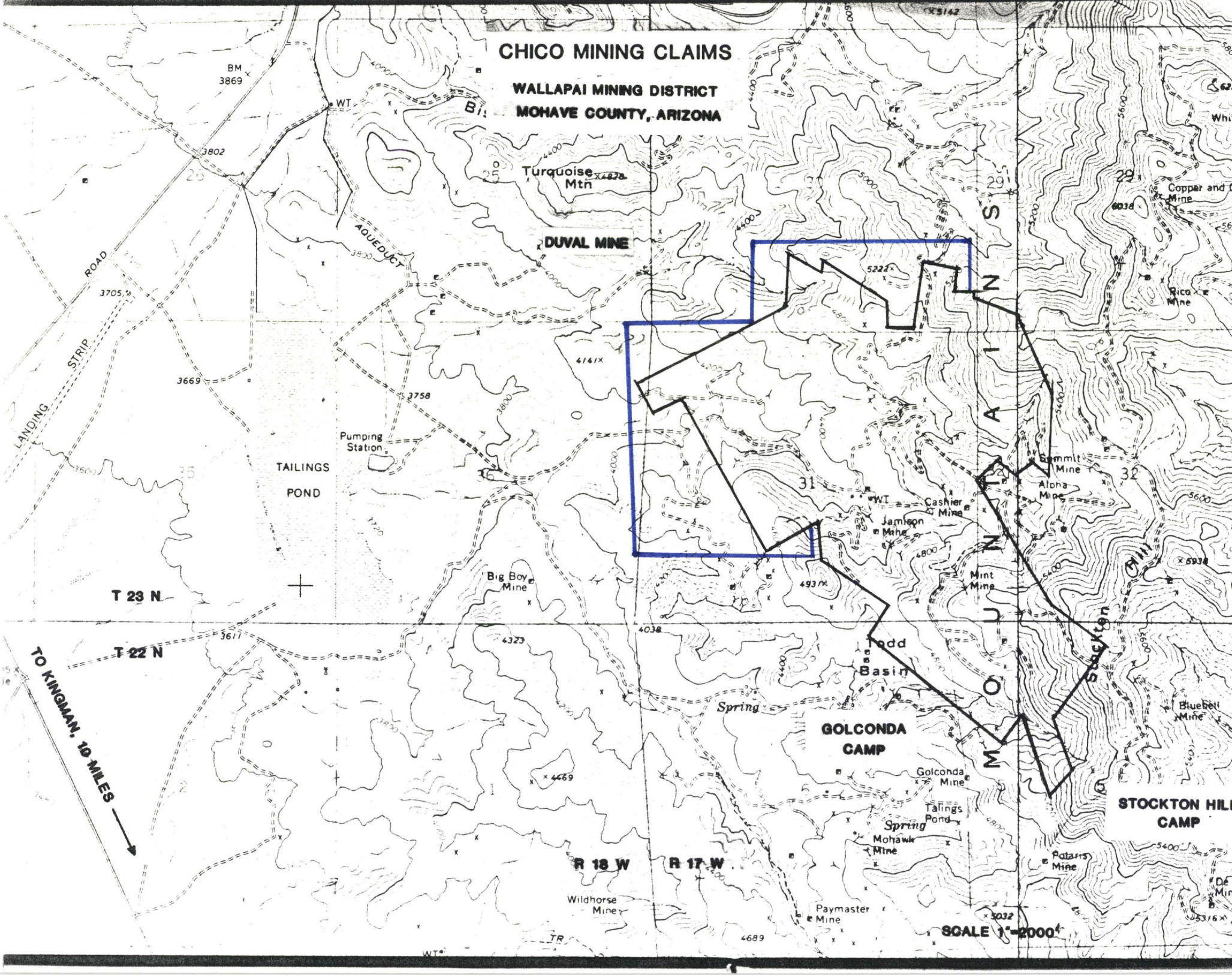
SHATTER ZONE DIMENSIONS: 10'WIDE X 1150'LONG X 150'DEEP = 125,000 TONS

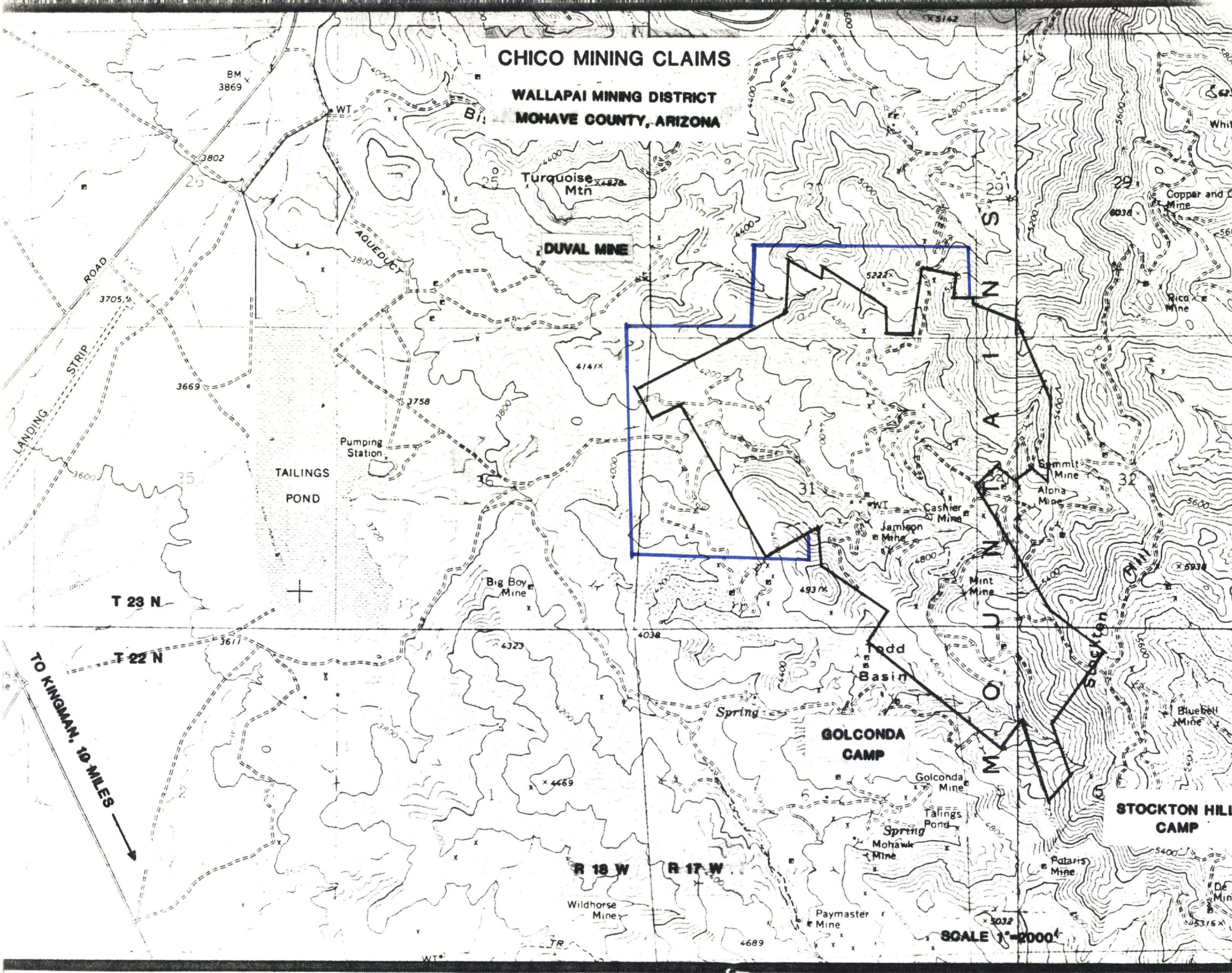
125,000 TONS X $25/T X 30% RECOVERY = $1,000,000

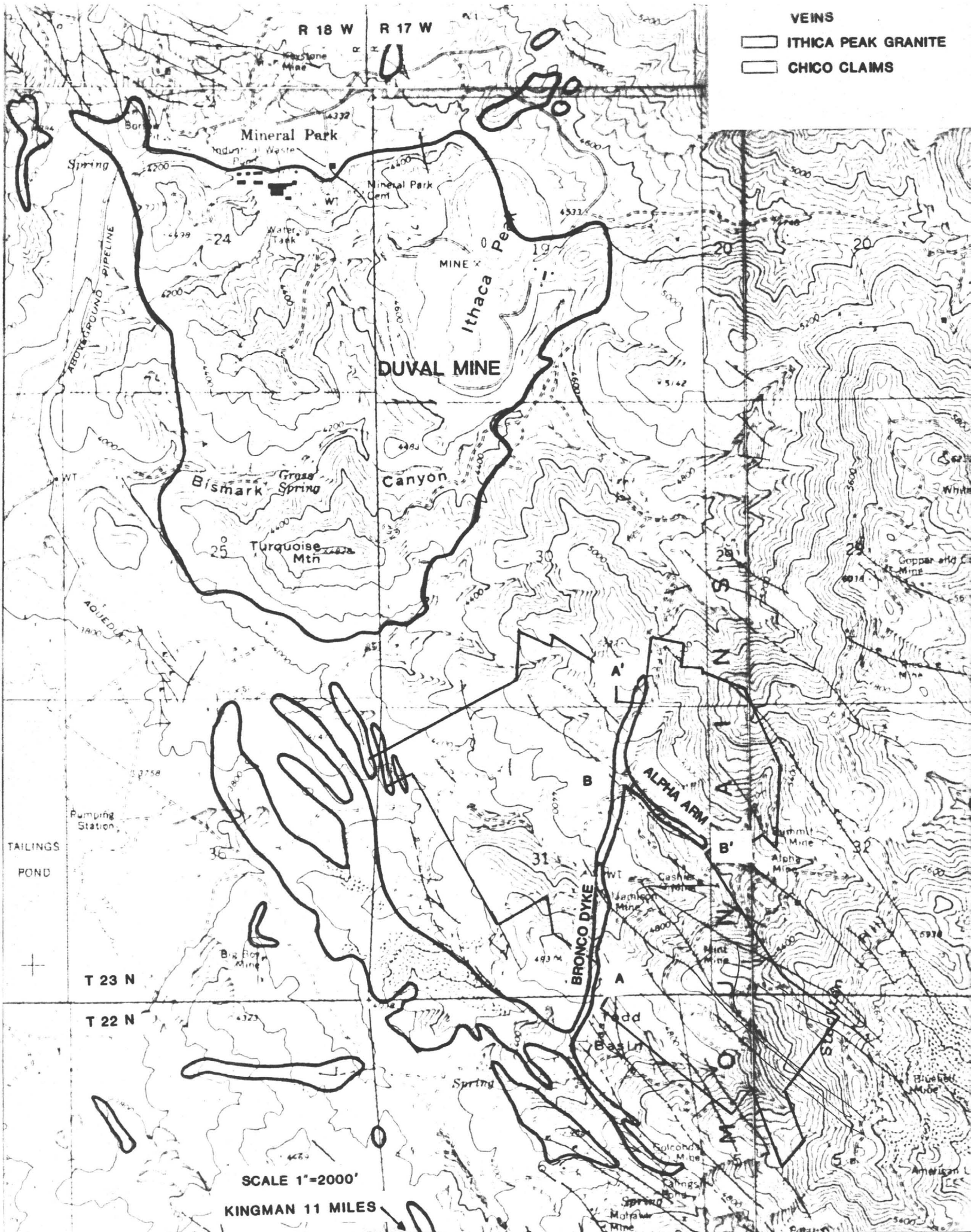
Mineral Park
Industrial Waste Pond
Mineral Park
Spring
Borrow Pit
Keystone Mine
MINE
ABOVE GROUND PIPELINE
AQUEDUCT
TAILINGS POND
Pumping Station
Big Bold Mine
Todd
Spring
Colconda Mine
Tailings Pond
Alpha Mine
Jamison Mine
Mint Mine
Cashier Mine
Spring
WT
BM

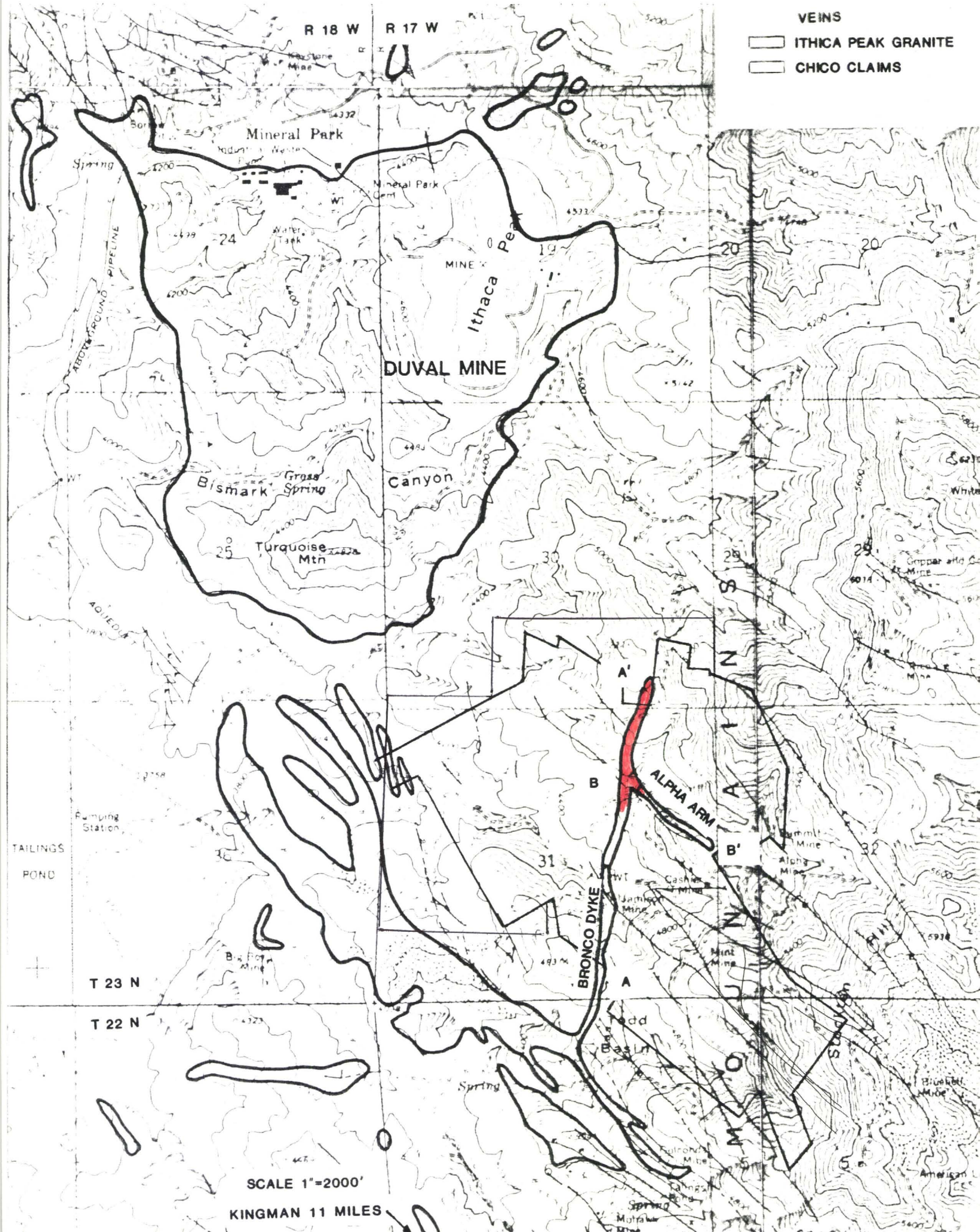
New Moon Mine
Keystone Mine
Mineral Park
Industrial Waste Ponds
Spring
ABOVEGROUND PIPELINE
AQUEDUCT
TAILINGS POND
Pumping Station
Big Bear Mine
Summit Mine
Alpha Mine
Mint Mine
Colconda Mine
Copper King Mine
Road
Spring

Mineral Park
Industrial Waste
Spring
ABOVEGROUND PIPELINE
MINE
BM 3669
AQUEDUCT
Pumping Station
TAILINGS POND
Big Bear Mine
Spring
Alpha Mine
Falcondale Mine
Wildcat

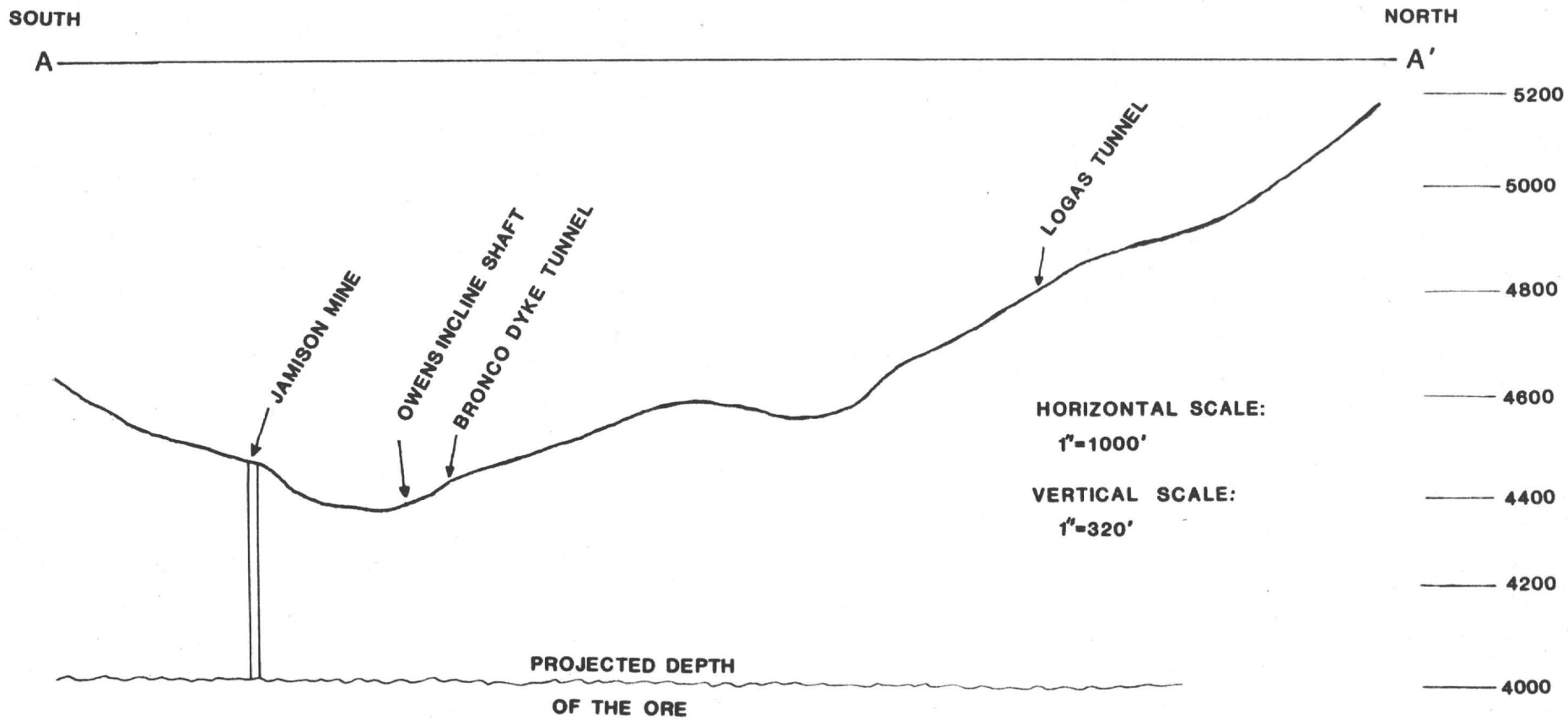

CHICO MINING CLAIMS
WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA
BM 3869
Turquoise Mtn
DUVAL MINE
AQUEDUCT
ROAD
LANDING STRIP
Pumping Station
TAILINGS POND
T 23 N
T 22 N
TO KINGMAN, 10 MILES
Big Boy Mine
Todd Basin
Spring
GOLCONDA CAMP
Golconda Mine
Tailings Pond
Mohawk Mine
R 18 W
R 17 W
Wildhorse Mine
Paymaster Mine
Cashier Mine
Jamison Mine
Mint Mine
Alpha Mine
Summit Mine
Stockton
Potaris Mine
Bluebell Mine
STOCKTON HILL CAMP
Copper and Gold Mine
Rico Mine
SCALE 1"=2000'

