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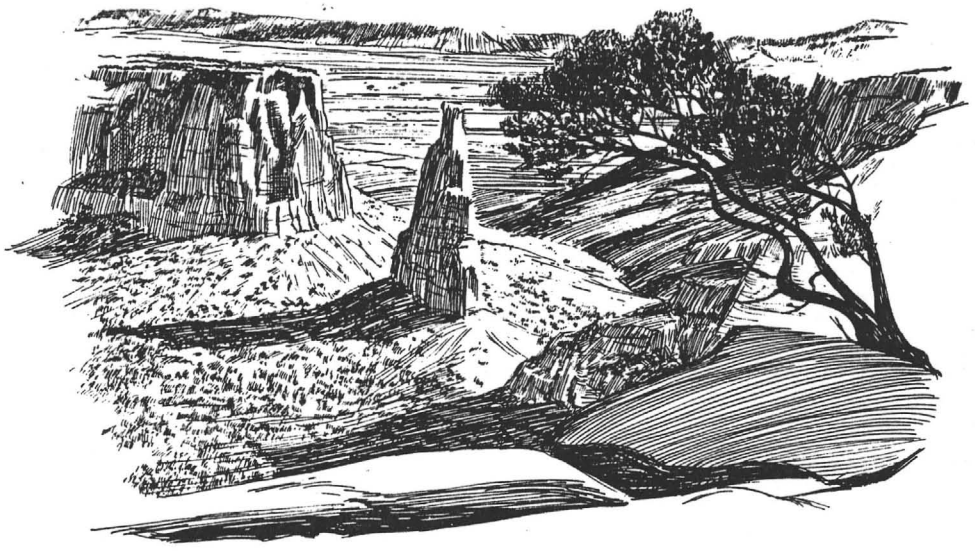


REPORT ON

SILVER HILL MINE

WALLAPAI MINING DISTRICT

MOHAVE COUNTY, ARIZONA

Prepared By:

D.K. MARTIN & ASSOCIATES
Mining Development & Administration
4728 N. 21st Avenue

INDEX

INTRODUCTION

The Silver Hill property consists of three patented claims: the Valley View, Sonoma and Silver Bell, and one patented millsite, the Silver Bell Millsite, totaling 65 acres, more or less; and twelve unpatented lode claims located on the Eastern and Western sides of the patented claims, totaling 170 acres, more or less. The Silver Hill Mine group comprises a total of 235 acres, more or less.

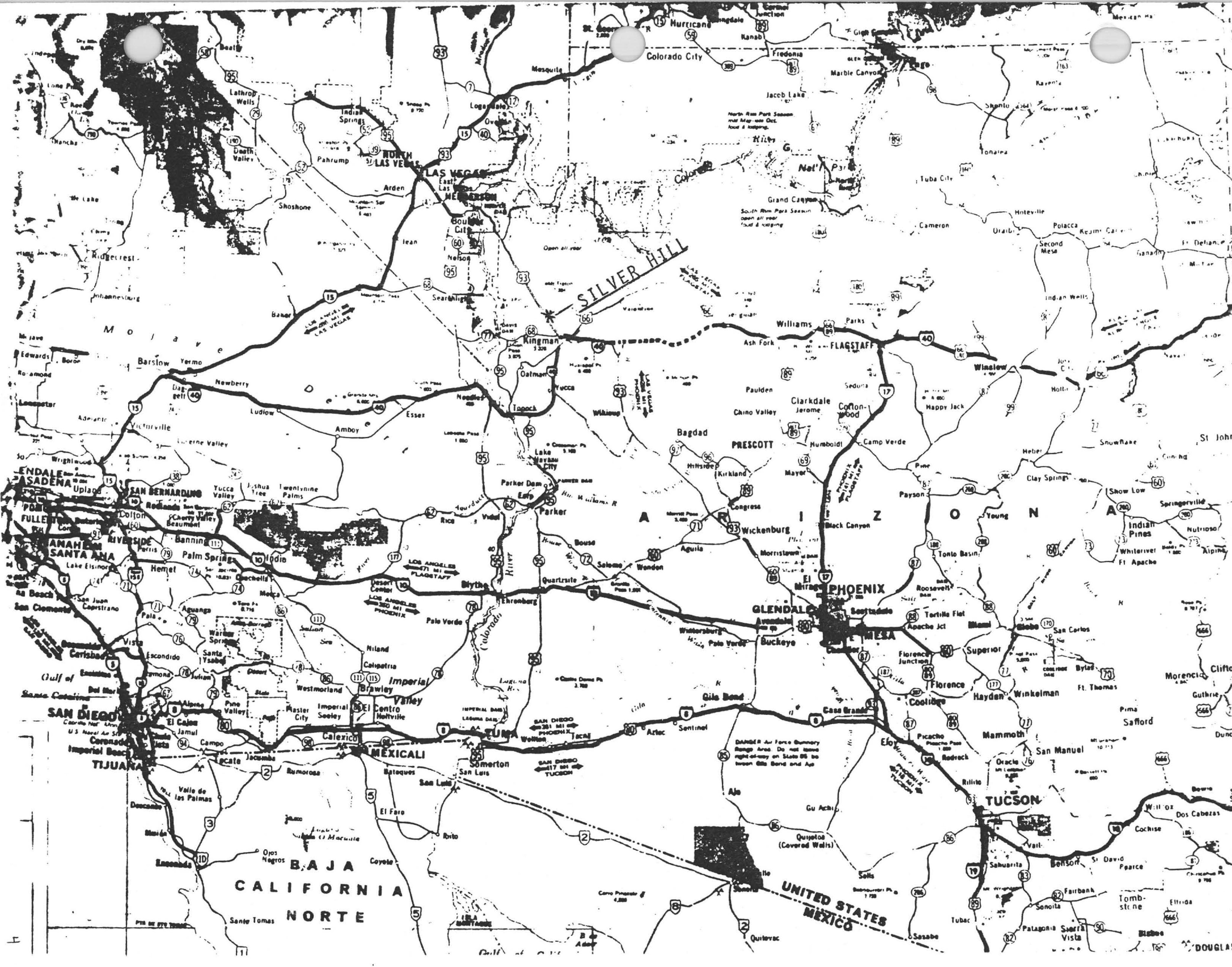
Abundant data are available from the Reconstruction Finance Corporation (RFC), Arizona Department of Mineral Resources, United States Geological Survey Bulletins, C.M. Heron Report (1941), Bureau of Mines, and D.K. Martin and Associates files. Field investigations have been made to confirm or modify existing data by S.C. Brown, Geologist.

Numerous shaft, test pits, and cuts have been made along the Silver Hill Vein for a distance of about 2700 feet. All shafts and tunnels at present are caved and inaccessible. The main ore shoots occur in a brecciated (crushed) zone and locally, the silicified material has been reduced to sand and powder which could create some local problems in any drilling program.

LOCATION AND ACCESSIBILITY

The Silver Hill property is on the Western edge of the town of Chloride, Arizona, on a hill raising about 150 feet above the valley floor. Chloride is about 22 miles North by paved U.S. Highway 93 from Kingman, which is the nearest rail point and supply center.

More specifically, the Silver Hill property is located in Sections 3, 4, 9, and 10; Township 23 North, Range 18 West, G&SRB&M, Wallapai Mining District, Mohave County, Arizona.