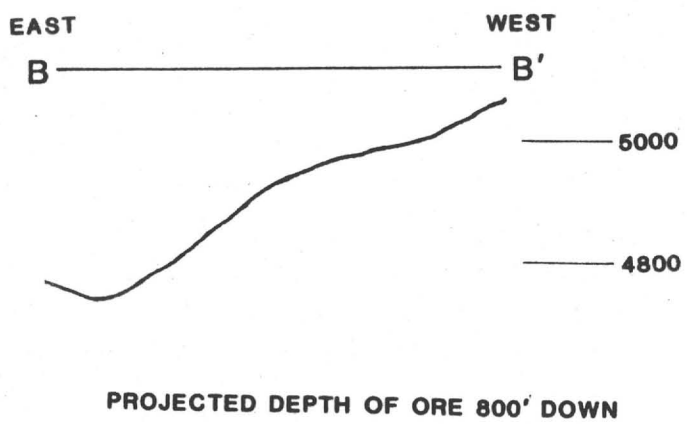

CHICO MINING CLAIMS
WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA
BM 3869
WT
3802
Turquoise Mtn
DUVAL MINE
AQUEDUCT
ROAD
LANDING STRIP
3705
3669
3758
Pumping Station
TAILINGS POND
T 23 N
T 22 N
TO KINGMAN, 10 MILES
Big Boy Mine
Cashier Mine
Jamison Mine
Mint Mine
Summit Mine
Alpha Mine
Todd Basin
Spring
GOLCONDA CAMP
Golconda Mine
Tailings Pond
Mohawk Mine
Wildhorse Mine
Paymaster Mine
Polaris Mine
R 18 W
R 17 W
Stockton Hill
STOCKTON HILL CAMP
Bluebell Mine
Copper and Gold Mine
Rico Mine
SCALE 1"=2000'


VEINS
ITHICA PEAK GRANITE
CHICO CLAIMS
R 18 W
R 17 W
Mineral Park
Mineral Park Cem
Water Tank
MINE
Ithaca Peak
DUVAL MINE
Bismark Spring
Gross Canyon
Turquoise Mtn
ABOVE GROUND PIPELINE
AQUEDUCT
Pumping Station
TAILINGS POND
A'
B
ALPHA ARM
B'
BRONCO DYKE
A
Todd Basin
T 23 N
T 22 N
SCALE 1"=2000'
KINGMAN 11 MILES

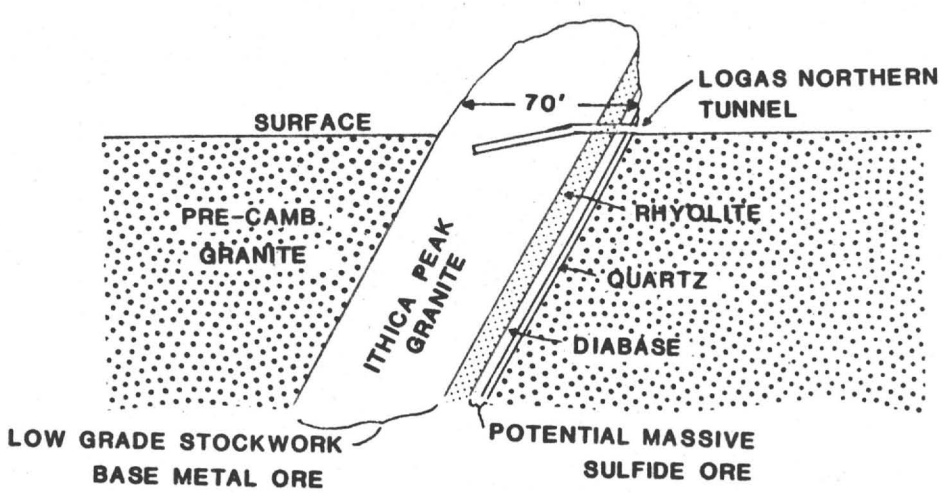

VEINS
ITHICA PEAK GRANITE
CHICO CLAIMS
R 18 W
R 17 W
Mineral Park
Mineral Park Cem
Water Tank
MINE
Ithaca Peak
DUVAL MINE
Bismark
Gross Spring
Canyon
Turquoise Mtn
ABOVE GROUND PIPELINE
AQUEDUCT
Pumping Station
TAILINGS POND
A'
B
ALPHA ARM
B'
BRONCO DYKE
A
Summit Mine
Alpha Mine
Cashier Mine
Jackson Mine
Mint Mine
Todd Basin
Spring
T 23 N
T 22 N
SCALE 1"=2000'
KINGMAN 11 MILES

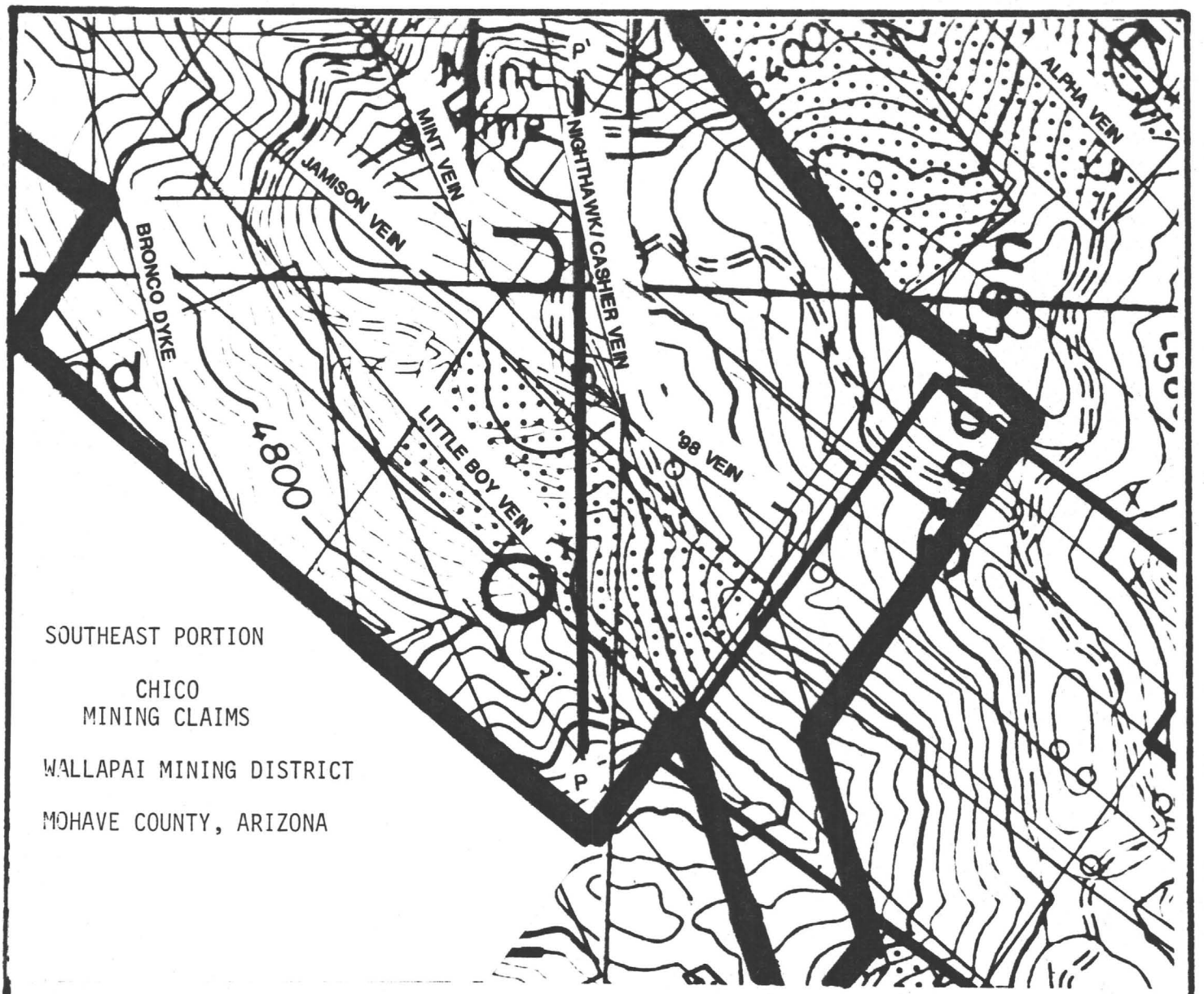
CROSS SECTIONS: BRONCO DYKE





CROSS SECTION OF BRONCO DYKE AT LOGAS TUNNEL



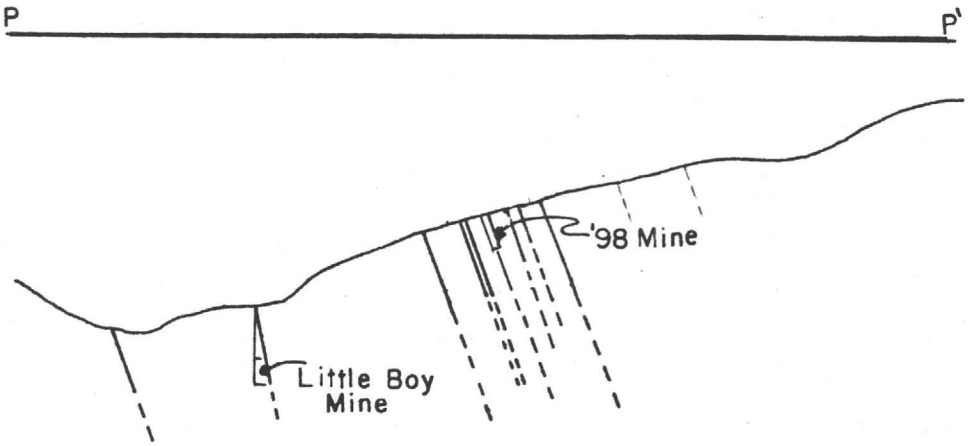


SOUTHEAST PORTION

CHICO
MINING CLAIMS

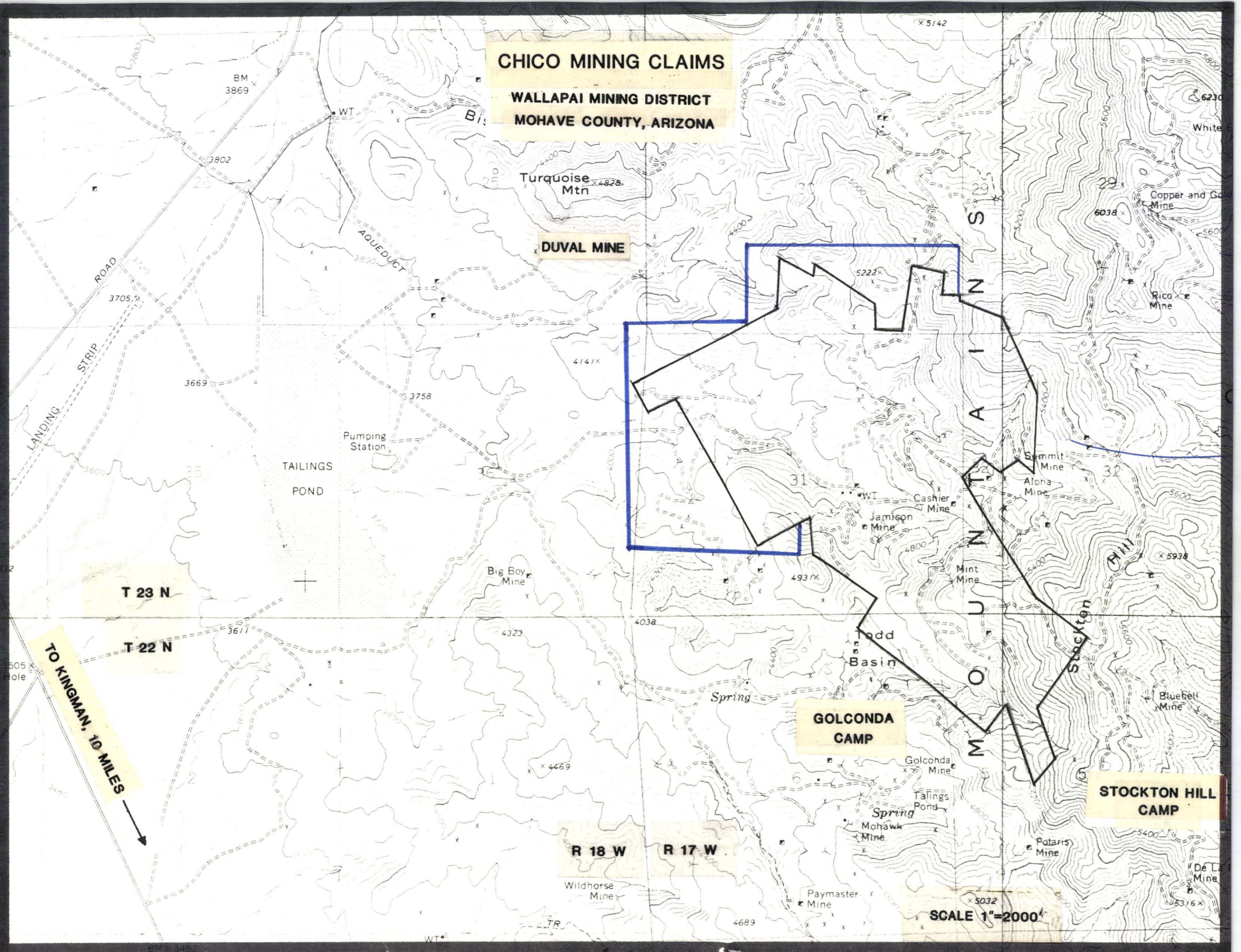
WALLAPAI MINING DISTRICT

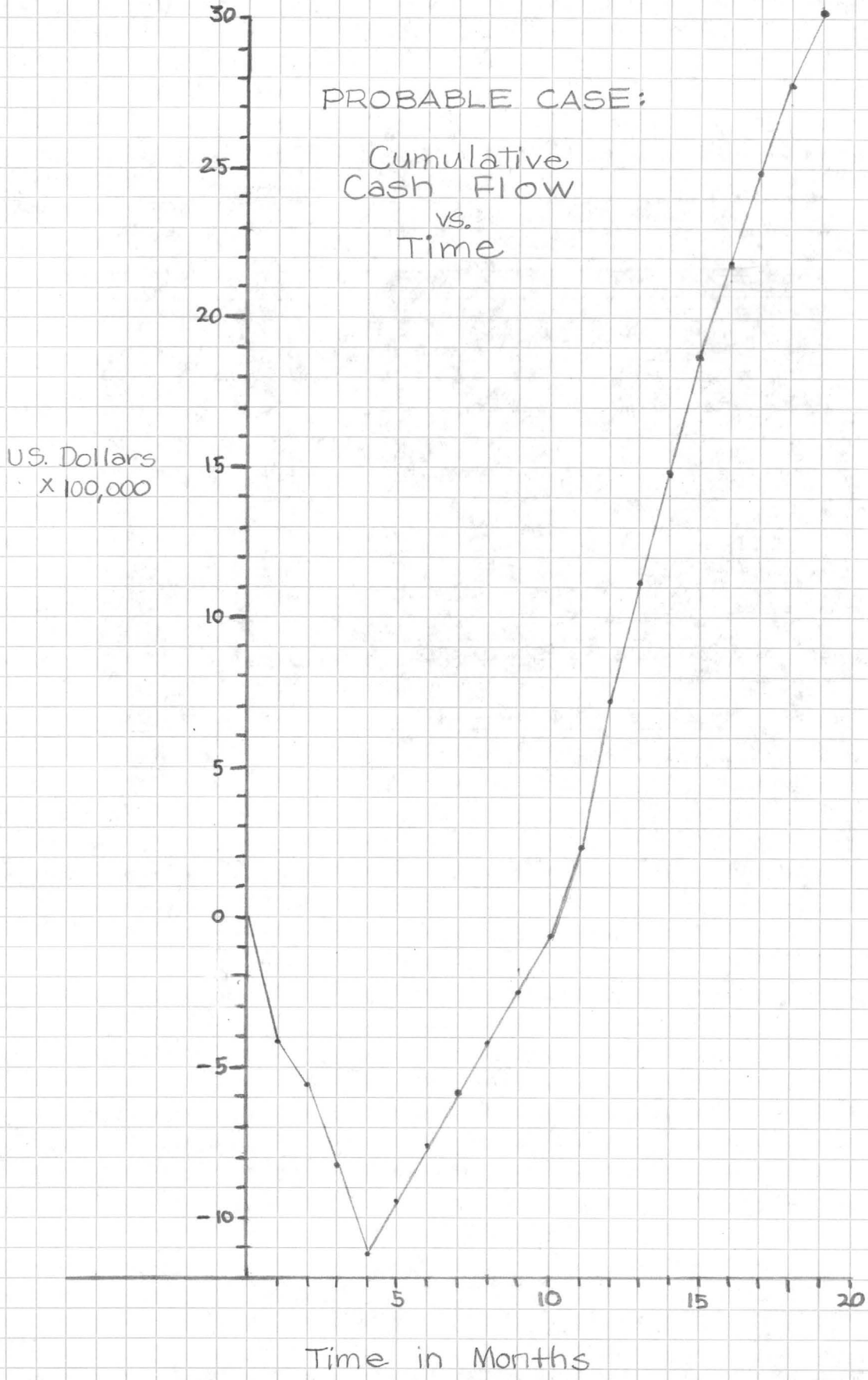
MOHAVE COUNTY, ARIZONA



Vein
Area A
Area B

1"=600'


CHICO MINING CLAIMS
WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA
DUVAL MINE
GOLCONDA CAMP
STOCKTON HILL CAMP
TO KINGMAN, 10 MILES
T 23 N
T 22 N
R 18 W
R 17 W
SCALE 1"=2000'
Turquoise Mtn
AQUEDUCT
ROAD
LANDING STRIP
TAILINGS POND
Pumping Station
Big Boy Mine
Wildhorse Mine
Todd Basin
Spring
Golconda Mine
Talings Pond
Mohawk Mine
Paymaster Mine
Polaris Mine
Bluebell Mine
Mint Mine
Jamison Mine
Cashier Mine
Alpha Mine
Summit Mine
Rico Mine
Copper and Gold Mine
White E
Stockton Hill
De La Mine
Hole
BM 3869
WT
3802
3705
3669
3758
4141
5222
4931
4038
3611
4323
4469
4689
5032
5316
5938
6038
6230
5142
29
30
31
32
35
2
1
6


PROBABLE CASE:
Cumulative Cash Flow vs. Time
U.S. Dollars x 100,000
30
25
20
15
10
5
0
-5
-10
5
10
15
20
Time in Months

APPENDIX 4: PROBABLE CASE; AREA A; 3 VEINS, each 150' long by 200' deep by 1¾' wide = 17,500 tons of ore, processed at 50 tons per day = 1.5 yrs. operation until Area A depletion; increase processing to 100 tons/day at period 11 gives one year Area A depletion; positive exploratory results commences mining Area B two periods before Area A depletion; Area B mineable ore projected depletion 13 periods.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	9	10
PROJECTED PERIODS	SEPT.	OCT.	NOV.	DEC.	JAN. 1981	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN 1982	FEB.	MAR.	Apr-Dec 1982
REVENUE (Area A)					322500	✓ (✓ means same as previous period)	✓	✓	✓	✓	645000	✓	✓	✓	✓	322500	✓	Area A depleted		
REVENUE (Area B)															Begin processing Area B @ 50T/D →	243600	✓	487200 Processing 100T/D	✓	4384800
EXPENDITURES																				
Land Payments	25000	✓	✓	✓	50000	✓	✓	✓	✓	✓	75000	✓	✓	✓	✓	✓				
Processing Facility	250000	0	0	250000	0	Maintance costs included in operations #8, below											100000	✓	✓	900000
Operations	80000	✓	✓	✓	✓	✓	✓	✓	✓	✓	147000	✓	✓	✓ (✓ means same as previous period)	✓	✓	✓	✓	✓	1323000
Start Up	49625	✓	✓	✓																
Exploration											Area B Exploration → 5000		✓	✓	✓	0	0	0	0	
5% Royalty					16125	✓	✓	✓	✓	✓	32250	✓	✓	✓	✓	28305	✓	24360	✓	219240
NET CASH FLOW	<404625>	<154625>	<154625>	<404625>	<176375>	176375	✓	✓	✓	✓	390750	385750	✓	✓	✓	315795	290795	✓	✓	2617155
CUMULATIVE CASH FLOW		<559250>	<713875>	<1118500>	<942125>	<765750>	<589375>	<413000>	<236625>	< 60250>	330500	716250	1102000	1487750	1873500	2189295	2480090	2770885	3061680	5678835

MINIMAL CASE; AREA A; 3 VEINS, each 100' long by 200' deep by 1¾' wide = 11,666 tons of ore, processed at 50 tons per day = 1 year operation before Area A depletion. Exploration shows no mineable ore in Area B.

	1	2	3	4	5	6	7	8	9	10	11	12	13	4	5	6	7	8	9	10
PROJECTED PERIODS	SEPT.	OCT.	NOV.	DEC.	JAN. 1981	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN. 1982			
REVENUE (Area A)					322500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Area A depleted			
EXPENDITURES																				
Land Payments	25000	✓	✓	✓	50000	✓	✓	✓	✓	✓	75000	✓	✓	✓	✓	✓	0			
Processing Facility	250000	0	0	250000	0	Maintance costs included in operations #8, below														
Operations	80000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	< 80000 > → Clean Up and move out			
Start Up	49625	✓	✓	✓	0															
Exploration											Area B Exploration → 5000		✓	✓	✓	Exploration shows ore deposit inadequate				
5% Royalty					16125	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0			
NET CASH FLOW	<404625>	<154625>	<154625>	<404625>	<176375>	176375	✓	✓	✓	✓	151375	146375	✓	✓	✓	151375	< 80000 >			
CUMULATIVE CASH FLOW		<559250>	<713875>	<1118500>	<942125>	<765750>	<589375>	<413000>	<236625>	< 60250>	186125	222500	368875	520250	676625	828000	748000			

CHICO MINES PROPERTY

PROFORMA PROJECTIONS - UNDERGROUND AND SURFACE PROJECTS

	Commencing 5-1-82 Surface Mining Project	6 MONTHS	1 YEAR	1.5 YEARS	2 YEARS	2.5 YEARS	3 YEARS	4 YEARS	5 THRU 10 YEARS
1	Exploration Program	575000							
2	Land	50000	60000	1200000					
3	Start up operations		150000				<150000>		
4	Facilities - leach pad		200000						
5	Operations costs			1500000	1500000	1500000	1350000		
6									
7	Total Costs	625000	410000	2700000	1500000	1500000	1200000		
8									
9									
10	Revenue	—	—	2979900	2979900	2979900	2681910		
11	PRO 6% Royalty			<178800>	<178800>	<178800>	<160915>		
12									
13	Cash Flow	<625000>	<1035000>	<933100>	368800	1670700	2991695		
14									
15	Underground Project								
16	Exploration Program	575000							
17	Land	50000	60000	1200000					
18	Start up operations		150000	150000	150000				
19	Facilities - Mill		400000	400000	200000				
20	Operations costs					2625000	2625000	5250000	31500000
21	Total Costs	625000	610000	1750000	350000	2625000	2625000	5250000	31500000
22									
23									
24	Revenue					3903750	3903750	7807500	46845000
25	PRO 6% Royalty					<234225>	<234225>	<468450>	<2810700>
26	Cash Flow	<625000>	<1235000>	<2985000>	<3335000>	<2290475>	<1243450>	845600	13379900
27									
28	Underground - Refinery incl'd.								
29	Exploration Program	575000							
30	Land	50000	60000	1200000					
31	Start up operations		150000	150000	150000				
32	Facilities - Mill		200000	400000	200000				
33	Refinery			300000	450000				
34	Operations costs					2775000	2775000	5550000	33300000
35	Total Costs	625000	610000	2050000	800000	2775000	2775000	5550000	33300000
36									
37									
38	Revenue					4554375	4554375	9108750	54652500
39	PRO 6% Royalty					<273263>	<273263>	<546526>	<3279156>
40	Cash Flow	<625000>	<1235000>	<3285000>	<4085000>	<2578888>	<1072776>	1939448	20012792

2-5-82

CHICO MINES PROPERTY

PROFORMA PROJECTIONS - UNDERGROUND AND SURFACE PROJECTS

	Commencing 5-1-82 Surface Mining Project	6 MONTHS	1 YEAR	1.5 YEARS	2 YEARS	2.5 YEARS	3 YEARS	4 YEARS	5 THRU 10 YEARS
1	Exploration Program	575000							
2	Land	50000	60000	1200000					
3	Start up operations		150000				<150000>		
4	Facilities - leach pad		200000						
5	Operations costs			1500000	1500000	1500000	1350000		
6									
7	Total Costs	625000	410000	2700000	1500000	1500000	1200000		
8									
9									
10	Revenue	—	—	2979900	2979900	2979900	2681910		
11	PRO 6% Royalty			<178800>	<178800>	<178800>	<160915>		
12									
13	Cash Flow	<625000>	<1035000>	<933100>	368800	1670700	2991695		
14									
15	Underground Project								
16	Exploration Program	575000							
17	Land	50000	60000	1200000					
18	Start up operations		150000	150000	150000				
19	Facilities - Mill		400000	400000	200000				
20	Operations costs					2625000	2625000	5250000	31500000
21	Total Costs	625000	610000	1750000	350000	2625000	2625000	5250000	31500000
22									
23									
24	Revenue					3903750	3903750	7807500	46845000
25	PRO 6% Royalty					<234225>	<234225>	<468450>	<2810700>
26	Cash Flow	<625000>	<1235000>	<2985000>	<3335000>	<2290475>	<1243450>	845600	13379900
27									
28	Underground - Refinery incl'd.								
29	Exploration Program	575000							
30	Land	50000	60000	1200000					
31	Start up operations		150000	150000	150000				
32	Facilities - Mill		400000	400000	200000				
33	Refinery			300000	450000				
34	Operations costs					2775000	2775000	5550000	33300000
35	Total Costs	625000	610000	2050000	800000	2775000	2775000	5550000	33300000
36									
37									
38	Revenue					4554375	4554375	9108750	54652500
39	PRO 6% Royalty					<273263>	<273263>	<546526>	<3279156>
40	Cash Flow	<625000>	<1235000>	<3285000>	<4085000>	<2578888>	<1072776>	1939448	20012792

2-5-82

ASSUMPTIONS FOR PROFORMA PROJECTIONS

Surface Strip Mine Project

Limited surface and bulldozer rip samples indicate the mineralized portion of the Bronco Dyke is composed of sheared, fractured and highly altered granite.

Est. Ore -	0.13 oz./T gold @ $350/oz.	=	$45.50/T
	2.59 oz/T silver @ $8/oz.	=	20.72/T
			$66.22/T
	30% discount - price stabilized by bulk sales		($19.866)
	10% recovery loss factor		(6.622)
	Net		$39.732/T

Projected Reserves - 30' x 30' x 3960' ÷ 12.5 cu. ft./T = 285,120 T

Mine Life - 500T/day for 300-day year = 1.9 years

Total Operations Costs - $20/T

Net Profit - $2,991,695

Underground Mine

The following assumptions for underground mining of the mineralized quartz fraction of the Bronco Dyke are projected from limited drilling data, stockpiled ore tenure and engineer's reports.

Est. Ore -	0.25 oz./T gold @ $350/oz.	=	$87.50/T
	7.0 oz./T silver @ $8/oz.	=	56.00/T
	2% copper @ $0.75/#	=	30.00/T
			$173.50/T

		With Refinery
30% discount - price stabilized by bulk sales	($52.05)	($34.70)
10% recovery loss factor	(17.35)	(17.35)
	$104.10/T	$121.45

Projected Reserves - 4' x 600' x 3950' ÷ 12.5 cu. ft./T = 760,320 T

Mine Life - 250T/day for 300-day year = 10.1 years

Total Operations Costs - $70/T
$74/T with refinery

Net Profit - $13,379,900
$20,012,792 with refinery

DAILY LOG — DAY 1 1980

KINGMAN SURVEY - BDY OF CHICO CLAIMS

Aug 18: ARRIVED KINGMAN 10:40 am CLEAR, HOT WEATHER

CONTACTED HERB SHIPLEY, 753-2606 HM. OFFICE, ARRANGED TO MEET HIM & CREW @ 12:00 NOON

— CREW CONSISTS OF SHIPLEY & SON (TOM) & R.J. (DUSTY) DENTON AND MYSELF —

— 1:00 pm BEGAN INSPECTION OF BOUNDRY. R.J. DENTON (DUSTY) CLAIMS TO HAVE MONUMENTED AND SURVEYED BDY OF CLAIMS WITH MINING ENGINEER C. RANNEY IN 1974. ACCORDING TO DUSTY, HE AND RANNEY SURVEYED WITH TRANSIT AND ROD AND SET WOOD 4"x4" POSTS IN THE GROUND AS CLAIM MONUMENTS.

— DUSTY HAS VERY GOOD RECALL, HE CONSISTENTLY LOCATED POSTS, SEEMED CERTAIN OF WHICH WAS WHICH AND EXPLAINED THE DIRECTION THAT THEY CAME FROM AND THAT WHERE THEY WENT. DUSTY AND RANNEY AMENDED A NUMBER OF LOCATIONS SINCE SOME OF THE CHICO CLAIMS OVERLAPPED DUVAL, NEIGHBORING PATENTED CLAIMS AND, IN SOME CASES, UNPATENTED CLAIMS. DUSTY COULD NOT REMEMBER WHICH CLAIMS OVERLAPPED WHICH EXCEPT THAT IT WAS THE CHARLES G'S THAT OVERLAPPED DUVAL. DUSTY CLAIMS TO HAVE REMONUMENTED ALL CONFLICTING CLAIMS AND FILED AN AMENDED NOTICE OF LOCATION WITH THE MOHAVE CO. RECORDER. IN MY OPINION THE SOUTHERLY LITTLE BOY UNPATENTED CLAIMS OVERLAPPED PATENTED CLAIMS OF THE GOLCONDA GROUP, WD CLAIMS OVERLAPPED THE NIGHTHAWK AND THE PATENTED ALPA GROUP. IN ALL THE CASES ABOVE THE CONFLICTING CLAIM BOUNDRIES, DUSTY CLAIMS TO HAVE MOVED THE CLAIM TOWARD THE CENTER OF THE CHICO GROUP THUS OVERLAPPING CHICO CLAIMS ONLY.

— AT ANY RATE, OUT OF A FORREST OF POSTS AND STONE MONUMENTS THE SURVEYORS WERE ABLE TO MARK THOSE POSTS DESIGNATED BY DUSTY AS THE BOUNDY POINTS OF THE CHICO CLAIMS. GENERALLY THE SURVEYORS FLAGGED ALL CORNER POSTS AND DOUBLY FLAGGED ANGLE POINTS WHERE THE CLAIM BDY WAS OTHER THAN ON A STRAIGHT LINE.

DAILY LOG - DAY 2

Kingman Survey - BDY OF CHICO CLAIMS

Aug 19 - MET SURVEY TEAM FOR COFFEE @ 8:00 AM TODAY TEAM CONSISTS OF HERB & TOM SHIPLEY AND MYSELF.

- PROCEEDED TO CLAIMS TO LOCATE, AND TIE INTO NEIGHBORING FLAGGED CLAIM MONUMENTS, WHATEVER SECTION CORNERS, QUARTER SECTION CORNERS AND OTHER PERMINANT LAND MARKERS.

- BEGINING AT THE QUATER CORNER MARKED R18W T23N SEC. 36 | R17W T23N SEC. 31 WE TIED IN, BY ANGLE AND DISTANCE FROM THE quarter CORNER, THE CLAIM POSTS WHICH SHOULD BE THE NW CHARLIE C, #1 AND SW, NE OF SAME. THE NW CHARLIE C #2 AND THE SW OF SAME. THE NE CLAIM #7 (ON THE CLAIM BY # MAP). THE NE CLAIM #5.

- NEXT FROM THE QUARTER CORNER MARKED R17W T23N SEC. 30 | R17W T23N SEC. 31 WE TIED IN A POINT FROM WHICH WE COULD TIE IN BY DIRECTION AND DISTANCE THE quarter CORNER MARKED R17W T23N SEC 31 | R17W T23N SEC. 32. WE ALSO TIED IN FROM QS 30|31 CLAIM MONUMENTS WE THINK TO BE (DUSTY WASN'T SURE HERE - HE THOUGHT RANNEY HAD SURVEYED IN A STRAIGHT LINE - SOUNDS LIKE RANNEY'S BASE LINE - AND DIDN'T JOG TO THE NORTH TO INCLUDE CLAIM #10, 11, 12, 23 IN THEIR ENTIRETY. DUSTY THINKS ALL THESE WERE OVER STAKEING DUAL AND FIGURES THEY WERE IN THE BATCH OF AMENDED NOTICES RANNEY GAVE HIM TO RECORD) NE CLAIM #2, NW CLAIM #10 AND NW CLAIM #23.

- BILL SUGDEN JOINED US AT NOON AND HE AND I spent the AFTERNOON FLAGING CLAIM MONUMENTS TO BE TIED IN TO A KNOWN POINT, HOPEFULLY THESE MONUMENTS WILL ALLIGN ON A MAP IN SUCH A WAY TO OUTLINE SEVERAL CLAIMS ALONG THE BORDER OF THE CHICO GROUP. THE MAIN problem IS THE SHEER number OF MONUMENTS, I HAVE STOOD AND COUNTED UP TO EIGHT MONUMENTS IN VARIOUS STATES OF DISREPAIR WITHIN A SWEEP OF A 100'. WE FLAGGED BASICLY ON THE PRINCIPLE THE NEWEST LOOKING POST WAS THE MOST LIKELY.

DAILY LOG DAY 3

KINGMAN SURVEY - BDY OF CHKO CLAIMS

Aug 20 MET SURVEY CREW FOR COFFEE @ 8:00 AM
TODAY THE CREW IS HERB & TOM SHIPLEY, BILL SUGDEN AND MYSELF.

- PROCEEDED TO CLAIMS TO LOCATE AND TIE IN TO KNOWN quarter section CORNERS THE SECTION CORNER MARKED R18W T23N SEC. 25 & 36 | R17W T23N SEC. 30 & 31. HERE BILL SUGDEN AND SET OUT TO FIND THE SECTION CORNER WHILE HERB AND TOM SHIPLEY GOT SET UP ON A KNOWN POINT TO SURVEY THE CORNER WHEN WE FLAGGED IT. ONCE FLAGGED THE CORNER NEEDED TO BE TIED TO SEVERAL PREVIOUSLY SURVEYED POINTS. WHILE HERB AND TOM WERE SHOOTING INTERSECTING ANGLES BILL SUGDEN AND I HAD OUR FIRST OPPORTUNITY TO WALK OVER THE CHARLEY G #'S 1 & 2.

- THE SURFACE GEOLOGY IN THIS AREA (NW NW SEC. 31) FOR THE MOST PART IS ALLUVIAL COVER, A THIN VENEER OF SAND TO BOULDER SIZED PARTICLES, USUALLY LESS THAN 3' THICK WHERE EXPOSED BY ROAD CUTS AND prospect pits.
- IT APPEARS NO MAJOR WORKINGS OCCUR ON THE CHARLIE G'S. Numerous prospect pits EXPOSED OXIDIZED VEINS CUTING DECAYED GRANITE, METAMORPHIC OUTCROPS OCCUR TO A LESSER EXTENT.
- THE VEINS ARE generally ASSOCIATED WITH QTZ VEINS AND HEAVILY STAINED WITH IRON. SOME DARK (MN) STAINED SURFACE QTZ VEINS ARE present. NO MAJOR VEIN WAS FOUND EXPOSED NOR COULD ANY ALLIGNMENT OF prospect pits WITH NEARBY WORKINGS BE ESTABLISHED.
- Some copper STAINING is present but NO SULFIDES ARE EVIDENT IN THE VEINS.
- VEINS ARE USUALLY LESS THAN 1' WIDE AND ARE HALF TO A quarter quartz. THIS IS MILKY, competent qtz. w/ OXIDE ZONE TO ONE SIDE-USU. RT SIDE WHEN FACING N.

- AFTER NOON WE LOCATED quarter section corner MARKED R17W T23N SEC 31 | 32 AND TIED TO IT OUR CLAIM MONUMENTS FLAGGED YESTERDAY.

DAILY LOG DAY 4

... KINGMAN SURVEY — BOY OF CHICO CLAIMS

AUG 21 — Met Al BEARD (BLACK HAWK OWNER) AT JAMISON WATER TANKS @ 8:30 AM. FIELD CREW CONSISTS OF Al BEARD, Bill Sugden AND MYSELF.

— DROVE to SE PORTION OF CHICO CLAIMS WHERE BLACK HAWK BORDER intersects CHICO BORDER. Here we WALKED OFF THE NW BOUNDRY OF BLACK HAWK #9, 8, 3 FLAGING EACH MONUMENT WITH WHITE plastic.

— THE BLACK HAWK #'s 9, 8, 3 OVER LAP EACH OTHER CONSIDERABLY TO AVOID overlapping patented claims TO THE North AND South. (Claims OF THE New York AND Gioconda group). THEY ALL BORDER THE SE SIDE OF THE LITTLE BOY #7, WHICH LOCATION NOTICE WAS FOUND AND VERIFIED BY AL AS THE CLAIM HE BORDERED SO There APPEARS TO BE NO CONFLICT WITH AL Here.

— We ALSO LOCATED AND FLAGGED W/ DOUBLE, WHITE PLASTIC THE QUARTER CORNER MARKED R17W T23N SEC 32 | R17W T22N SEC. 5. IT APPEARS THIS LAND MARKER FALLS WITHIN THE BLACK HAWK #8.

— Met Bill & LISA KARDOS AFTER LUNCH AND TOOK A short tour OF THE CLAIMS ESP. THOSE IN THE SOUTHEAST ('98, Little Boys).

— Bill Sugden & myself spent the remainder OF THE DAY Exploring the Little Boy shaft AND DUMPS.

The Little Boy vein STRIKES N 30-40 W AND DIPS ALMOST vertical. THE SHAFT Decends ALONG the vein for more than 200' (THE Length of our safety line prevented exploration OF the Deeper portions OF THE mine) AT THE 175' level A DRIFT HEADS NW SHOWING A galena-sphalerite vein ABOUT Eight inches wide. THE DRIFT IS ABOUT 50' long AND Ends while still in ore.

— Vein SAMPLES show continuous mineralization but the vein is thin, loaded with quartz AND PARTLY OXIDIZED. SAMPLES on the DUMP indicate A LARGER vein WAS Found at Depth SINCE some rather large Pieces OF ore Are present there.

DAILY LOG DAY 5

· Kingman Survey – Boy of Chico claims.

Aug 22 – Field Crew Bill Sugden and myself.
Arrived in the field @ 8:30am for geological reconnisiance of '98 claim & Little Boy claims.

- Decended Little Boy shaft to locate and follow mineralized zones along the main qtz vein. 1st ore encounted at ca. 50' where small 10' drift is cut into wall of shaft. This ore shoot was probably too small to warrent exploitation and appears to be mostly oxides although small amounts of galena are present wall rock is granite with abundant, small, desiminated pyrite xlts.

- The ladder is badly rotted beyond this point due to constant water splashing everywhere. Also beyond this point the shaft wall are coated with $CaCO_3$ sinter up to 1/2" thick which effectively covers the wall rock, small drifts ush. A few feet at most probably indicate a mineralized zone was encounted but slick walls and rotting timber prevented detailed examination.

- At the 175' level the ladder breaks off – Here the 50' drift is accessible but badly caved and generally unsafe. The wall rock here is a dark metamorphic rock only slightly altered next to the vein. About 20lbs of vein material was collected.

- After lunch we located the Little Boy tunnel which is flowing pretty good water. We could not enter but found abundant evidence of sphalerite, galena, chalcopyrite on the dump. The tunnel is located approximately 200' below the shaft and trends N 30-40W along the vein. The dump is not large so the tunnel is probably fairly short and must intersect with a ore shoot below the ladder level of the shaft.

- The remainder of the day was spent locating and correlating veins on the hillside opposite the Little Boy patented claim. 2 veins were located but only one could be traced across the wash onto the Little Boy and '98 claim. (See sample notes Aug 22 for details)

Daily log

Day 6

... Kingman Survey – BDY of CHICO claims

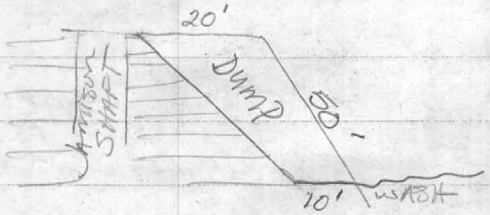
Aug 25 – Met Herb & Tom Shipley for coffee @ 8:00 AM. Spent morning on telephone with Bill Kardos, Herb Shipley, Betty Escapole and at courthouse looking into Logas and Duval claims.

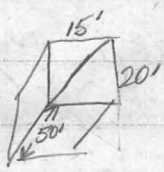
Aug 26

Day 7

Returned from Kingman.

Jamison ORE STOCK pile #3





factor ore-waste

15'x20'x50'x.5 ÷27x2.5x1.16 =

409 TONS

TOTAL ORE STOCKPILED @ JAMISON SITE

① 1100 T

② 170 T

③ 805 T

2075 T

1 - 200' -

2075 TONS AVERAGING 2% Cu, 6 oz Ag, 0.03 oz Au

ASSUME 80% Cu & Ag RECOVERABLE

40% Au recoverable

66400 lbs Cu recoverable (@.80/lb = $53,120)

9960 ozs. Ag recoverable (@ $12/oz = $119,520)

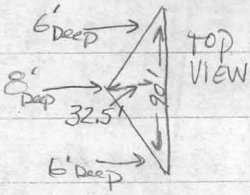
25 ozs Au recoverable (@ 500/oz = 12,500)

$185,140

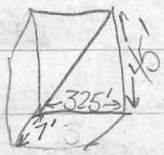
— HAYDEN SMELTER ANALYSIS SHOULD BE FINISHED BY END OF WEEK — RESULTS WILL BE SENT TO ORE PURCHASING DEPT IN TUCSON WHO WILL THEN ISSUE PURCHASE ORDER FOR WHOLE ORE OR CONCENTRATE OR WILL ISSUE REJECTION NOTICE - EITHER WAY SHOULD HEAR FROM TUCSON BY MID-NEXT WEEK (APRIL 20-24) —

— ORE STOCKPILES

JAMISON ORE STOCKPILE #1



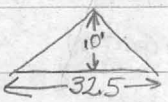
CALCULATIONS



$45' \times 32.5' \times 7' \div 27\ 1/4\ \times 2.5\ T/cu\ yd \times 1.16$ density factor

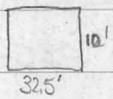
$= 1100$ TONS OF ORE

JAMISON ORE STOCKPILE #2



SIDE VIEW

CALCULATIONS



1/2 volume of cylinder

$\pi r^2 h \div 27 \times 2.5 \times 1.16 = 170$ Tons

RECOVER 90% of Cu & Ag & Au

Cu + Ag recoverable	$232,241
5% ROYALTY	-11,612 ✓
SHIPPING	-10,000
MILLING & CONC.	-23,224
	$187,405

payments $15G FOR 3 MOS = 45G
30G FOR 4 MOS = 120G
165G

CAN HOLD CLAIMS FOR 7 MOS FROM PURCHASE DATE. BY MILLING ORE STOCKPILE & selling concentrates to Hayden smelter.