SILVER HILL
A R I Z O N A
BAJA CALIFORNIA NORTE
UNITED STATES
MEXICO
Mojave Desert
LAS VEGAS
NORTH LAS VEGAS
HENDERSON
Boulder City
Kingman
Needles
Barstow
Yermo
Newberry
Daggett
Ludlow
Amboy
Essex
Victorville
Baker
Searchlight
Nelson
Jean
Arden
Pahrump
Indian Springs
Shoshone
Death Valley
Lathrop Wells
Beatty
Ridgecrest
Johannesburg
Mesquite
Logandale
Overton
Colorado City
Hurricane
Kanab
Fredonia
Jacob Lake
Marble Canyon
Page
Kayenta
Tonalea
Tuba City
Cameron
Grand Canyon
Hoteville
Oraibi
Polacca
Second Mesa
Ganado
Ft. Defiance
Indian Wells
Williams
Ash Fork
FLAGSTAFF
Parks
Winslow
Holbrook
Sedona
Cottonwood
Clarkdale
Jerome
Camp Verde
Paulden
Chino Valley
PRESCOTT
Humboldt
Mayer
Bagdad
Hillside
Kirkland
Congress
Wickenburg
Aguila
Wenden
Salome
Bouse
Quartzsite
Parker
Parker Dam
Earp
Lake Havasu City
Topock
Oatman
Yucca
Vidal
Rice
Blythe
Ehrenberg
Desert Center
Palo Verde
Indio
Palm Springs
Banning
Beaumont
Cherry Valley
Hemet
Perris
Lake Elsinore
Coachella
Mecca
Niland
Calipatria
Brawley
Imperial
Imperial Valley
El Centro
Holtville
Westmorland
Seeley
Calexico
MEXICALI
YUMA
Somerton
San Luis
Wellton
Tacna
Gila Bend
Sentinel
Aztec
Ajo
Gu Achi
Quijotoa (Covered Wells)
Sells
Sasabe
Casa Grande
Eloy
Picacho
Red Rock
Rillito
TUCSON
Vail
Benson
St. David
Pearce
Willcox
Cochise
Dos Cabezas
Bowie
Tombstone
Bisbee
DOUGLAS
Sierra Vista
Fairbank
Sonoita
Patagonia
Sahuarita
Tubac
Oracle
San Manuel
Mammoth
Winkelman
Hayden
Florence
Florence Junction
Coolidge
Superior
Miami
Globe
San Carlos
Bylas
Ft. Thomas
Safford
Pima
Clifton
Morenci
Guthrie
Duncan
Tortilla Flat
Apache Jct
Roosevelt
Tonto Basin
Young
Payson
Pine
Heber
Clay Springs
Show Low
Snowflake
Springerville
St Johns
Indian Pines
Whiteriver
Ft. Apache
Nutrioso
Alpine
PHOENIX
GLENDALE
MESA
Scottsdale
Chandler
Avondale
Buckeye
El Mirage
Morristown
Black Canyon
Wittmann
Wintersburg
Palo Verde
SAN BERNARDINO
Redlands
Colton
RIVERSIDE
Upland
PASADENA
FULLERTON
ANAHEIM
SANTA ANA
San Juan Capistrano
San Clemente
Oceanside
Carlsbad
Vista
Escondido
Ramona
Santa Ysabel
Julian
Warner Springs
Aguanga
Pala
El Cajon
Alpine
Pine Valley
Jamul
Campo
SAN DIEGO
Coronado
Imperial Beach
TIJUANA
Tecate
Jacumba
Rumorosa
Ensenada
Valle de las Palmas
Ojos Negros
El Faro
Coyote
Santo Tomas
Sonoita
Quitovac
Gulf of Santa Catalina
Gulf of California
Yucca Valley
Joshua Tree
Twentynine Palms
Lucerne Valley
Wrightwood
Adelanto
Lancaster
Rosamond
Boron
Edwards
Mojave
Trona
Lone Pine
Open all year
North Rim Park Season mid May–mid Oct. food & lodging
South Rim Park Season open all year food & lodging
LOS ANGELES 286 MI LAS VEGAS
LAS VEGAS 200 MI PHOENIX
LOS ANGELES 471 MI FLAGSTAFF
LOS ANGELES 380 MI PHOENIX
PHOENIX 141 MI FLAGSTAFF
SAN DIEGO 351 MI PHOENIX
SAN DIEGO 417 MI TUCSON
PHOENIX 116 MI TUCSON
DANGER Air Force Gunnery Range Area. Do not leave right-of-way on State 85 between Gila Bend and Ajo

PATENTED MINING CLAIM INDEX

Wallapai District

*0. VALLEY VIEW
*1. SONOMA
*2. SILVER BELL
*3. SILVER BELL MILL SITE
4. SCHUYLKIL
5. SCHUYLKIL MILL SITE
6. WILLACE-BULLION BECK
7. GREAT LEAD
8. TENNESEE
9. PEGGY
10. BULLION SOUTH
11. BURLOCK
12. BLACK PRINCE
13. RAMBLER
14. PAY ROLL
15. MOLLY GIBSON
16. TERMINAL
17. JOHNNY BULL
18. MONTANA
19. ARIZONA
20. SILVER KNIGHT
21. SILVER AGE
22. LITTLE GIANT
23. ALTATA
24. CINCO DE MAYO
25. COPPER BAR #1
26. COPPER BAR
27. COPPER WONDER
28. COPPER GLANCE
29. WONDER
30. BRYAN
31. TOWNE
32. BUCKEY ONEIL
33. MIDNIGHT
34. READY CURE
35. PINKHAM
36. 20th CENTURY
37. RELIEF
38. BILLIGAN
39. EMPRESS
40. BUFFER
41. GRAY EAGLE
42. HAMLIN
43. HAMLIN MILL SITE
44. EMERSON
45. CONDOR
46. ARASTA
47. "97"
48. HOBSON
49. AURORA
50. BERKLEY
51. RAINBOW
52. LOOK OUT
53. LINGREN
54. GRAND VEIN
55. MONTCLAIR
56. OLD TIMER
57. SILVER COIN
58. LUCKY BOY
59. LUCKY BALDWIN
60. QUEEN
61. BRIGHTER DAYS
62. SAMOAN
63. RURAL #2
64. METALLIC ACCIDENT
65. GOLDEN STAR
66. LONE STAR
67. SABBATH BELL-GOLDEN FRACTION
68. GOLDEN FRACTION MILL SITE
69. ARK
70. ANTONE
71. TRUE BLUE
72. COPPER APEX
73. GOLD
74. SILVER
75. LEAD
76. ANTIMONY
77. COPPER
78. ZINC
79. SKY SCRAPPER
80. SILVER MONSTER