6000 T @ $75/T	450,000	mining
" " 200 oz/T.	1,440,000	silver
4 315,000	72,000	roy
144,000	144,000	mill
459,000 3	144,000	operations
270,	270,000	
45	45,000	LAND payments

— ORE stockpile —

8' HIGH 120' LONG 25' WIDE

$8' \times 120' \times 25' \div 27 \, ft^3/yd^3 \times 2.5 \, T/yd^3 = 2222$ tons

AVE ASSAY per ton

Au	.03 oz/ton	x 2222	= 66.67 ozs
Ag	5.64 oz/ton	x 2222	= 12533.33 oz
Cu	1.9%	x 2222	= 84444.44 lbs
Pb	0.69%	x 2222	= 30666.66 lbs
Zn	1.35%	x 2222	= 60,000 lbs
FE	10.92%	x 2222	= 242.67 TONS

VALUES

			$	
GOLD	@ 500/oz	=	33,335.00	33,335
SILVER	@ 12/oz	=	150,400.00	150,400
Copper	@ 88¢/lb	=	74,311.00	74,311
LEAD	@ 36¢/lb	=	11,040.00	
Zinc	@ .415¢/lb	=	24,900.00	
IRON	@ $110.00/ton	=	26,693.00	
			$320,679.00	258,046

PHASE I – reopening the works

→ LABOR COST (per TON)

scale 6.80–9.00/hr (1) Mining

up to $12/hr (2) Driver – eqt. operator

up to $9/hr (3) mechanics

→ OPERATING COST (per TON)

(1) Gov't Regulations & TAXES
(2) POWDER & explosive detonators
(3) pumping (WATER procurement or drainage)
(4) HAULING AND HOISTING
(5) FUEL (power & transportation)
(6) Eqpt. repair & supplies
(7) STABILIZING the WORKS (TIMBER – roof bolts etc)
(8) Ventilation
(9) WASTE ROCK DISPOSAL

→ MANAGEMENT Costs

(1) Accounting
(2) Supervisory personnel
(3) secretarial
(4) ASSAY, outside services

→ Equipment AMORTIZATION

JACKHAMMERS
63,000 LOW BOY
conveyer or front end loader (stacking ore-waste disposal)
PUMPS (water control)
GENERATOR (power)
FANS (ventilation)
Fire control
AIR COMPRESSOR (jack hammers)
SAFTEY EQPT.
TRUCKS (pick up-dump) transport to railhead or mill
explosive detonating devices.

PHASE II (Developing ore to full Recoverable value)

→ Concentration & refinement
(1) LAB & pilot plant (also for assay work, sample storage, ore control)
(2) mill (maintainance & repairs)
(3) concentrate (chemicals - separators)
(4) refine (Hydrometalurgy - pyrometalurgy)

→ Mill costs — per ton
conveyor to mill
Power (generator)
tailing disposal (conveyor or dozer or both)
balls
maint & repair
labor

→ Concentration costs per/ton
floatation chemicals
eqpt maintenance & repair
power
water
labor
tailings disposal (from above)

→ Refining costs
(1) Pyro or Hydrometalurgy
chemicals or power or fuel
or
Haulage & cost to contract refining & sale of product

→ Eqpt. Amortization:
dozer - conveyor — front end loader
Buildings - tanks + eqpt.
float cells - mill -

PHASE III exploration

(1) MAN POWER –
Geologists & Assistants 220 – 440 / DAY

(2) STUDIES IN OFFICE
photo – .05 – .25 / km²
MAPS – $1.53 ea – USGS –
Literature –

(3) LAB WORK
ASSAYS $5 – 12 / element
THIN SECTION & polished section $3 – 10 / section
MICROSCOPE $15,000

(4) FIELD geology
TRANSportation
4 wheel drive $250 – 350 / mo.
+ gas + repair & maint
Air craft &/or Helicopter $500 – 1500 / Hr
BRUNTONS $150 – 120 ea sample BAGS (.10 – .25 ea)

(5) geochemical SAMPLING
FIELD collection $2 – 20 / SAMPLE
STREAM or SOIL
sampling kit $15 – $75 BAGS ($.10 – .25 ea)

(6) DRILLING
NON-CORE to 300m $10 – 30 / m
CORE to 300m $40 – 50 / m

MOBIN COST
(SITE PREP) ADD 60 % of DRILLING COST NON CORE

(7) ACCESS ROADS & trenches
ROAD BUILDING $2000 – 4000 / km moderate terrain
TRENCHING w/ DOZER or BACKHOE 10 – 30 / linear meter.

Cost of PHASE III

Assume 2 geologist & 1 Assistant	@ $6000/mo.
office - maps - literature - photos	300/mo.
LAB WORK 100 ASSAYS 3 ele. ea. /mo.	2400/mo
30 thin & polished sections	300/mo
transportation 1 areal recon	2000/mo
4 wheel drive + gas + repairs	350/mo
geochemical samples collection (100)	$500/mo
Drilling 10 - 300 m cores/mo.	$9000/mo
site prep.	5400/mo
1 ACCESS ROAD /mo. @ 1 km	$3000/mo
6 trenches /mo @ 10 m. ea	$1200/mo
MISC. FIELD supplies	$1000/mo
total exploration cost per mo	$31,450.00/mo.
6 mo exp. plan APPROX	$200,000

Snyder
16 E. Terrace Ave
86001
FLG
945-0985

DICK KNOWLES

ADDRESS —

DEAR DICK; re. CHILO PROPERTY

IN REGARDS TO OUR TELEPHONE CONVERSATION OF 4-27-81 THERE APPEARS TO BE TWO POTENTIAL SOURCES OF CAPITAL ON THE CLAIMS THAT COULD BE DEVELOPED AT MODERATE COSTS.

FIRST OF COURSE, IS THE very accessible STOCKPILED ORE from the Jamison Mine. ~~I HAVE ESTIMATED CALCULATED THERE~~ there is estimated TO BE 2075 TONS OF STOCKPILED, LOW GRADE, SILVER-GOLD ORE. ASARCO'S SMELTER AT HAYDEN, ARIZONA, WILL PURCHASE CONCENTRATES FROM THIS ORE BUT WILL PAY FOR ONLY SILVER AND GOLD. ? IN ITS PRESENT CONDITION THE ORE GOES ABOUT 6 OUNCES OF SILVER PER TON AND 0.03 OUNCES OF GOLD. PREVIOUSLY DONE MILL TESTS SHOW NEARLY 90% OF THE SILVER AND 40% OF THE GOLD CAN BE SAVED IN A CONCENTRATE.

IP ~~ALL OF THIS STOCKPILED ORE CAME FROM THE JAMISON MINE AND IS VERY ACCESSIBLE.~~ WE HAVE RESERVED 50 ~~20~~ TONS PER DAY CAPACITY AT THE CERBAT MILL AS SOON AS IT BECOMES OPERABLE, IN 30-60 days ~~2-3 MOS,~~ ~~FOR WHICH WE MUST PAY 10% OF THE CONCENTRATES.~~

~~Top~~ will be in ~~Dec.~~ next mtg discussion with the mill operator for further cost details.

IP WE assume ~~FEEL~~ ONE MAN WITH A FRONT END LOADER AND A SMALL DUMP TRUCK COULD HAUL 40 ~~20 TONS~~ per day to THE MILL, ~~IN ABOUT HALF A DAY.~~ THE CONCENTRATES FROM THIS STOCKPILED ORE WOULD PAY THE LAND PAYMENTS AND OPERATING COSTS FOR THREE MONTHS OR SO BUT WOULD SOON BE DEPLETED.

OUR SECOND SOURCE OF CAPITAL IS THE SHALLOW ORE PODS WHICH ARE NOW EXPOSED ON THE PROPERTY. NO LESS THAN SIX PODS ARE KNOWN TO EXIST, THREE OF WHICH COULD BE MINED WITH MINIMAL DEVELOPMENT WORK. THE upper PORTIONS OF THESE ORE PODS HAVE BEEN completely MINED OUT

LEAVING THE BOTTOM, PRIMARY SULFIDE, ~~HALF IN PLACE.~~
THE PRESENT CONDITION OF THE WORKINGS ARE SUCH THAT IT IS IMPOSSIBLE TO KNOW JUST HOW EXTENSIVE THE ORIGINAL ORE POD WAS, BUT A GOOD GUESS WOULD PUT THE STOPED HALF AT ABOUT 2000 TONS. ASSAYS (TOO FEW IN NUMBER) IMPLY A 3 FOOT ORE ZONE COULD PRODUCE 20 OUNCES PER TON SILVER ORE WITH SOME GOLD AND A LOT OF COPPER. WE ESTIMATE A CONTRACT COST OF $75/TON TO MINE THE ORE AND, IF DONE PROPERLY, WE CAN MOVE FROM THE JAMISON TO THE MINT TO THE NIGHTHAWK ORE PODS, WHICH WE KNOW EXIST AND ARE LOCATED ON PARALLEL VEINS.

P MINING THE VEINS AT A RATE OF 20 TONS PER DAY SHOULD CARRY US THROUGH THE FIRST YEAR OF THE PURCHASE CONTRACT.

P SINCE THE MILL IS SCEDULED TO OPEN IN 30-60 days ~~TWO MONTHS~~ WE SHOULD USE OUR SECOND OPTION PERIOD TO THROUGHLY EVALUATE THE STOCKPILES. THIS WOULD CONSIST OF BACKHOE TRENCHING OR AUGER HOLE DRILLING, THROUGH SAMPLING FOR ASSAYING AND COLLECTION OF 400-500 lbs. OF REPRESENTATIVE MATERIAL FOR CONCENTRATION. THIS PROJECT SHOULD BE FAIRLY INEXPENSIVE AND RESULT IN A COMPLETE UNDERSTANDING OF THE STOCKPILE CHARACTERISTICS.

EXPLORATION AND EVALUATION OF THE IN-PLACE ORE PODS ON THE PROPERTY WILL REQUIRE DRAINING THE MINT TUNNEL OF WATER PLUS VARIOUS ASSAY COSTS, THE RENTAL OF A SMALL, AIR POWERED, JACK HAMMER WITH WHICH TO COLLECT 400-500 lbs OF VEIN MATERIAL FOR CONCENTRATION.

P IT IS OUR ESTIMATE ALL COSTS EXCEPT THE CONCENTRATION WILL COST NO MORE THAN $2500 LABOR INCLUDED. CONCENTRATION

COSTS COULD RUN AS HIGH AS $4000.

¶ CALCULATIONS SHOW THE STOCKPILED ORE PLUS THE JAMISON, MINT AND NIGHTHAWK ORE PODS, IF MINED OUT IN ONE YEAR, WOULD PRODUCE A RETURN OF ROUGHLY 10,000 OUNCES OF SILVER AFTER DEDUCTING MINING, MILLING AND CONCENTRATING, ROYALTY, OPERATIONS AND LAND PAYMENTS.

¶ AS YOU CAN SEE THIS OPERATION WILL NOT MAKE US RICH BUT IT WILL ENABLE US TO KEEP UP THE LAND PAYMENTS AND ONCE WE HAVE ESTABLISHED A VIABLE OPERATION THE CHICO CLAIMS WILL BE MUCH MORE EASILY MARKETED.

¶ I AM ALSO INCLUDING A BRIEF DESCRIPTION OF THE DETROIT MINE WHICH ~~WE~~ PRO PICKED UP IN THE CHICO 1-22 CLAIM group. THE MINE APPEARS TO CONTAIN A COPPER ZINC-SILVER MINERALIZATION.

I HOPE THESE FACTS AND CONTENTIONS ARE OF SOME VALUE TO YOU. PLEASE KEEP IN TOUCH, ANY FEEDBACK WOULD BE GREATLY APPRECIATED.

Sincerely

WM. VANDERWAY

LAB WORK:

ASSAYS - 860 @ $17 ea.	15,000
(Au + Ag + INDICATOR elements)	
WHOLE ROCK ANALYSIS	5,000
(CLASSIFICATION & TEXTURAL)	
	20,000

FIELD EQUIPT & SUPPLIES:

EM EQUIPT RENTAL	$1500
PUMPING EQUIPT RENTAL + gas	$3000
SAMPLE BAGS, FLAGGING, MAPPING SUPPLIES	500
	$5000

VEHICLE EXPENCES

GAS + MISC.	$600
VEHICLE LEASE	$4500
	$5100

PERSONNEL EXPENCES

2 MEN 90 DAYS @ 35/DAY $6300

LODGING $15/DAY

FOOD $15/DAY

Telephone, MISC. $5/DAY

$6300

LABOR:

FIELD MAPPING	21 DAYS
EM SURVEY	7 DAYS
DRILLING SUPERVISION	20 DAYS
ROADWORK SUPERVISION	7 DAYS
PLANNING & PREP	9 DAYS
DATA INTERPRETATION	9 DAYS
REPORT COMPILATION	9 DAYS
ADMINISTRATIVE	7 DAYS
	90 DAYS

DRILLING:

3-500' CORE HOLES	@40/ft	$60,000
12-14, 200' CHIP HOLES	@10/ft	28,000
MOVE IN - SET UP CHARGES		3,500
		91,500

SURVEYING:

FLAG DRILLHOLE SITES	$1000
FLAG EM STARTING POINTS	500
FLAG VEIN OUTCROPS	1200
	2700

HEAVY EQUIPT. WORK:

ACCESS ROAD IMPROVEMENT	5000
ACCESS ROAD CONSTRUCTION	2000
DRILL SITE PREP	1700
MISC. GEOLOGIC CUTS	1300
	10,000

PHASE I: GEOLOGICAL AND ENGINEERING RECONNAISSANCE OF THE ELEVEN, UNPATENTED, BLACKHAWK MINING CLAIMS.

GEOLOGICAL MAPPING AND PRELIMINARY ENGINEERING ESTIMATES ARE THE BASIC THEME OF PHASE I. THIS PHASE WILL RELY ON THE FOLLOWING METHODS: AIRBORNE, FIELD AND OFFICE WORK. THIS RECONNAISSANCE, LIKE OLD FASHIONED AND CLASICAL PROSPECTING, RELIES MAINLY ON WALKED OUT TRAVERSES, LOCATING AND MAPPING MINERALIZED STRUCTURES, EXAMINATION AND MAPPING OF OLD MINE WORKINGS AND PRECISE DELINEATION OF THE BLACKHAWK CLAIMS 1 THROUGH ELEVEN. THIS WILL BE THE PURPOSE OF PHASE I AND REQUIRE 45 DAYS TIME AND UP TO $45,000.

OPERATIONS DURING THIS PERIOD WILL CONSIST OF FOUR WELL ORGANIZED AND CONCURRENT PROJECTS.

(1) Surveying: THE IMPORTANCE OF Accurate surveying CANNOT BE over-emphasised. DELINEATING THE BLACKHAWK CLAIMS 1 THROUGH 11 FOR legal AND practical REASONS MUST BE ACCOMPLISHED WITHIN THE FIRST 10 DAYS OF PHASE I.

Cost: $400/claim total-up to-$4,400

(2) Geological surface mapping: Preliminary INSPECTION BY AIRCRAFT IS PARAMOUNT SINCE IT CAN PROVIDE points OF VIEW THAT EVEN THE MOST DETAILED AEREAL PHOTOGRAPHS CANNOT MATCH.

Cost: up to $200.

Mapping surface geology TO IDENTIFY CRITICAL LITHOLOGY, STRATIGRAPHY AND STRUCTURE AS well as LOCATING ALL APPARENT OLD WORKINGS AND COLLECTING SAMPLES IS EXPECTED TO Require 20-

30 WORK DAYS. THE METHOD RELIES MAINLY ON WALKED OUT TRAVERSES, WHERE POSSIBLE, THE TRAVERSES WILL FOLLOW STREAM COURSES, TRACE MINERALIZED ROCK FRAGMENTS TO THEIR SOURCE AND PAN ALLUVIUM FOR HEAVY MINERALS. THIS MAPPING, BEING SOMEWHAT PRELIMINARY, WILL CONCENTRATE ON THOSE FEATURES WHICH HAVE THE MOST DIRECT BEARING ON THE MINERAL DEPOSIT. IF THE EVIDENCE ACCUMULATED IN THIS PRELIMINARY MAPPING IS ENCOURAGING, MORE TIME WILL BE ALLOTTED IN A LATER PHASE. PRELIMINARY MAPPING WILL BE DONE IN A 1:500 SCALE, WHICH WILL ALLOW PROSPECT PIT SIZED FEATURES TO BE DESCRIBED SEPARATELY AND IN SOME DETAIL.

Costs:

MANPOWER + INSURANCE: $3,000 geologist
2,000 ASSISTANT
total 5,000.

Equiptment: field books, AREAL MAPS, USGS BLOW ups, pencils, protractors, SAMPLE bags AND packs, BRUNTON COMPASS steel tape, ROPE, SAFTEY gear, etc.

total cost $500.

TRANSPORTATION: 4 wheel drive vehicle $350
+ gas 100
total $450

FOOD, LODGING, LAUNDRY, etc. total $1200

grand total 7,150
+10% contingency 715
$7,865

AQUIRING RELIABLE "GROUND PROOF" ENGINEERING ESTIMATES OF OLD WORKINGS AND POTENTIAL NEW WORKINGS ON THE BLACKHAWK CLAIMS IS ESSENTIAL SO THAT PHASE II: OPENING THE WORKINGS, WILL HAVE A STRONG BASIS IN FACT. ENGINEERING WORK WILL COINCIDE WITH GEOLOGICAL MAPPING AND REQUIRE THE FULL 45 DAYS (30 WORK DAYS).

THIS PORTION OF PHASE I WILL PROVIDE FOR THE REOPENING OF ALL STRATEGIC ROADS INTO AND ABOUT THE BLACKHAWK CLAIMS, WHICH HAVE BEEN RENDERED IMPASSIBLE BY NEGLECT, AND THE REOPENING OF OLD MINE WORKINGS NOW CAVED OR OTHERWISE CLOSED. THE ENGINEER WILL ALSO PROVIDE A SEPARATE REPORT ON EACH PERTINENT WORKING AS TO THEIR RESPECTIVE FEASIBILITY AND SCALE FOR FUTURE WORKING, THEIR PRESENT EXTENT OF WORKING AND THEIR ROCK FABRIC CHARACTERISTICS.

THE ENGINEER WILL WORK WITH THE GEOLOGIST TO INCORPORATE THIS INFORMATION INTO THE ~~PRELIMINARY~~ PHASE I REPORT. THE GEOLOGIST WILL BE RESPONSIBLE FOR ASSAY SAMPLE COLLECTING IN THE

ENGINEER'S DOMAIN, NAMELY MINES, CUTS AND pits.

THIS PORTION OF PHASE I ~~[illegible]~~ WILL BE CONTRACTED TO A RELIABLE ENGINEER WHO WILL PROVIDE FOR ROADWORK AND MINE CLEAN OUT, TRENCHES WHERE NECESSARY TO LOCATE ORE EXTENTIONS, AS WELL AS, A DETAILED ENGINEER'S REPORT. THIS ENGINEER WILL PROVIDE HIS OWN LABOR FORCE, EQUIPTMENT, INVENTORY, REPAIR, TRANSPORTATION, ETC., IN SHORT ALL THAT IS REQUIRED FOR THIS PORTION OF PHASE I.

Cost $25,000

OFFICE WORK DURING THE PHASE I PERIOD IS NOT EXPECTED TO AMOUNT TO MUCH MORE THAN ACCOUNTING AND A FINAL BALANCING OF ALL FUNDS.

STRICT ACCOUNTING WILL BE MAINTAINED THROUGHOUT AND IT IS RECOMMENDED A BOOKKEEPING SERVICE BE HIRED ON A PAY-AS-YOU-NEED-THEM BASIS.

Cost: up to $200.

PHASE I COST SUMMARY:

Survey		up to $4400
AIRBORNE Geology		up to $200
Geological		7,150
Engineering		25,000
OFFICE		200
ASSAY		5,000
contingency	10%	4,195
		$ 46,145.00

PHASE II: OPENING THE WORKINGS

IT IS REPORTED (FROM CONVERSATIONS WITH T.W. ANDERSON) THAT SEVERAL THOUSAND FEET OF UNDERGROUND MINE WORKINGS NOW EXIST ON THE BLACKHAWK CLAIMS. PHASE I WILL VERIFY THE EXISTANCE, EXTENT AND LOCATION OF SUCH WORKINGS AND REPORT ON ORE THEREIN. PROVIDED PHASE I RESULTS ARE ENCOURAGING, PHASE II WILL PROVIDE FOR THE RESTORATION OF SUCH WORKINGS SO AS TO PROVIDE 50T/DAY OF 10OZ/T SILVER ORE. THE REOPENING, STABILIZING AND MUCKING OUT OF THESE WORKINGS WILL CULMINATE IN 120 DAY WITH THE ABILITY TO CONTINUALLY PRODUCE A MINIMUM OF 50T/DAY OF 10OZ/T SILVER ORE. PHASE II WILL ALSO PROVIDE FOR A CENTRALLY LOCATED ORE DEPOT WITH A NETWORK OF ROADWAYS TO ALL CONTRIBUTING MINES.

PHASE II will require THE FOLLOWING.

FIELD LABOR: 3 experienced miners (9.00/hr); 3 LABORERS (5.00/hr); 1 HVY EQUPT. operater (12.00/hr); 1 SUPERVISOR (2000/mo); 1 ENGINEER/ OVERSEERER OF FIELD OPERATIONS (T.W. ANDERSON) (3740/mo).

TOTAL 120 DAY COST: $56,100.00

Insurance: 8 men / 90 DAYS @ $50/DAY =

TOTAL 120 DAY COST: $36,000

OFFICE LABOR: 1 ACCOUNTANT/OFFICE MANAGER ($400/wk); 1 secretary ($200/wk).

TOTAL 120 DAY COST: $7,200.00

Equiptment: FIELD EQPT: 3 JACKHAMMERS ($200 ea/mo); PICKS AND SHOVELS (9.00 ea); 1 Frontend LOADER (930 CAT 2,760/mo); 1 DOZER or GRADER (D6 CAT 2,760/mo); 1 pump w/ lines AND FITTINGS ($300/mo); 1 175 kw generator OR 3 60kw generators ($1020/mo); 3 pick up trucks (340/mo ea); 1 5 TON DUMP TRUCK (250/mo ea); 3 lowboy (IN SHAFT HAULAGE) ($1100/mo); FIRE control DEVICES ($63,000 ea); Explosives AND Detonating DEVICES ($600); SAFTEY equpt (400/mo); Ventilation eqpt ($200/mo); 3 175 CFM compressors (200/man); 1 STORAGE BUILDING ($200/mo); 1 OFFICE BLDG AND EQUPT ($10,000); (500/mo ea) (600/mo)

OUTSIDE SERVICES $500/mo ; FUEL 500/mo . ASSUME ALL eqpt LEASE TO Purchase.

TOTAL 120 DAY COST: 242,078

TOTAL PHASE II COSTS:

FIELD LABOR:	56,100
INSURANCE:	36,000
OFFICE LABOR:	7,600
EQUIPMENT	242,078
10% contingency	34,178 (ASSAYS, etc)
	$ 375,956.00

PHASE III: Developing ORE TO MAXIMUM RECOVERABLE VALUE.

ASSUMING PHASE II ENDS AFTER 120 DAYS WITH ENOUGH KNOWN AND EXTRACTABLE ORE TO PROVIDE 50T/DAY OF 10OZ/TON SILVER ORE PHASE III requires THE STOCKpiling OF THIS ORE AND THE ASSEMBLY OF A 50T/DAY MILL AND concentration facility. PHASE III will require 120 DAYS (90 WORKDAYS) AND WILL END WITH THE ABILITY TO SHIP 5 TONS OF 100 OZ/TON SILVER CONCENTRATE TO THE Refinery DAILY PLUS A 50-90 DAY ore STOCKPILE.

PHASE III will require THE FOLLOWING:

LABOR - SAME AS PHASE II ($56,100)

INSURANCE - SAME AS PHASE II (36,000)

OFFICE LABOR - SAME AS PHASE II (7600)

Equipment - SAME AS PHASE II (242,078)

Construction of milling & concentrating facilities FACILITIES:

LEASE TO BUY from TWA NIDERSON mill CAPABLE OF milling & concentrating 50T/DAY.

mill 10,000/mo; ASSEMBLY $50,000

TOTAL PHASE III COSTS:

LABOR	56,100	
INSURANCE	36,000	
OFFICE LABOR	7200	
EQUIPMENT	242,078	
MILL	30,000	(17,000 PAID IMMEDIATELY BUT APPLIED TO FUTURE RENTS)
ASSEMBLY	50,000	
Contingency 10%	42,178	(ASSAYS, etc)

TOTAL PHASE III $463,956

CASH FLOW FOR FIRST 7½ months OF OPERATION:

Expenditures (PHASE I + II + III) $884,912.00

Credits (STOCKPILED ORE)

50 DAYS x 50 TONS/DAY x 10 OZ AG/TON x $15./OZ AG = $375,000

50 DAYS x 50 TONS/DAY x .07 OZ AU/TON x $600/OZ AU = 67,000

$442,000

STOCKPILED ORE CAN BE SOLD DIRECT TO BUYER FOR APPROX 50% OF gross VALUE OR BE MILLED BY THE NEWLY ASSEMBLED MILL ON WEEKENDS AND DURING UNAVOIDABLE DOWNTIME AT THE MINES.

THE OWNERS MAY ELECT TO SELL THE ORE THEREBY RECOUPING A FULL ONE quarter OF THE EXPENDITURES. IF THIS IS DONE THE OUTSTANDING INVESTMENT IS REDUCED TO $663,912.00. (THIS DOES NOT INCLUDE RENTS OR ROYALTIES AMOUNTING to APPROXIMATELY $22,100 or 10% OF ore sold.).

THE COMPLETION OF PHASE III enables THE FOLLOWING CASH FLOW SCHEME.

(1) 50T/DAY X 20DAY/mo X 10 oz Ag/TON X $15/oz Ag =	+ $150,000/mo
(2) 50T/DAY X 20DAY/mo X .07 oz AU/TON X $600/oz AU =	+ $42,000/mo
(3) 10% ROYALTY	− $19,200/mo
(4) operating expenses	− 50,000/mo

(5) 10% refinery fee gross BULLION (1 & 2 ABOVE) - 19,200/mo
(6) contingency (HAULAGE of conc. if required) - 3,600/mo

(7) Net PROFIT (Before DA) + $100,000/mo

(DA) Depletion ALLOWANCE OF up to 50% OF Net profits FOR DISCOVERING or OBTAINING ORE Reserves FOR FUTURE AND continued mill operation WILL ALLOW PHASE IV: EXPLORATION TO BEGIN upon completion OF PHASE III.

- See TYPED Juniper mines report p. 4 for PHASE IV
- See SAME FOR PHASE V - p. 5 -

Note - PERHAPS TW ANDERSON would put up HIS TIME, EQPT, mill AND interest IN SHARON Steel lease to provide for HIS 25% working interest.

50 T/D EQPT. PURCHASE		150,000
FIELD ERECTION	14%	21,000
FOUNDATION & supports	12%	18,000
Piping & CHUTING	22%	33,000
ELECTRICAL wiring (NO HOOKUP)	20%	30,000
Instrumentation	5%	7,500
Site prep & CLEAN up	5%	7,500
Buildings	35%	52,500
service facilities elec. water HEAT	50%	75,000
		244,500.

TOTAL PHYSICAL COST 394500 ①

Engineering & construction 25% 98,625

Direct PLANT COSTS TOTAL 493,125 ②

Contractor	5%	24,656
Contingency	15%	73,968
TAILINGS	15%	73,968
Environmental	20%	98,625
SPARE parts	5%	24,656
		295333 ③

TOTAL Fixed CAPITAL investment ~~①~~ 2 & 3 = 788,458

15% WORKING CAPITAL 118,268

- TOTAL CAPITAL INV. 906,726

PRICES & %'S BASED ON Colo. School of Mines Publication "Economics of Small Mill operation

906,726	MCL	
+ 50,000	PHASE I	(Ore delineation)
+ 375,456	Mining startup.	

1980

— Chico Survey —

Redo of Shipley Survey

Oct. 13 — Drove to Kingman Arrived 10:00pm.
checked into La Quinta Motor Lodge

Oct 14 — 8Am — proceeded to field to meet Gary Christman & David McLaughlin of Northwest Surveying 2839 Marlene Ave Kingman, Az 86401 602-753-3229.

Waited at entrance to claim approx 2 hrs with no show.
Drove to Little Boy patented claim to walk out western & southern portion of claims. Kept watch for surveyors.

Of interest during walk was junction of Rhyolite Dyke striking approx N-30-40 W and Broncho Dyke striking N 10-20 E — mine at junction but did not enter and dump is sulfide — small working.

Little Boy claim country rock is Amphibolite and granite gneiss grading southward and westward into younger granite and criss-crossed by Qtz veins. — veins heavy w Mn stain but no copper color or staining. Some Fe stain.

Hiked to first summit (labeled 4913 on Topo Map) then hiked road back to Jeep.

Oct. 15 Met Christman and McLaughlin on the claims 10Am. Discovered land monuments have been removed. Checked locations of all known monuments — all removed.

Showed surveyors where monuments located as well as true blue monuments. Will use these to calculate claim bdy.

Drove back to Phoenix ca. 4pm.

— Chico Survey — 1980

— Staking of Christman BDY —

11/19 Arrived Kingman 9pm — checked in @ Hilltop Motel and met w/ D.K. Martin for dinner & plan next day activities.

11/20 Arrived w/ DKM at Chico Claims 9:Am Drove to NE extreme of claims and set 4' PVC pipe (white w/ top painted red) at points marked by Christman and McLaughlin beginning @ NE cor. WD #6 then NW cor WD #6 then ½ pt. WD #6 & Hassayampa. Next to ½ pt of WD #6 & Mammoth #11 then ½ pt of Mammoth #11 & Mammoth #16.

Met Christman in field and hiked perimeter of Mammoth #15 & 16 setting stakes @ NE cor #15 NW cor #15; ½ pt. between 15 & 16, then NW cor. Mammoth #16 then south to ½ pt. of Mammoth #16 & Charlie G #2. Then NE cor Charlie G #1 and NW cor. Charlie G #2. Then NW cor. Charlie G #1, SW cor. Charlie G #1. Then NW cor. Pasadena #1 and ½ pt. Charlie G #1.

11/21 Arrived Chico claims to meet Christman and finish staking perimeter in conflict w/ Duval.

Staked SW cor. Pasadena #1 & NE cor. Pasadena and NW cor. Mammoth #7 (common to all three).

Surveyed and staked NW cor pasadena; SW cor. Pasadena. Then surveyed and staked ½ pt. betw. Mammoth #7 & Mammoth #5. Then surveyed and staked SW cor. Mammoth #5.

Can see old Golden Eagle or Gold Standard adit from SW cor. Mammoth #5 and it appears vein traverses Pasadena.

— CHICO FIELD —

12/17 Arrived Kingman 10:pm checked in @ Hilltop Motel.

12/18 Met A. A. BEARD AT chico claims ca. 9 AM
Drove with Him to Area He suspected of being Newly staked by DUVAL.
THIS Area is IN THE VACinity of CHARLIE G #2 AND Mammoth #6.

Two DISTINCT Ages OF STAKES ARE APPARENT AND looks AS if DUVAL HAS GONE AHEAD AND STAKED THE RIK CLAIMS THEY located back in MARCH. Or possibly re-staked THE LOWER extremity of THE PAT claims located IN '69. THIS would be THE PAT-RIK Bdy. which cut ACROSS THE CHICO group E-W 200' South of section line. 30/31

AFTER examining these stakes BEARD AND I CASUALLY DROVE OVER THE claims looking for SIGNS of ACTIVITY. There were NONE.

DROVE BACK to True Blue House for lunch where BEARD showed me TWO claims THAT JACK Owens had SAID were VACANT. These were THE old BLACK HAWK 1 & 2 which have Been long since staked by CHICO (WD 4 & 5 AND Mammoth 10 & 11)

BEARD ALSO pointed out ALL LOCATIONS OF Hi-grade ore, shown him by Owens, ON THESE "VACANT" claims. IT APPEARS THE whole of THE Broncho Dyke is mineralized w/ places (shoots) of high grade. Owers claims AT LEAST THREE places ALONG THE Dyke can be WORKED FOR 1 oz. Au/ton min & lots of Ag. + Cu, Pb, Zn

n

Chico Claims Researched
By Roy C. Pogue, Agent,
Star Rt 2 Box 178
Chino Valley Az
34859-67

n

Chico Claims Researched
By Roy C. Pogue, Agent,
Star Rt 2 Box 178
Chino Valley Az
34859-67

FIELD NOTES 7/16/80
CHICO CLAIMS

7/16 5:30 am met ALEX PROHOROFF AT HIS HOME AND DROVE TO Kingman - ARRIVED 9:30 am. MISERABLE, HOT RIDE!!

9:30 am - 6:00 pm TOURED CLAIMS - VISITED CASHIER vein SAMPLE # C-1; CASHIER TUNNEL IS LOCATED JUST UP WASH FROM WATER TANKS @ TRUE BLUE PAT claim. CASHIER TUNNEL Reportedly purposely CAVED BY IRATE LESSEE, TUNNEL FLOODED W/ 6"-1' WATER WHICH RUNS OUT INTO WASH - very muddy INSIDE - 30' from portal TUNNEL CAVED AND IMPASSIBLE TOOK SAMPLE C-1 AT CAVE IN FROM vein MATERIAL IN DEBRIS.

Description #C-1 — milky qtz vein w/ small stringers of metallic SUBSTANCE (NATIVE Ag?) FAULT gouge on either side gray green AND ca. 1' WIDE. ALL WALL ROCK LOOKS ALTERED.

DROVE TO NORTHwest END OF CLAIMS TO LOOK AT HIGH COPPER veins IN PORPHYRY? AREA. Diggings contain VISIBLE CHALCOPYRITE & pyrite, TAILINGS very SULFUR STAINED & ODEROUS. took SAMPLE # TCu-1 from tailing pile SINCE SHAFT UNSAFE.

DROVE TO MINT vein LOOKED OVER DUMP for NATIVE Ag — Alex claimed A LOT OF MARCASITE/pyrite to be NATIVE Ag — took SAMPLE #M-1 OFF DUMP THEN went into tunnel to LOCATE vein of same material found AND SAMPLED vein #M-1-V.

Drove to MOUNTAIN top for LUNCH TAKEN DOWN A WAYS TO LITTLE BOY shaft - Little Boy vein IS EXPOSED AT SURFACE - SHAFT goes DOWN 130' before WATER IS ENCOUNTERED. AT WATER Nice 1' wide BLACK, HARD vein with 2' EACH SIDE greenish fault gouge with slickenslide surface.
SAMPLED vein here #LB-1-V & gouge LB-1-G

Little Boy shaft is near Hill top by BLACK HAWK claims - several veins greater than 1' wide occur in this Area. Little Boy vein - Mint vein - 98 vein ALL WITHIN 100' AT Little Boy shaft. Good surface STAINS ALL Around.

Goetz shaft ON 98 vein 100' SE OF Little Boy vein According to Alex. Sampled one STOCKpile FROM goetz shaft sample # G-1-05 LOOKS quite DIFFERENT than Little Boy vein but has good STAINS OF red (Pb) green & BLUE (As-Cu)

DROVE DOWN HILL TO JAMISON mine - WATER running FROM portal - very muddy - Reportedly tunnel goes IN A few feet then DOWN 400' ALL flooded NOW SO STAYED out - SAMPLED one pile THAT Goetz MINED BUT never sold - looked rich in Cu-Pb sample # J-1-05

DRILLING going on AT BRONCO DYKE JUST NORTH OF Jamison WATER tanks - WATCHED HOLE TILL 600pm AND SAW MANY sulfides come up - they are taking 10' samples & DRILLING to 200' - WHILE I WATCHED ABOUT 40' went DOWN.

Left ca 6^00pm - ARRIVED Home 10^30pm

— Mill Construction Costs —

50 T/DAY MILL PURCHASE		$ 150,000
FIELD ERECTION	14%	21,000
FOUNDATION & supports	12%	18,000
PIPING & CHUTING	22%	33,000
ELECTRICAL WIRING	20%	30,000
INSTRAMENTATION	5%	7,500
SITE PREP. & CLEAN up	5%	7,500
BUILDINGS	35%	52,500
SERVICE FACILITIES	50%	75,000
— TOTAL PHYSICAL COST		394,500 —
ENGINEERING & CONSTRUCTION	25%	98,625
— DIRECT PLANT COST TOTAL		493,125 —
CONTRACTOR	5%	24,656
CONTINGENCY	15%	73,968
TAILINGS	15%	73,968
ENVIRONMENTAL	20%	98,625
SPARE PARTS	5%	24,656
— FIXED CAPITAL INVESTMENT TOTAL		788,458 —
15% WORKING CAPITAL		118,268
TOTAL CAPITAL INVESTMENT		906,726

Wm. Vanderwall
~~1021 E. Spence Ave.~~
~~Tempe, Arizona 85281~~
~~(602) 968-2653~~

P.O. Box 9125 KS
Bullhead, Az 86430
754-4481

Charles Goetz
5160 W. Missouri Ave.
Glendale, Arizona 85301

Dear Mr. Goetz:

I have prepared the following brief summary of the geology and ore deposits on the Chico Mines Property and make it available to you with hopes that it will be made available to prospective buyers of the property. As you know, my detailed knowledge and general familiarity with the area is based on extensive field work and related studies done over several months in 1980 and 1981. I wish it to be known that I consider the property an excellent exploration target and that I am available and anxious to further explore and develop it.

CHICO MINES PROPERTY

The Chico Mines Property consist of 51 contiguous mining claims (two patented) comprising approximately 640 acres and located in the Wallapai Mining District of northwest Arizona.

The property is bounded on the east by Stockton Hill Camp, a late 19th century silver bonanza; on the south by Golconda Camp, once the largest base-precious metal producer in the district; and on the north by the Pennzoil-Duval, Mineral Park open pit copper-moly mine.

On the property, rocks exposed at the surface include metamorphosed pre-Cambrain igneous and sedimentary rocks cut by Mesozoic intrusives and Tertiary extrusives. The ore deposits exist as vein type mesothermal deposits of primary base metal-silver sulphides, oxidized, near surface deposits enriched in precious metals and, possibly, a copper molybdenum porphyry, an extention of the Duval orebody.

The largest structure, the Bronco Dike, a fracture which traverses the property for three-forths of a mile, is composed primarily of rock equivalent to the Duval host rock and minor quartz. Limited shallow drilling in July, 1981, showed the quartz to average three feet in thickness and to contain 0.3 ounces gold and 7.0 ounces silver per ton with substantial amounts of copper, lead and zinc. If the quartz persists for the entire length of the dike, it could represent over one million tons of ore.

At least six major vein systems traverse the property trending northwest and intersecting with the northeast trending Bronco Dike. Oxidized portions of these veins are known to contain enrichments of gold and silver. One such enriched area, at the juncture of the Jemison vein and the Bronco Dike, was extensively mapped and and sampled by the author. Results indicate shallow drilling would prove from 50,000 to 250,000 tons of material averaging 0.05 ounces gold and 2.1 ounces silver per ton. The surface samples were amenable to cyanide leaching and could by extracted by surface mining methods. No less than five similar vein-dike junctions

exist along the Bronco Dike. Exploration, therefore, could delineate up to a million and a half tons of leachable ore.

Previous mining operations on the Chico Property have produced some sizable mine dumps and precious metal extraction from these dumps should not be overlooked. Cusory examination indicates in excess of 100,000 tons of material averaging 0.03 ounces gold per ton and 1.5 ounces silver.

Thus the property contains base metal-silver veins, oxidized silver-gold enrichments, low grade mine waste and, possibly, a copper-moly porphyry. A program integrating geology, geophysics and drilling is required to delineate ore reserves on the Chico Property.

The merits of the property can best be appreciated by an on-sight evaluation and I am available to conduct prospective clients through the property on a per diem basis.

Sincerely,

Wm. Vanderwall

Wm. Vanderwall
Registered Geologist, State of Arizona, No. GIT 34

Aug 16, 1981

ADDENDUM: June 18, 1988, THIS AUTHOR IS AWARE OF NO PROVEN RESERVES ON THE PROPERTY. However, several VERY ANOMOLOUS AREAS DO EXIST AND ARE EXCELLENT EXPLORATION TARGETS!

Sincerely
Bill

PACIFIC
REGIONAL
OPERATIONS, INC.

P.O. Box 716 • Scottsdale, Arizona 85252 • (602) 994-3147

March 23, 1981

GEOLOGICAL REPORT
CHICO MINES PROPERTY
WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA

LOCATION:

The Chico Mines Property lies in the central portion of the Cerbat Mountain Range, approximately 10 miles northwest of Kingman and 200 miles northwest of Phoenix, Arizona. The claims, 73 contiguous (2 patented), encompassing over one square mile, extend from near the summit of the range to the foothills with a relief of 1,500 feet. Located in Sections 29, 30 and 31 of Township 23N, Range 17W, and Sections 5 and 6, Township 22N, Range 17W, Gila and Salt River Meridian, Mohave County, Arizona, these claims are accessible via four miles of unimproved county and private roads from U. S. Highway 93.