* Silver Hill Patented Claims

T 24 N
T 23 N
Chloride
Silver
Wash
Old Comanche Mine

TABLE 2.—*Production of gold, silver, copper, lead, and zinc of selected mines in the Wallapai district, Mohave County, Ariz., cumulative from 1901 through 1948, in terms of recovered metals*

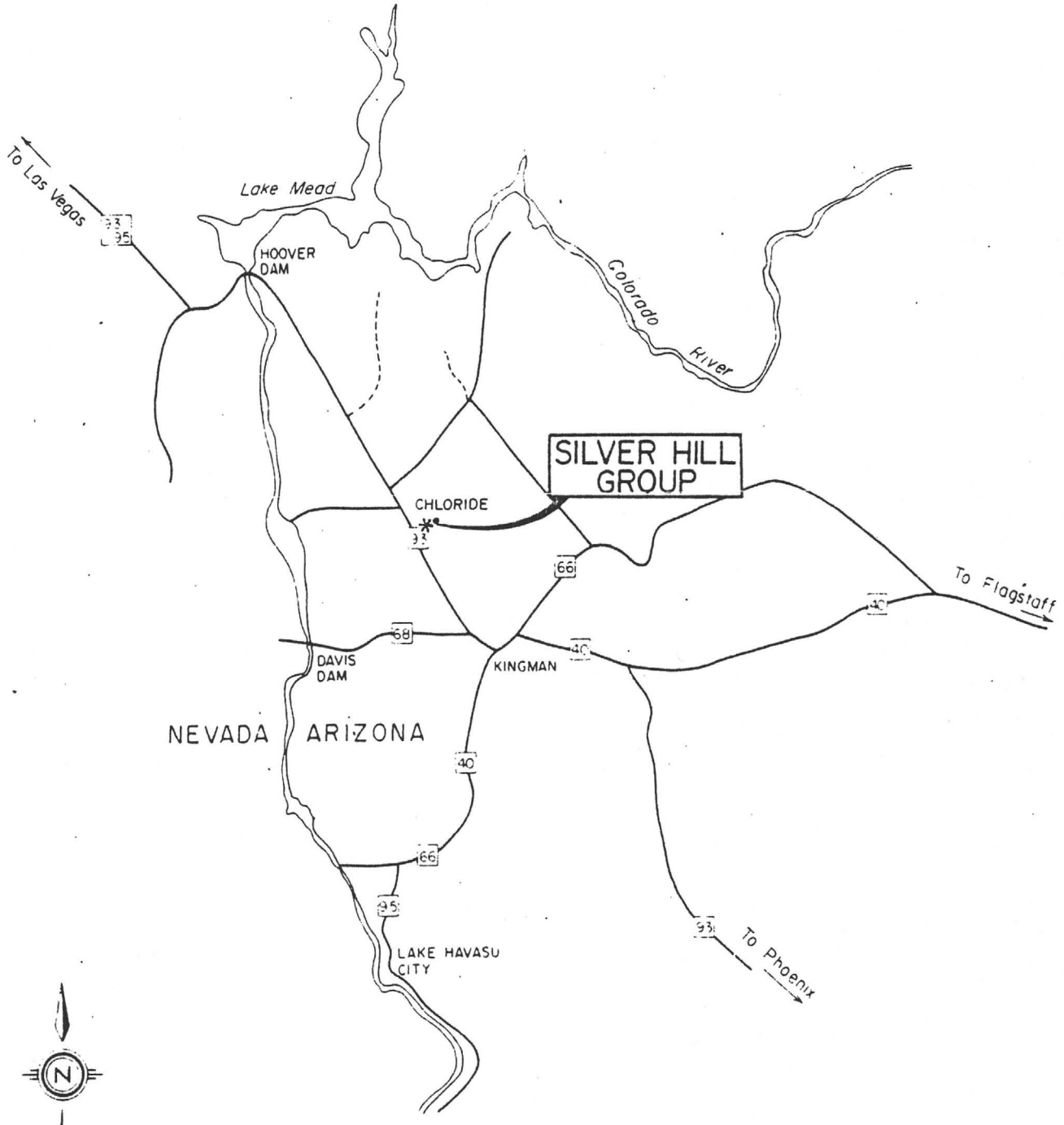
[Compiled by Metal Economics Branch, U. S. Bureau of Mines, Salt Lake City, Utah]