HISTORY AND PRODUCTION:

The Chico Mines property lies centrally in an area rich and colorful in Arizona mining history. Bordering the claims on the east is the famous silver bonanza ghost camp of Stockton Hill, where rich silver discoveries brought miners to the area in 1863. Oxidized silver ores (up to 3,000 ounces per ton) were mined at Stockton Hill with the bulk of production during the 1870-80 period. Bordering the claims to the south is the Golconda Ghost Camp whose namesake mine was reportedly "shot in" by its German owners at the outbreak of World War I. The owners abandoned the claims by returning to Germany. The Union Basin Mining Company immediately reentered the Golconda, and their smelter receipts show the company producing more than three million dollars worth of zinc, gold and silver during the duration of the war. During this time, the Jamison, True Blue and Little Boy Mines, located on the Chico claims, carried on minor operations and shipped ore to the Golconda mill. A disasterous fire at the mill halted operations in 1919, and the Golconda has been dormant since.

During the second world war, premium prices for copper, lead and zinc renewed activity in the area. The Alpha mine and the Summit mine, both located immediately to the east on veins which cross the Chico properties, shipped ore to the Tennessee mill. The Tennessee-Schuylkill mine, located 7 miles north of the Chico claims, produced 150 tons per day of crude ore averaging 7% zinc, 3.5% lead and 20 ounces of silver per ton. For the duration of the war, mill capacity limited development in the area.

The value of metals produced from the District during the years 1904-48, (U. S. Bureau of Mines 1948 Annual Report) was about 22.5 million dollars at 1948 prices, (nearly 1 billion dollars at today's prices). Values were principally in lead and zinc, but with substantial amounts of copper, silver and gold.

During the 1950' and 1960's there was sporadic development on the Chico property when the government paid a bonus for silver. The Mint, Cashier and '98 mines produced 20-50 ounce per ton silver ore. In this interim, the Jamison mine was developed to the 400-foot level and stockpiled low-grade copper-lead-zinc ore. A small mill was installed and operated for a brief time on the property but production statistics are unavailable. Approximately 1,000 tons of ore remain stockpiled.

Currently Pennzoil-Duval Corporation, bordering the Chico property to the northwest, is reportedly producing 18,000 to 20,000 tons per day of open pit ore averaging 0.5% copper and 0.045% molybdenum, plus other metals.

GEOLOGY AND ORE DEPOSITS:

The Cerbat Mountains constitute one of the many north-south trending, fault-block ranges of the southwest desert. They consist primarily of metamorphosed pre-Cambrian igneous and sedimentary rocks, cut by later intrusions of Mesozoic (?) granite and monzonite porphyries, known locally as the Ithaca Peak Granite, and by Tertiary volcanic dykes. Centering around the Ithaca Peak intrusive, mineralization is typically copper and molybdenum sulfides, now being mined by Duval. Surrounding the intrusive is a zone several miles wide of lead-zinc-silver bearing veins which gradationally change into veins of intense silver mineralization.

The vein type ore deposits occur in clefts or cracks in the country rock in which the mineral material precipitated from aqueous solution (hydrothermal fissure veins). It is probable that these fissures formed from forces accompanying the implacement of the Ithaca Peak intrusive. With the intrusive acting as a heat engine, a convecting hydrothermal system developed that set up a hypogene enrichment process which deposited ore and gangue minerals near the top of the convecting cell and extracted metals and sulfur from sources at depth. Conceivably, as the solution approached the fissure level, it boiled, thereby distilling the acid forming constituants CO_2 and H_2S. Cooling and a slight pH rise of the residual liquids, due to loss of acid forming constituants, may be regarded as the mechanism of sulfide precipitation. Exposure of the veins to normal weathering processes oxidized the ore and, to a point, enriched it by the downward migration of slightly acidic rainwater carrying metals in solution.

Many veins, occuring in nearly vertical fault fissures, strike northwest and outcrop for considerable distances. The fault fissures are largely occupied by breccia with abundant shearing and some gouge. Ore lenses, or shoots, though not continuous are numerous and tend to have greater vertical rather than horizontal extent. Concentrations of extremely hi-grade ore appear to favor vein junctures. These concentrations are attributable to chemical and physical changes which enhanced mineral deposition at the fissure level of the convecting cell.

Most of the veins appear to be associated with the various dykes. The Broncho Dyke is a prominent linear structure which extends from the Golconda Mine northeast through the Chico claims (as shown on prospect map). It cuts all lithologic units in the area and appears to intersect with no less than four major veins on the Chico property. The Dyke is composed of dioritic to diabasic rock with an aphanitic texture. It varies from 20 to 70 feet in thickness, strikes N 10 E and dips 60° SW. Evidence of mineralization in the Dyke is from manganese stained gossan caps, in place mineralization underground and the number and extent of workings on the Dyke. Other dykes on the property include granite porphyry, aplite and rhyolite but are, presumably, less mineralized than the Broncho Dyke.

At least four major vein systems traverse the Chico claims trending northwest from Stockton Hill and intersecting with the Broncho Dyke. They are the Summit and Alpha Veins, the Cashier Vein, the Mint-'98 Vein and the Little Boy Vein (see

prospect map). There has been activity on each of these vein systems but development has been minimal. Results from limited electromagnectic surveying are inconclusive, but suggest several anomolous areas which probably are indicative of shallow ore deposits along the veins.

The primary mineralization in the Chico Property is an assemblage of chalcopyrite, galena, sphalerite, argentite, pyrite and arsenopyrite together with a variety of sulfa salts and gangue minerals. The oxidized portion of the veins range from 50 to 300 feet deep and may be very rich in silver chlorides, silver bromides and native silver with lesser concentrations of native gold.

ORE RESERVES:

The Chico property contains base metal silver veins, oxidized silver-gold veins and, possibly stockwork type copper. Data from past developments, publications and reports are insufficient, or unavailable, to completely delineate the ore bodies for volumetric analysis. However, there is ore exposed in various underground workings and in many places on the surface; prospect pits, trenches, dumps, etc.

More than 1,000 tons of base metal-silver ore has been stockpiled from the Broncho Dyke and reportedly much more is exposed in the Jamison mine, now flooded, which is developed to the 400-foot level. Mill test results done by Denver Equipment Company's ore testing division, averaged 0.03 ounces gold per ton, 1.9% copper, 6.0 ounces silver per ton, 1.7% zinc, 0.92% lead and 9.5% iron. Results from laboratory batch selective floatation tests show the ore can be beneficiated to recover nearly 90% of the copper, lead, zinc and silver and approximately 40% of the gold. High grade shoots encountered in the Jamison mine ran as high as 12 ounces gold per ton, 50 ounces silver per ton, 12% copper, 6% lead and 2% zinc. The Dyke traverses the property for nearly three-fourths of a mile. It could yield in excess of 10 million tons of ore.

Numerous veins traverse the Chico Property. Oxidized portions of these veins are known to contain ore shoots rich in silver and gold. Assays imply these shoots can be surface worked for 20 ounces per ton silver. The shoots are generally less than three feet wide and extend to an average depth of 100 feet. Although some of these oxidized ore shoots have been completely mined out, many high-grade ore shoots remain (some can be traced at the surface.). One ore shoot (14 inches wide) was traced by this author for over a quarter mile. Surface assays average 27 ounces silver per ton and 0.08 ounces gold per ton (see assays 15, 17 and 18) and samples from underground workings at the 50-foot level, on the same vein, assays average 47 ounces silver per ton and 1.9 ounces gold per ton (see assays 8 and 11). The extent and tenure of these underground workings is unknown since they are presently caved in at the 50-foot level.

Previous mining operations on the Chico Claims have produced some sizable mine dumps. The possibility of precious metal recovery from these dumps should not be overlooked. Cursory examination indicates in excess of 150,000 tons of material averaging 0.02 ounces gold per ton and 1.5 ounces silver per ton.

Rock equivalents of the Duval orebody are present on the Chico Property and abundant copper sulfate precipitate may be noted in the stream bed located in the west-central portion of the Property (see water assay number 13). This suggests the southward extention of the Duval orebody into the Chico Claims.

CONCLUSION:

On the basis of surface observations and in the accessible old workings, plus facts provided by local people of reputation, it is our opinion that the Property contains well developed structures with strong-to-moderate copper, lead, zinc, gold and silver mineralization. We also conclude that the Property may contain a large mass of low-grade copper, lead, and zinc mineralization.

The Chico Property could then, at some later date, produce by either underground or surface mining methods. In either case, it is our opinion adequate exploration will justify a major mining investment.

PACIFIC REGIONAL OPERATIONS, INC.

William Vanderwall
Geologist
August 19, 1981

D R A F T

In situ leaching (hydro metalurgical mining) of metal ore deposits is a method with much potential on the Chico Property. Presently, the most common type of in situ leaching recovers copper from old mine workings, mine dumps, heap leach pads and the like, by maintaining an acid solution, monitored as carefully as possible in route, through the leach field to precipitation cells containing a type of precipitant; in the case of copper, shreded tin cans. Cyanide leaching of gold/silver ore works on the same principle, except instead of an acid solution, an alkaline solution must be maintained and the precipitant is powered zinc or charcoal.

In situ leaching has proven to be an effective and economical mining method as applied to primary ore processing. In situ uranium leaching with ammonium carbonate solutions followed by electrowinning is now commonly practiced, but in situ oil shale leaching is probably the most well known. In either case, the recovery depends on getting the ore into a state where it is permiable and highly fractured. The solution must flow through the rock, contacting as much surface area as possible, to a collection basin and on to a precipitating cell. The stripped solution is then pumped back into the injection wells where the process begins again.

Take the case of operations at the Big Mike Mine, near Winnemucca, Nevada. After mining out the high-grade ore, from a dipping, lenticular

deposit (~~like~~ similar an oversized Chico ore shoot - which the high grade consisted of800,000 tons of 2% - 10% copper ore). They had a steep-walled pit whose walls contained "very low-grade" copper ore. The stripping ratio was too tight, so therefore ~~they~~ blasted the walls in on the pit and sprinkled the resulting gravel-filled crater with sulfuric acid. By drilling a recovery well in the middle of what remains was the pit, ~~they~~ recovered 70% of the copper.

In situ leaching is not applicable to most ore deposits. The ore must either be naturally permiable or be capable of being made permiable by some method, such as explosive shattering. Isolation of the orebody from zones of permiable wall rock must likewise, either be natural or induced. Gradients of flow and collection basins are rarely natural and must be constructed. Special international attention has been received recently by in situ leaching and related techniques (hydrometalurical refining) in recent years because this method they creates very little surface disturbance, have relatively low capital requirements, and ~~have~~ a low safety hazard. The proceedings of a special symposium on the topic provide a good State-Of-The-Art Review. (Alplan, F.F., McKinney, W. A., and Pernichele, A.D., Eds., 1974, Solution Mining-Proceedings From The Dallas Symposium: New York, Am. Inst. Mining, Metall. Petroleum Engineers)

On the Chico Property, several base-metal, silver veins trend NW to an intersection with the NE trending Bronco Dyke - a prominant linear structure composed of fractured and sheared granite, diabase (?) and rhyolite with later, cross cutting, quartz veins.

The wall rock of the Dyke is ~~similar~~ identical the same as the wall rock of the NW trending veins, namely, granite gniess, a competent and impermiable rock.

The veins are composed of sheared, fractured, crushed and recemented quartz, primarily. These They are generally less than three-feet wide, with an attendant gouge zone of clays (?) ~~a foot or two~~ one to two feet thick which favors the footwall but, often 50% as not, occurs on both walls of the quartz vein.

In a "barren" zone, the quartz is generally gray in colour with micro-crystalline chalcedony masses enclosing fragmented mily quartz. The chalcedony contains many tiny seams of pyrite and will assay usually more than an ounce of silver to the ton.

These veins; the Cashier, Nighthawk, Mint-'98, Jamison, Little Boy, Summit, Alpha and Logas Blackhawk, are seperate, independent structures which contain known concentrations, called ore shoots, of high-grade ore. These shoots are of limited tonnage, perhaps two-to-four thousand fons, but are randomly scattered along the veins with a tendancy toward vein junctures with other structures, such as dykes or other veins.

The Bronco Dyke, into which all the above veins projec, traverses the property for nearly three-fourths of a mile. As mentioned previously, the Dyke is composed of no less than three rock types, all apparently of different ages. All fractured and sheared and, vor the most part, mineralized by tiny veinlets of pyrite which were probably precipitated from asceinding hydrothermal fuids in the wake of igneous activity. Zones of secondary enrichment in the fabric of the dDyke, formed by groundwater movement, no doubt formed by present water movement through the same conduits that facilitated ore forming solutions during the phase(s) of primary mineral deposition in the veins and Dyke.

The Chico property may be unusual in that all the ground water seems to follow the veins downhill to the Dyke where arll the springs within a swuare mile are found. The central portion of the Chico Property is like the small end of a funnel with all theveins heading downhill to the Dyke. The solid granite gniess of the downhill side of the Dyke acts like a dam, trapping ground water following the veins. The water backs up and overflows via the Bronco Dyke Springs. This spring water will carry 2 ppm silver, 7 ppm copper and 80 ppm zinc.

Given the Chico characteristics; softer vein material enclosed in an

impermiable clay or hard granite gniess, groundwater movement interring a central locus of accumulation, sufficient quantities of know, exploitable ore and a patented mining claim ideally located for processing.

~~Of course~~, it ~~would~~ will take a good deal of engineering but conceibably, the ~~vines~~ veins and dyke system could be made very permiable to injected solutions by proper blasting. The gradient has been naturally established and solutions for extracting base and precious metals are available. A collection basin could be established in the vacinity of the present springs, and support facilities could be constructed on patented ground.

Consider explosively shattering a bone in the Bronco Dyke 40 foot wide, 400 feet deep and three-quarter (3/4) of a mile long. Then consider shattering all known veins, which intersect with the Dyke favorably, a combined length of 3-5 miles, 10-20 foot wide shatter zones to a depth of 100 feet. This exercise yields over 10,000,000 tons of fractured, permiable rock containing as much as $1,000,000,000 in metals. Recovery depends mainly on ore particle size and solution capabilities. ~~but~~ And should exceed 10% and may exceed 70% as it did in the case of the Big Mike Mine.

Enclosed is a cross-section of the Bronco Dyke and one of three major veins which intersect ~~with it~~. Please review the Chico Report and maps ~~along~~ with these cross-sections and determine whether or not you feel this in situ mining approach has any merit in exploiting the Chico Property.

William Vanderwall

Geologist

PACIFIC
REGIONAL
OPERATIONS, INC.

P.O. Box 716 • Scottsdale, Arizona 85252 • (602) 994-3147

August 7, 1980

CHICO MINING CLAIMS
INITIAL MINING PROPOSAL

The most favorable location for an initial mining operation on the Chico Claims is on the Little Boy and '98 claims located in the NW/4 of Section 5; Twp. 22N; Range 17W (See Area A on attached project map). Here several mineralized veins, assaying abnormally high in gold and silver, intersect in an area amenable to surface mining methods. The veins are highly oxidized ~~and contain only small amounts of copper and zinc~~ which should allow precious metal extraction by cyanide "heap" leaching techniques.

The surface geology of the Little Boy patented claim (stippled on project map) and the '98 unpatented claim can be characterized by an area of rocky terrain consisting of pre-Cambrian granite and amphibolite cross cut by several mineralized veins. The Little Boy shaft, the Goetz shaft and the '98 shaft all penetrate the mineralized veins and indicate a considerable ore reserve in this area (Area A on attached cross section and map).

The '98 mine is a simple vertical shaft, approximately 100 feet deep with two, short, horizontal tunnels developed in the plane of the vein. There is oxide ore in place in the shaft and tunnels, bordered by greenish alteration. At the 100 foot level the vein plus alteration is nearly three feet thick. An assay sample, taken by this author, across the vein plus zone of alteration gave values per ton of 3.3 oz gold and 23.0 oz. silver. Surface exposure of this vein gave a trace of gold and 0.78 oz. silver per ton.

The Goetz shaft is collared in an extension of the '98 vein approximately 180 feet from the '98 shaft. This shaft reportedly extends some 50 feet below the surface but it is presently caved at the 10 foot level and inaccessible. Assays from stockpiled, 50'-level ore gave 0.384 to 0.550 oz/ton gold and 35.64 to 63.0 ozs/ton silver. The Little Boy shaft was not visited by this author. However, it has been reported by Kenney (1978) that the Little Boy mine has produced considerable quantities of ore. The shaft reportedly descends 220 feet to a large stoped and tunneled area. The vein is oxidized to the 200 foot level and assay results (Kenney 1978) show it to contain 0.256 oz/ton gold and 13.42 oz/ton silver; at this level it is approximately 2.5 feet wide. At the surface the Little Boy vein is a foot wide and assays .150 oz/ton gold and 1.79 ozs./ton silver.

These mineralized veins, partially exposed by the three shafts, can supply sufficient ore to a cyanide leach operation located on the patented Little Boy claim. Generally the veins are oxidized to a depth of 200 feet, they double in thickness from the surface to 200' and values increase significantly with depth.

ECONOMIC EVALUATION FOR AREA "A"

Area A (see attached project map) projections (see Appendix 1) result in 12 months of ore, at 50 tons/day, containing 0.77 ozs./ton Au and 22.94 ozs./ton Ag, yielding a net income of $176,318 per month until payout.

ECONOMIC EVALUATION FOR AREA "B"

Area B (see attached project map) projections (see Appendix 2) result in 12 months of ore, at 100 tons/day, containing 0.25 ozs./ton Au and 30.20 ozs./ton Ag, yielding a net income of $215,840, until payout.

RESULTS FROM CASH FLOW ANALYSIS

1.) Estimated minimum return - one year's supply of ore at 50 ton/day (Area A) payout (excent land purchase) in ten months; $750,000 profit at ore depletion.

2.) Extend mining operation in "1", above, an additional 50 feet along the veins; 1-1/2 year's supply of ore; payout as above; 2.5:1 return on investment.

3.) In addition to "1" and "2", above, conduct operations in Area B; 28 month supply of ore; payout as above; 5.5:1 return on investment.

Since the above involves only two of the 51 Chico mining claims, additional exploration funds, not included in the Cash Flow Analysis, will be necessary to define the economics of mining other areas on the remainder of the claims.

PACIFIC REGIONAL OPERATIONS, INC.

William C. Vanderwall
Geologist

APPENDIX 1

AREA A

Area A consists of a vein swarm containing at least 3 major veins, the oxide zone extends to a depth of 200' in this area. It is proposed that 50 feet on either side of the vein junction be strip mined, average vein thickness is 1.75 feet.

3 veins x 200' deep x 1.75' wide x 100' long = 105,000 $ft.^3$ = 3,889 $yd.^3$
3.889 $yds.^3$ x 3.0 $tons/yd.^3$ = 11,667 tons of ore.
11,667 tons ÷ 50 tons/day = 233 days = 12 months.

AVERAGE ORE TENURE (0' 200')

'98 shaft	1.65 ozs./ton Au	11.89 ozs./ton
Little Boy shaft	0.20	7.61
Goetz shaft	0.47	49.32
Average	0.77	22.94

ECONOMICS OF OPERATION

0.77 ozs./ton Au x $600/oz. x 1,000 tons/month	=	$464,000/month
22.94 ozs./ton Ag x $15/oz. x 1,000 tons/month	=	344,100/month
	Total	$806,100
Less 20% recovery factor	=	$644,880
Less 20% price adjustments	=	488,660
Less 20% price stability	=	322,440
	Monthly revenue	$322,440

APPENDIX 2

AREA B

Area B consists of a single major vein paralleled by two small veins. Area B is 600 feet long. In this zone the major vein is presumed to be oxidized to a depth of 200 feet. Average vein width is 1.75 feet. No assays or measurements have been taken on the smaller veins.

600' long x 1.75' wide x 200' deep = 7,778 $yd.^3$
7,778 $yd.^3$ x 3.0 tons/$yd.^3$ = 23.333 tons
23,333 ÷ 100 tons/day = 283 days = 12 months.