Mine	Gold (oz.)	Silver (oz.)	Copper (lbs.)	Lead (lbs.)	Zinc (lbs.)
Alpha (*m*)	292	35,499	22,265	16,476	----------
Altata and Altata Extension (*c*)	382	36,024	136,616	7,691	----------
Badger, Hercules, and Hercules group (*c*)	561	12,287	1,418	331,365	52,524
Banner group (*s*)	1,697	79,382	21,603	2,195,988	39,948
Blackfoot (*cer*)	158	11,886	19,617	104,565	144,369
Blue Bell (*s*)	469	50,954	44,274	182,001	----------
Cerbat (*cer*)	42	2,055	1,153	4,120	----------
Champion (*cer*)	982	23,689	14,931	825,993	335,391
C. O. D. (*s*)	1,550	151,263	23,924	348,872	23,188
Columbus-Monroe Doctrine (*cer*)	646	5,083	4,370	17,322	154,533
Copper Age (*c*)	3	1,062	266	24,575	----------
Distaff (*c*)	93	55,883	1,392	149,600	----------
Elkhart (*c*)	662	10,385	7,482	245,199	----------
Empire and Silver Union (*c*)	1	2,475	122	----------	----------
Eureka (*c*)	7	2,311	3,371	23,861	42,714
Flores (*cer*)	422	366	172	512	----------
George Washington (*m*)	114	11,059	15,777	34	----------
Golconda (*m*)	20,752	510,180	354,703	2,031,719	56,226,020
Golden Eagle and Bobtail (*m*)	1,777	25,845	890	40,076	----------
Golden Gem (*cer*)	2,478	8,243	3,365	14,980	----------
Hidden Treasure (*c*)	251	9,074	7,897	159,861	231,345
Idaho (*cer*)	280	5,285	4,742	9,348	51,900
Juno (*c*)	1,239	43,128	4,517	235,498	154,138
Keystone (*m*)	2,703	452,049	340,778	348,845	114,063
Little Chief (*s*)	391	68,351	2,070	111,825	----------
Lucky Boy (*c*)	1,923	40,438	230	8,140	----------
Mary Bell (*c*)	26	955	557	19,155	28,733
Midnight (*c*)	44	8,533	10,746	4,122	----------
Minnesota-Connor (*c*)	2,890	228,129	50,702	169,722	71,053
Mint (*m*)	222	15,265	----------	----------	----------
New London (*cer*)	13	3,268	1,558	136,699	31,243
Nighthawk group (*m*)	324	16,297	5,410	1,589	----------
Old Colony (*s*)	21	2,969	654	4,370	----------
Paymaster (*cer*)	99	25,090	----------	----------	----------
Payroll (*c*)	128	4,104	11,694	39,928	192,137
Pinkham (*c*)	56	14,695	55,136	3,133	----------
Rainbow (*c*)	2,400	34,982	4,748	313,271	22,426
Redemption (*c*)	21	4,042	11,449	----------	----------
Rico (*s*)	1,149	15,309	1,449	2,620	----------
Samoa and Samoan (*c*)	4,480	57,891	4,454	656,377	67,886
St. Louis (*cer*)	24	11,142	1,050	855,841	1,496
Silver Age (*c*)	24	3,550	----------	----------	----------
Silver Hill (*c*)	708	8,842	10,722	229,949	143,594
Tennessee and Schuylkill (*c*)	42,383	1,514,187	839,837	59,897,096	66,805,907
Towne (*c*)	144	6,286	2,108	5,516	----------
Vanderbilt (*cer*)	1,012	2,119	327	2,568	----------
Washington and Washington Extension (*m*)	58	2,205	1,610	1,700	----------

c, Chloride camp; *m*, Mineral Park camp; *cer*, Cerbat camp; *s*, Stockton camp.

FUTURE ECONOMIC IMPORTANCE OF THE DISTRICT

It is believed that the future economic importance of the district will lie chiefly in the base-metal content of the fissure veins. Most of the veins have not been explored sufficiently at depth to test the base-metal content and particularly the zinc content. On the basis of a geologic study of the veins in the district there is no reason for assuming that any of several other veins will not be as productive of lead and zinc as the Tennessee or Golconda veins. Future development work, particularly at greater depths, on the many miles of veins in the district may disclose several that will prove to be their equal or better.



HIGHLAND QUEEN MINES LTD.

SILVER HILL GROUP

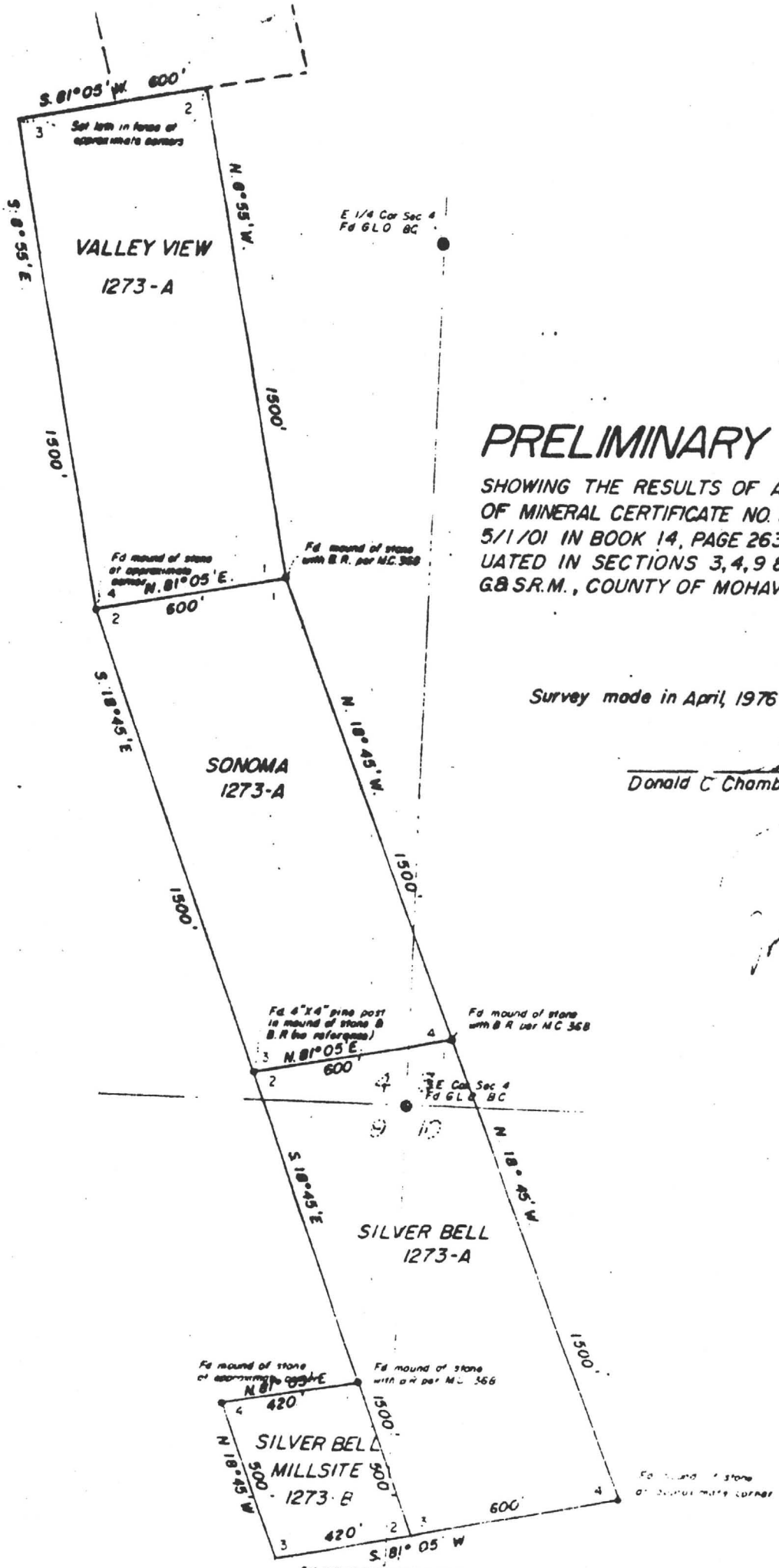
PROPERTY LOCATION

WALLAPAI MINING DISTRICT

MOHAVE COUNTY, ARIZONA

JOHN R POLONI & ASSOCIATES LTD.