AVERAGE ORE TENURE

Surface exposure	.03 oz./ton Au	20.0 ozs./ton Ag
Goetz Shaft 50' Level	.55	63.0
Little Boy Shaft	.20	7.61
Average	0.26 oz./ton Au	30.20 ozs./ton Ag

ECONOMICS OF OPERATION

0.26 ox./ton Au x $600/oz. x 2,000 ton/month =	$312,000/month
30.2 ozs./ton Ag x $15/oz. x 2,000 tons/month =	906,000/month
	$1,218,000
Less 60% various sales and recovery factors =	$487,200
Monthly revenue	$487,200

APPENDIX 3

ESTIMATED COSTS

Estimated Startup Costs

Engineering	$ 15,000
Legal and Title	10,000
Survey	5,000
Equipment Purchase	50,000
Metallurgical Pilot Plant	50,000
Leach Facility	500,000
Trade Consideration and Geology	60,000
Contingency	8,500
	$698,500

Estimated Monthly Operations

Labor	$22,000
Insurance	5,000
Equipment Lease	20,000
Chemicals, Explosives & Supplies	8,000
General Administrative	10,000
Fuel	5,000
Contingency	10,000
	$80,000

APPENDIX 4: PROBABLE CASE; AREA A, 5 VEINS, until Area A deplet
results cou[illegible] cases

PROJECTED PERIODS	1 SEPT.	2 OCT.	3 NOV.	4 DEC.	5 JAN. 1981
					399120
REVENUE (Area A)					522500
REVENUE (Area B)					
EXPENDITURES					
Land Payments	25000	✓	✓	✓	50000
Processing Facility	250000		0	0 250000	0
Operations	80000	✓	✓	✓	✓
Start Up	49625	✓	✓	✓	
Exploration					
5% Royalty					16125
					[illegible]
NET CASH FLOW	<404625>	<154625>	<154625>	<404625>	<176375>
CUMULATIVE CASH FLOW		<559250>	<713875>	<1118500>	<942125>

MINIMAL CASE; AREA A; 3 VEINS, each
Area A depletion. Expl

PROJECTED PERIODS	1 SEPT.	2 OCT.	3 NOV.	4 DEC.	5 JAN. 1981
					[illegible]
REVENUE (Area A)					322500
EXPENDITURES					
Land Payments	25000	✓	✓	✓	50000
Processing Facility	250000		0	0 250000	0
Operations	80000	✓	✓	✓	✓
Start Up	49625	✓	✓	✓	0
Exploration					
5% Royalty					16125
					[illegible]
NET CASH FLOW	<404625>	<154625>	<154625>	<404625>	<176375>
CUMULATIVE CASH FLOW		<559250>	<713875>	<1118500>	<942125>

each 150' long by 200' deep by 1¾' wide = 17,500 tons of ore, pr
on; increase processing to 100 tons/day at period 11 gives one
mining Area B two periods before Area A completion. Area B mi

6	7	8	9	10	11	12	13	14
FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
✓ (✓ means same as previous period)	✓	✓	✓	✓	749640 645000	✓	✓	✓
✓	✓	✓	✓	✓	75000	✓	✓	✓
Maintance costs included in operations #8, below								
✓	✓	✓	✓	✓	147000	✓	✓	✓ (✓ means same as previous period)
					Area B Exploration → 5000		✓	✓
✓	✓	✓	✓	✓	32250	✓	✓	✓
176375	✓	✓	✓	✓	390750	535750	✓	✓
<765750>	<583375>	<413000>	<236625> Payout	< 60250>	330500	716250	1102000	1487750

00' long by 200' deep by 1¾' wide = 11,666 tons of ore, processe
at on shows no mineable ore in Area B.

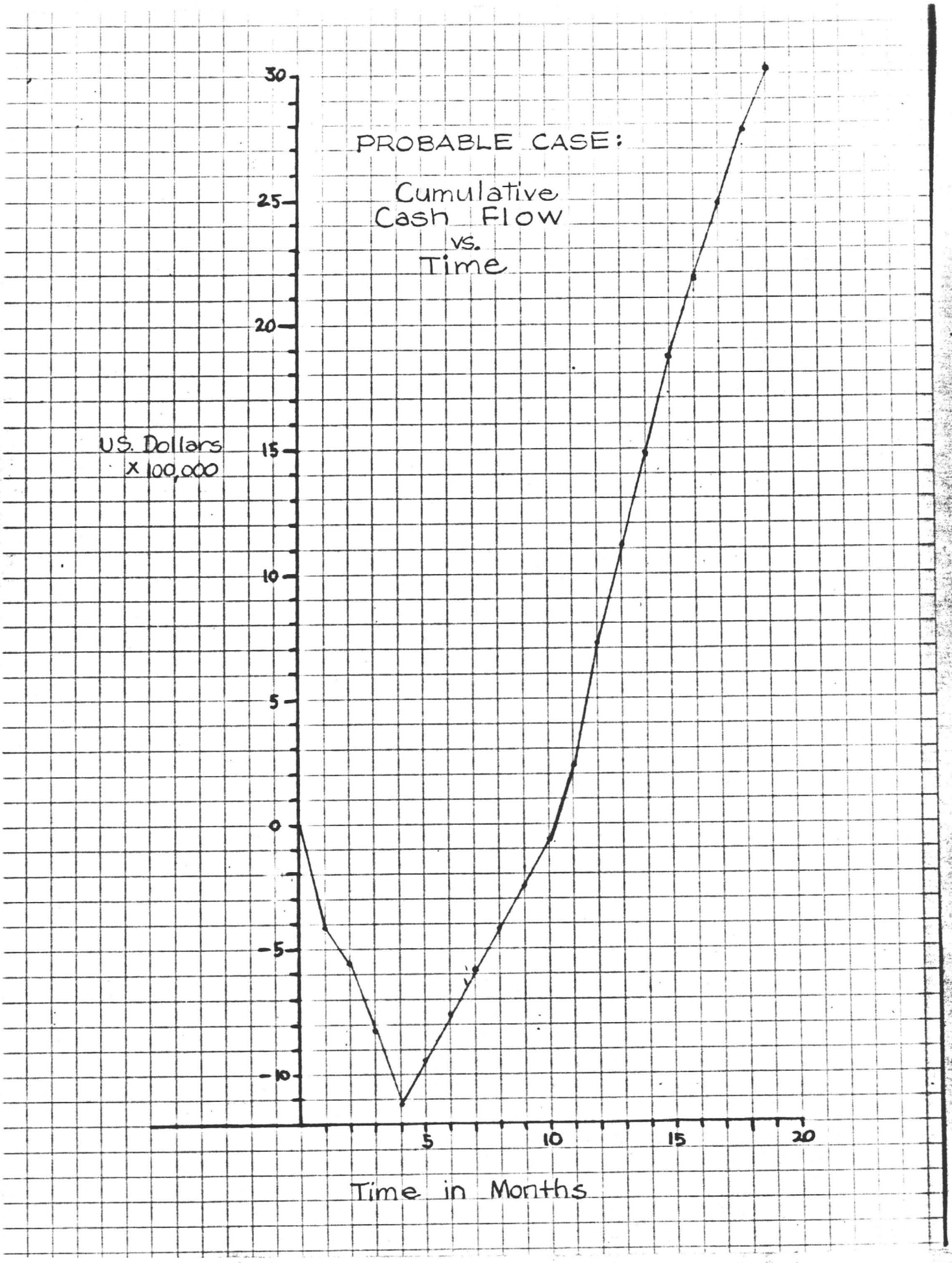
6	7	8	9	10	11	12	13	4
FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	75000	✓	✓	✓
Maintance costs included in operations #8, below								
✓	✓	✓	✓	✓	✓	✓	✓	✓
					Area B Exploration → 5000		✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
176375	✓	✓	✓	✓	151375	146375	✓	✓
<765750>	<583375>	<413000>	[illegible] Payout	< 60250>	186125	222500	368375	507.50

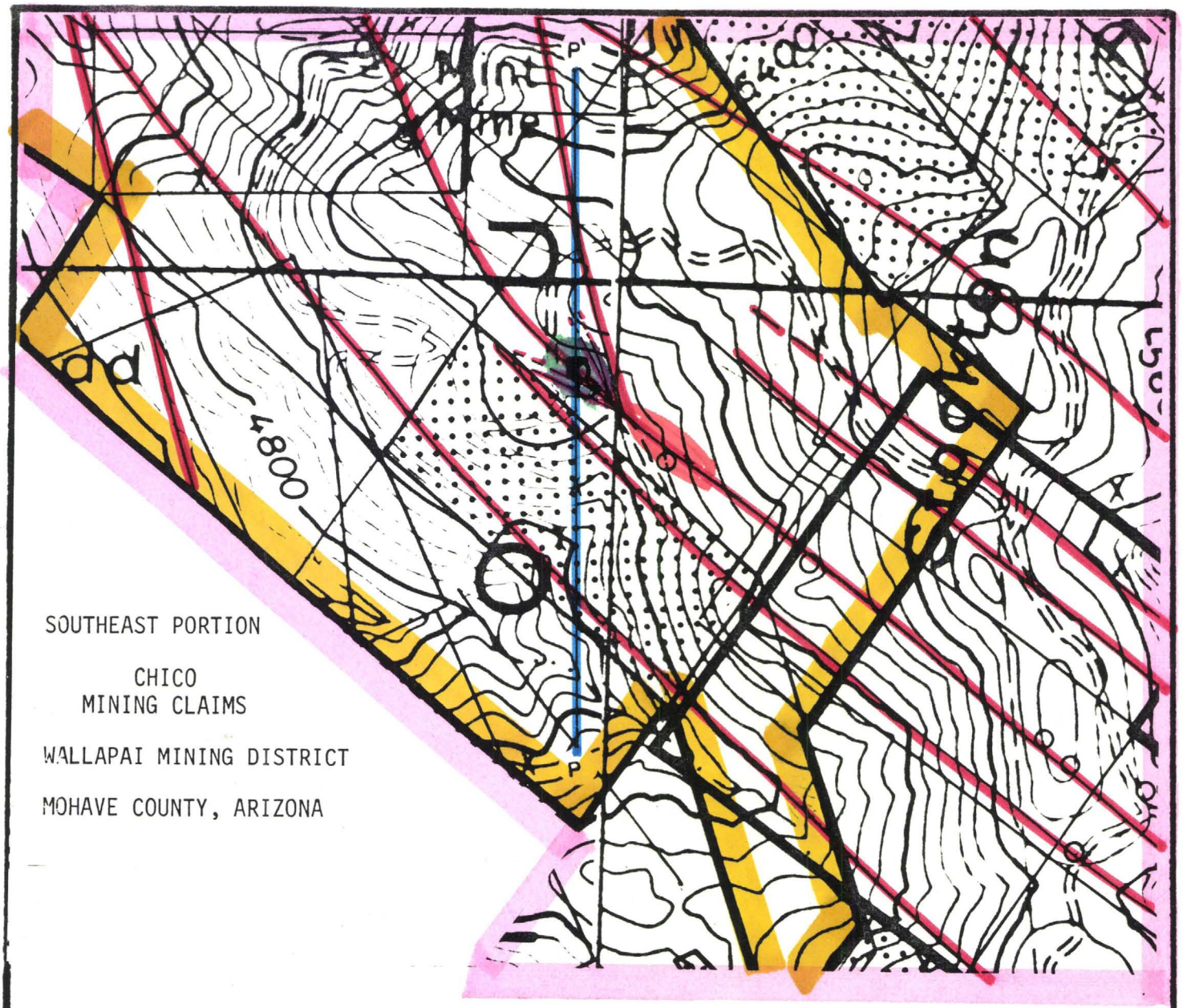
ne year Area A depletion; positive exploratory
rineable ore projected depletion 13 periods.

15	16	17	18	9	10
NOV.	DEC.	JAN 1982	FEB.	MAR.	Apr. Dec 1982
✓	322500	✓	Area A depleted		
Begin processing → Area B @ 50 T/D	243600	✓	487200 Processing 100 T/D	✓	4384800
✓	✓				
		1000000	✓	✓	900000
✓	✓	✓	✓	✓	1323000
✓	0	0	0	0	
✓	28305	✓	24360	✓	219240
✓	315795	290795	✓	✓	2617155
1873500	2189295	2480090	2770885	3061680	5678835
					8898795
					1:9 2yrs operation

ed at 50 tons per day = 1 year operation before

5	6	7	8	9	10
NOV.	DEC.	JAN. 1982			
✓	✓	Area A depleted			
✓	✓	0			
✓	✓	<80000> → Clean up and move out			
✓	Exploration shows ore deposit inadequate				
✓	✓	0			
✓	151375	<80000>			
676625	828000	748000			
		1667460			
		1:2.5 1yr.			


PROBABLE CASE:
Cumulative Cash Flow vs. Time
U.S. Dollars x 100,000
30
25
20
15
10
5
0
-5
-10
5
10
15
20
Time in Months

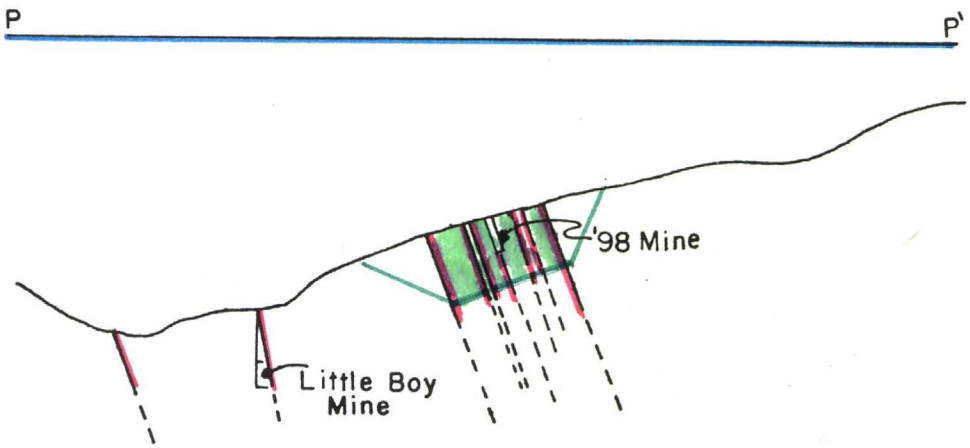


SOUTHEAST PORTION

CHICO
MINING CLAIMS

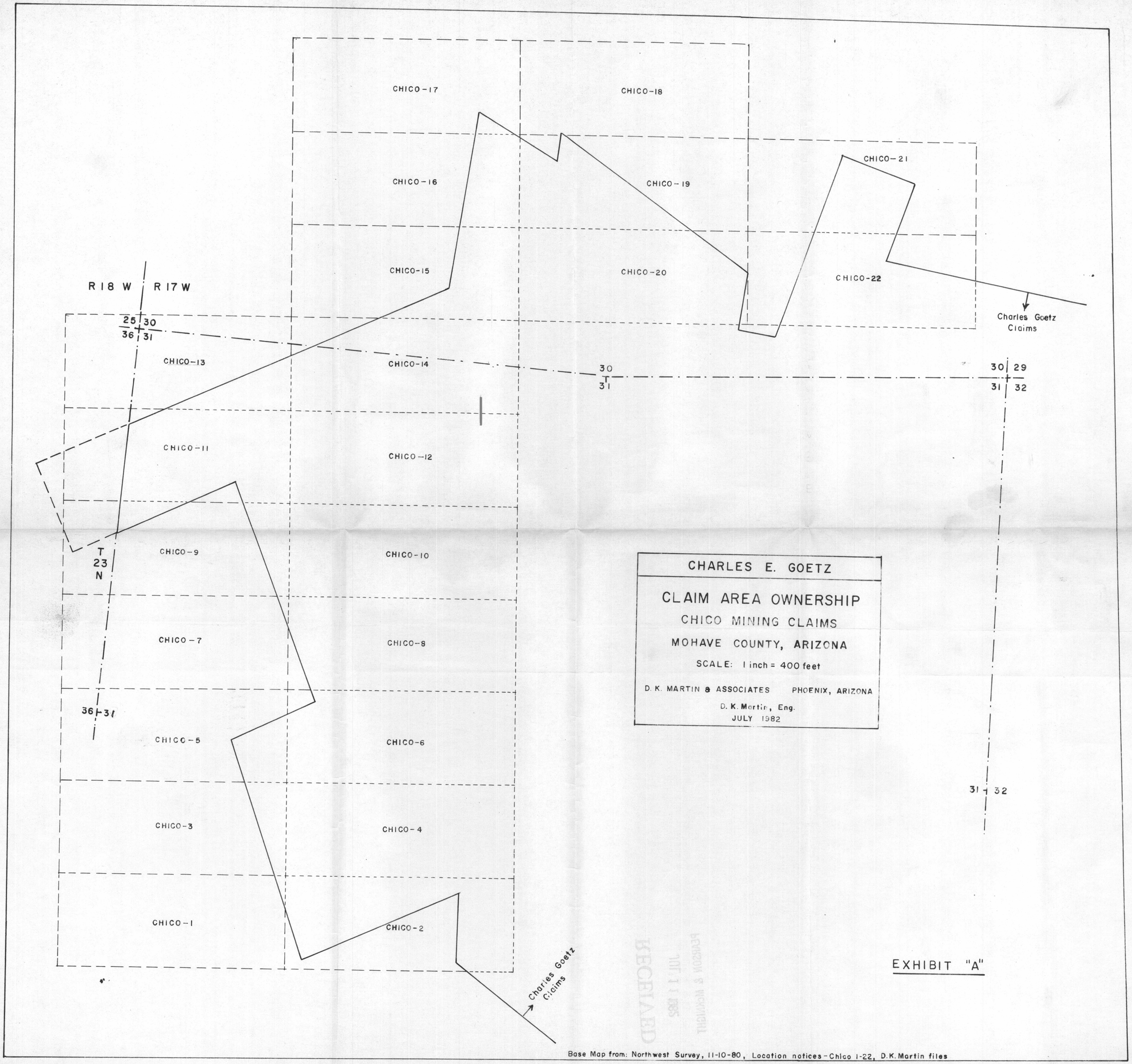
WALLAPAI MINING DISTRICT

MOHAVE COUNTY, ARIZONA



Vein
Area A
Area B

1"=600'


CHICO-17
CHICO-18
CHICO-16
CHICO-19
CHICO-21
CHICO-15
CHICO-20
CHICO-22
Charles Goetz Claims
R 18 W
R 17 W
25 30
36 31
CHICO-13
CHICO-14
30
31
30 29
31 32
CHICO-11
CHICO-12
T 23 N
CHICO-9
CHICO-10
CHICO-7
CHICO-8
36 31
CHICO-5
CHICO-6
CHICO-3
CHICO-4
CHICO-1
CHICO-2
Charles Goetz Claims
31 32
CHARLES E. GOETZ
CLAIM AREA OWNERSHIP
CHICO MINING CLAIMS
MOHAVE COUNTY, ARIZONA
SCALE: 1 inch = 400 feet
D. K. MARTIN & ASSOCIATES PHOENIX, ARIZONA
D. K. Martin, Eng.
JULY 1982
EXHIBIT "A"
Base Map from: Northwest Survey, 11-10-80, Location notices-Chico 1-22, D.K. Martin files

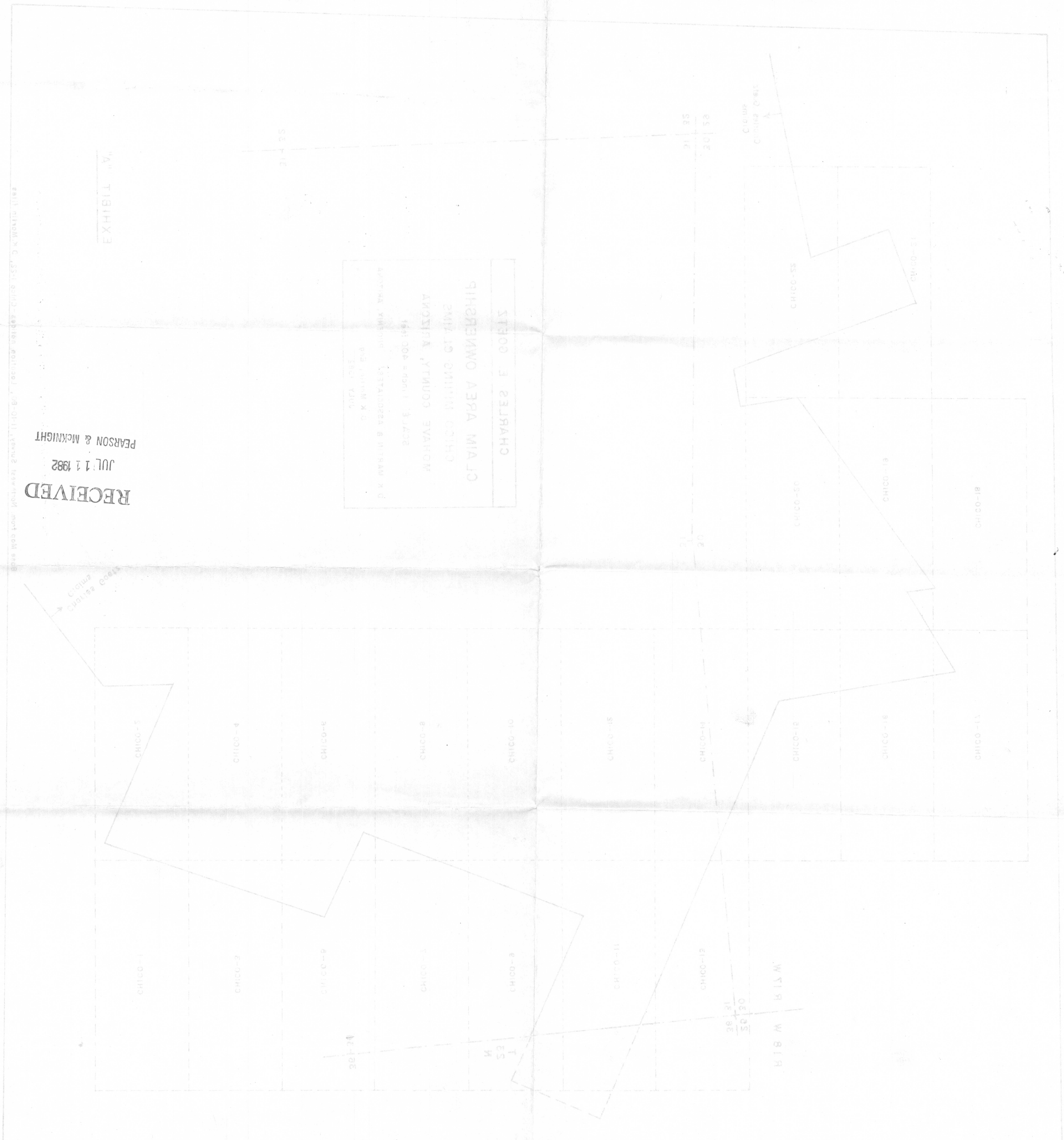


EXHIBIT "A"
CHICO-1
CHICO-2
CHICO-3
CHICO-4
CHICO-5
CHICO-6
CHICO-7
CHICO-8
CHICO-9
CHICO-10
CHICO-11
CHICO-12
CHICO-13
CHICO-14
CHICO-15
CHICO-16
CHICO-17
CHICO-18
CHICO-19
CHICO-20
CHICO-21
CHICO-22
CHICO-23
CHICO-24
CHICO-25
CHICO-26
CHICO-27
CHICO-28
CHICO-29
CHICO-30
CHICO-31
CHICO-32
CHICO-33
CHICO-34
CHICO-35
CHICO-36
CHARLES E. MIRAN & ASSOCIATES
D.K. MARTIN & ASSOCIATES
SCALE: 1 inch = 1000 feet
CHICO MUNICIPAL AIRPORT
CHICO, CALIFORNIA
CLEAR ZONE
CHARTER ZONES
RECEIVED
JUL 11 1982
PEARSON & McKNIGHT