DRAWN J R P	CHECKED J R P	PLAN No
SCALE 1" = 2.4 miles	DATE MAY 26, 1981	1



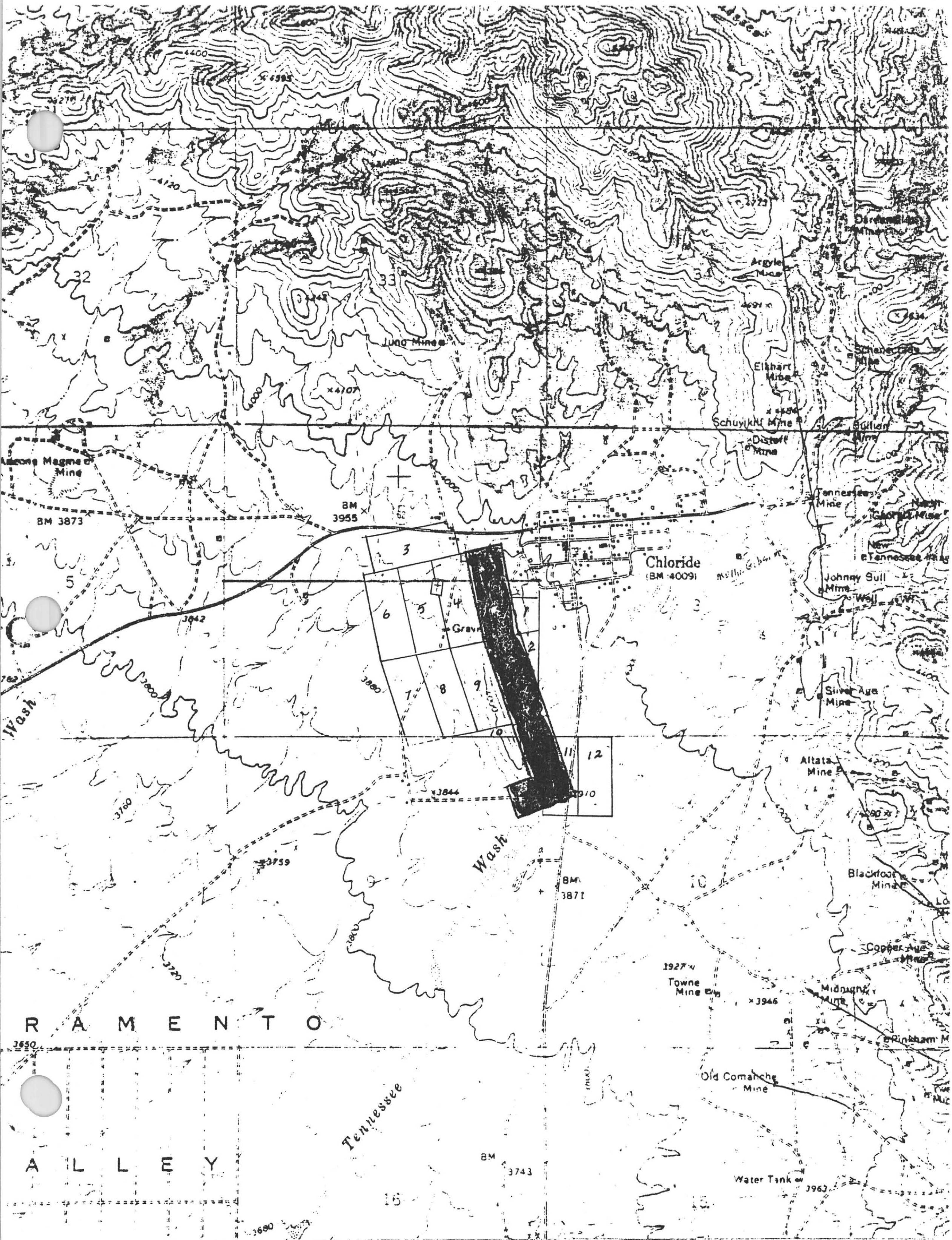
SCALE
1"=300'