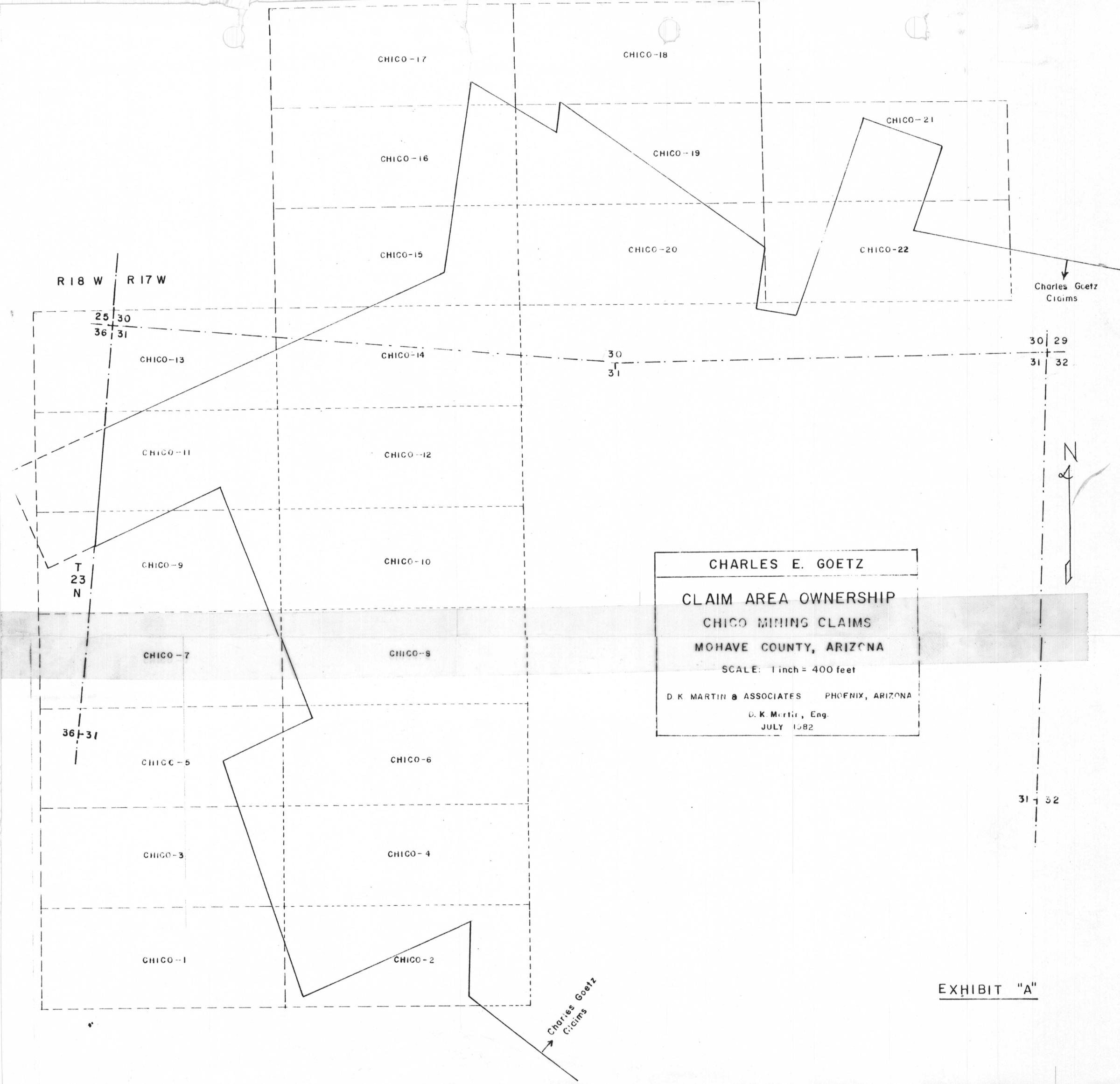


EXHIBIT "A"

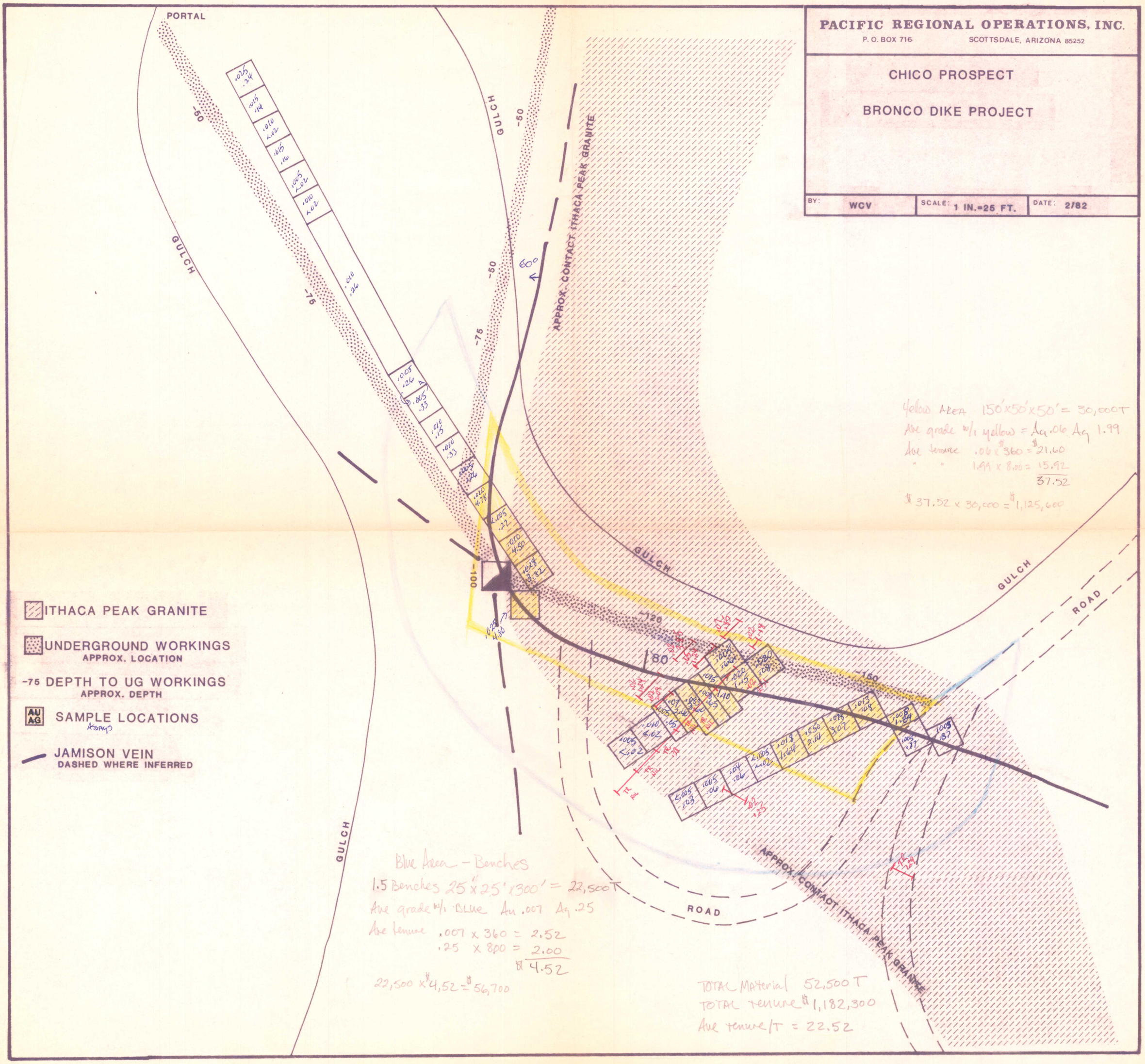
Base Map from: Northwest Survey, 11-10-80, Location notices - Chico 1-22, D.K. Martin files

PACIFIC REGIONAL OPERATIONS, INC.
P. O. BOX 716 SCOTTSDALE, ARIZONA 85252

CHICO PROSPECT

BRONCO DIKE PROJECT

BY:	SCALE:	DATE:
WCV	1 IN.=25 FT.	2/82



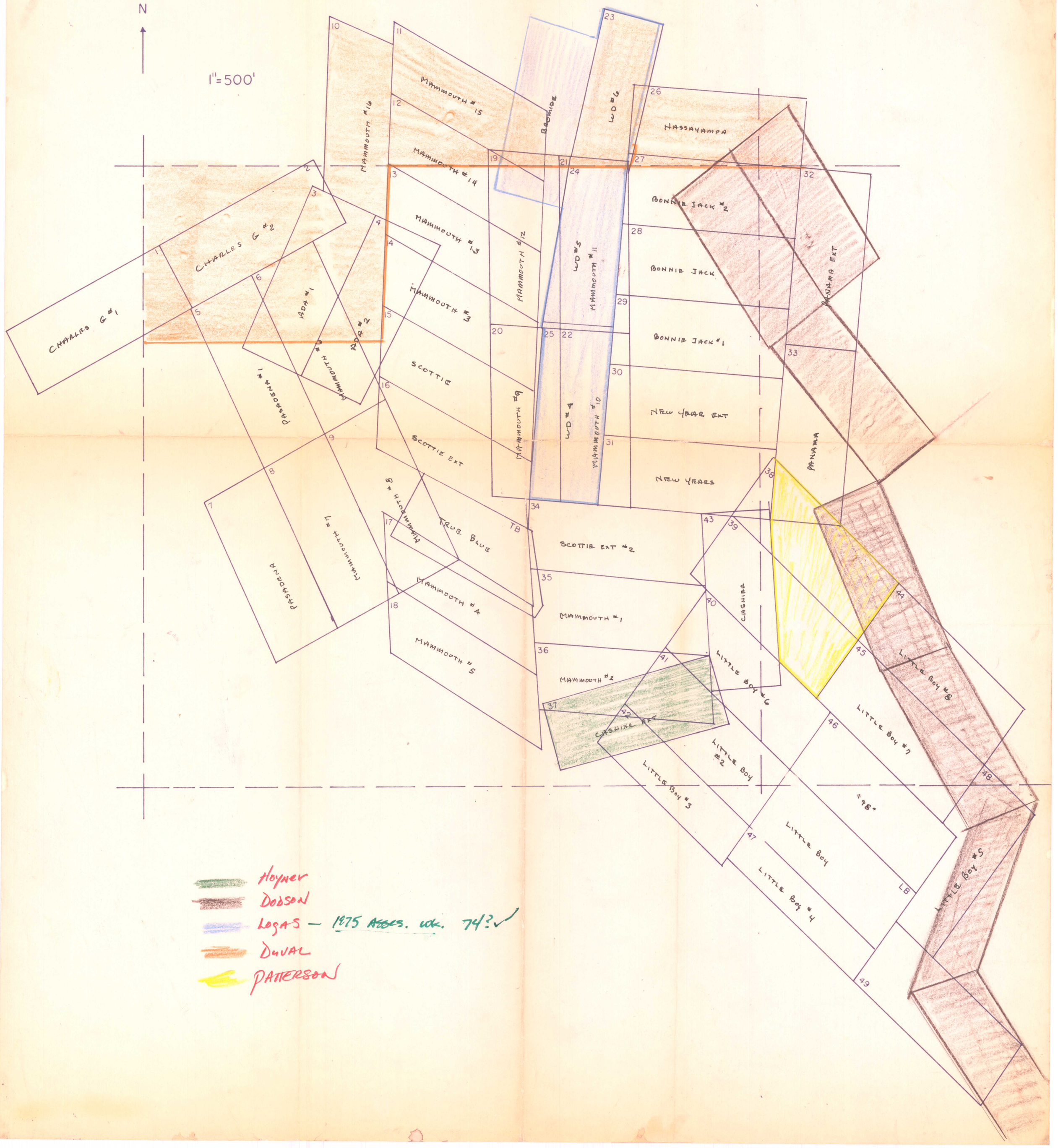
Yellow Area 150'x50'x50' = 30,000T
Ave grade w/i yellow = Au .06 Ag 1.99
Ave tenure .06 x $360 = $21.60
" " 1.99 x 8.00 = 15.92
37.52

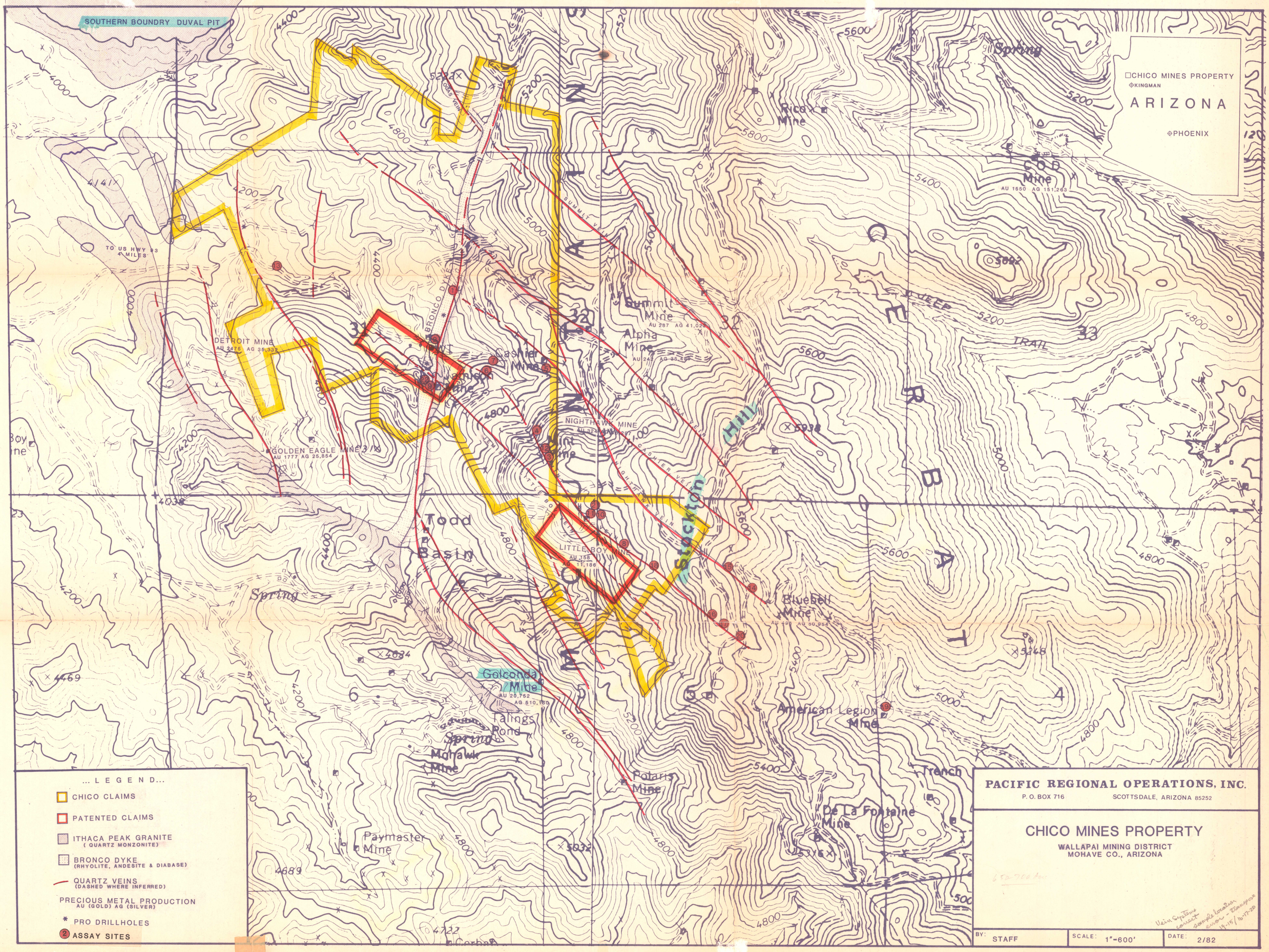
$37.52 x 30,000 = $1,125,600

Blue Area - Benches
1.5 Benches 25'x25'x300' = 22,500T
Ave grade w/i Blue Au .007 Ag .25
Ave tenure .007 x 360 = 2.52
.25 x 800 = 2.00
$4.52

22,500 x $4.52 = $56,700

TOTAL Material 52,500T
TOTAL tenure $1,182,300
Ave tenure/T = 22.52


N
1"=500'
MAMMOTH #16
MAMMOTH #15
MAMMOTH #14
MAMMOTH #13
MAMMOTH #12
MAMMOTH #11
MAMMOTH #10
MAMMOTH #9
MAMMOTH #8
MAMMOTH #7
MAMMOTH #4
MAMMOTH #5
MAMMOTH #2
MAMMOTH #1
MAMMOTH #3
BADGER
WDG
WDS
WD #4
HASSAYAMPA
BONNIE JACK #2
BONNIE JACK
BONNIE JACK #1
NEW YEAR EXT
NEW YEARS
PANAMA
PANAMA EXT
CHARLES G #2
CHARLES G #1
ADA #1
ADA #2
PASADENA #1
PASADENA
SCOTTIE
SCOTTIE EXT
SCOTTIE EXT #2
TRUE BLUE
TB
CASHIER
CASHIER EXT
LITTLE BOY #6
LITTLE BOY #7
LITTLE BOY #8
LITTLE BOY #5
LITTLE BOY #4
LITTLE BOY #3
LITTLE BOY #2
LITTLE BOY
"48"
LB
Hoyner
Dodson
Logas — 1975 Assess. wk. 74? ✓
Duval
Patterson


SOUTHERN BOUNDRY DUVAL PIT
CHICO MINES PROPERTY
KINGMAN
ARIZONA
PHOENIX
Rico Mine
C & D Mine
AU 1550 AG 151,263
Summit Mine
AU 287 AG 41,025
Alpha Mine
AU 242 AG 35,466
Cashier Mine
Harrison Mine
NIGHTHAWK MINE
AU 324 AG 11,297
DETROIT MINE
AU 2475 AG 35,332
GOLDEN EAGLE MINE
AU 1777 AG 25,854
LITTLE BOY MINE
AU 158 AG 11,186
Todd Basin
Stockton Hill
Bluebell Mine
AU 498 AG 50,962
Golconda Mine
AU 20,752 AG 810,180
Tailings Pond
Mohawk Mine
Polaris Mine
American Legion Mine
Trench
De La Fontaine Mine
Paymaster Mine
Spring
TO US HWY 93 4 MILES
JEEP TRAIL
BRONCO DYKE
SUMMIT VEIN
CASHIER VEIN
NIGHTHAWK VEIN
LITTLE BOY VEIN
... L E G E N D ...
CHICO CLAIMS
PATENTED CLAIMS
ITHACA PEAK GRANITE (QUARTZ MONZONITE)
BRONCO DYKE (RHYOLITE, ANDESITE & DIABASE)
QUARTZ VEINS (DASHED WHERE INFERRED)
PRECIOUS METAL PRODUCTION AU (GOLD) AG (SILVER)
PRO DRILLHOLES
ASSAY SITES
PACIFIC REGIONAL OPERATIONS, INC.
P. O. BOX 716 SCOTTSDALE, ARIZONA 85252
CHICO MINES PROPERTY
WALLAPAI MINING DISTRICT
MOHAVE CO., ARIZONA
BY: STAFF
SCALE: 1"=600'
DATE: 2/82