PRELIMINARY SURVEY

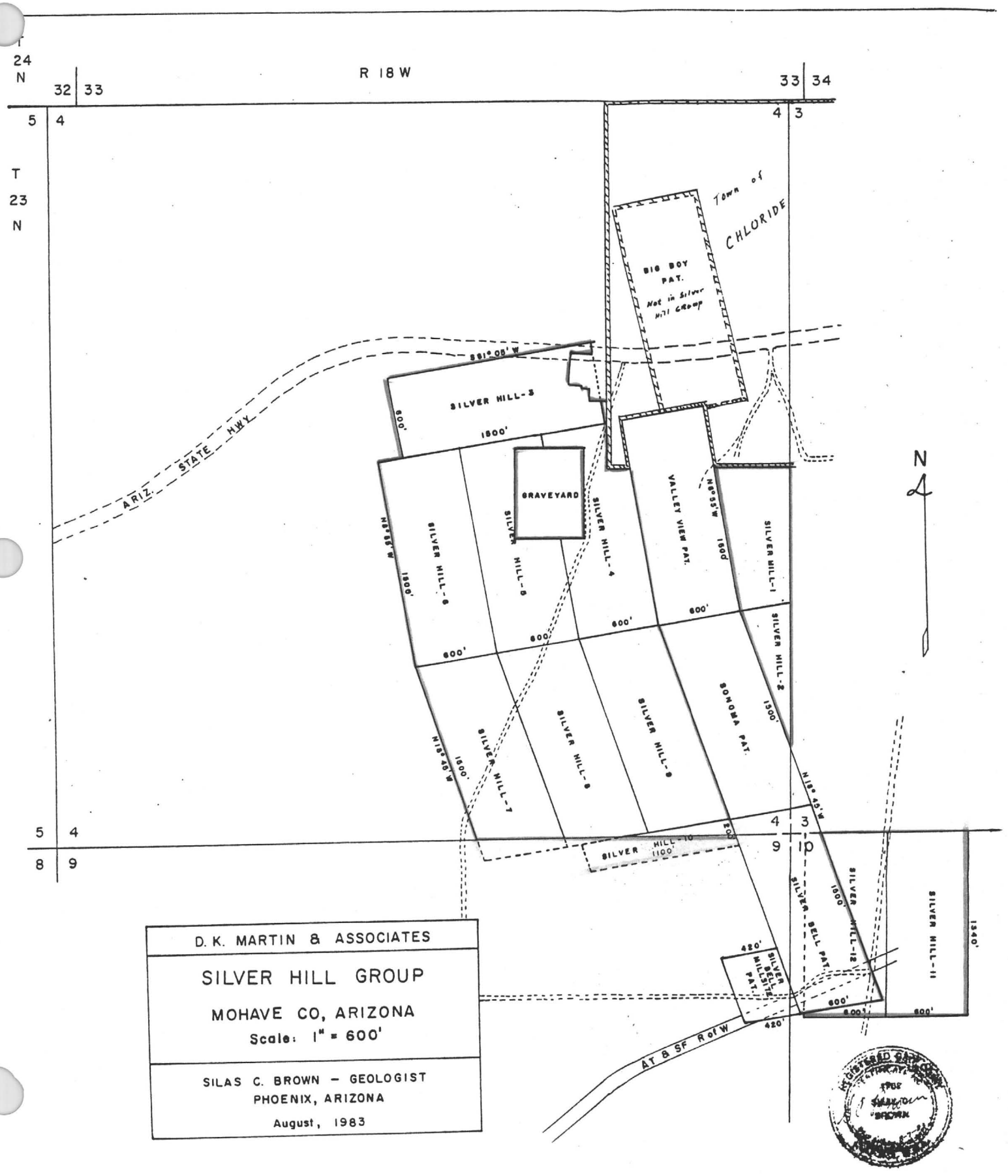
SHOWING THE RESULTS OF A BOUNDARY SEARCH OF MINERAL CERTIFICATE NO. 368 RECORDED 5/1/01 IN BOOK 14, PAGE 263 TO 268 AND SITUATED IN SECTIONS 3, 4, 9 & 10, T-23-N, R-18-W G&SR.M., COUNTY OF MOHAVE, STATE OF ARIZ.

Survey made in April, 1976 at the request of
Eleanor Davis

Donald C Chambers L.S 5576



Chloride
(BM 4009)
Juno Mine
Argyle Mine
Elkhart Mine
Schuylkill Mine
Distaff Mine
Tennessee Mine
New Tennessee
Johnny Bull Mine
Well
Silver Age Mine
Altata Mine
Blackfoot Mine
Copper Age Mine
Towne Mine
Midnight Mine
Old Comanche Mine
Water Tank
BM 3873
BM 3955
BM 3871
BM 3743
3844
3759
3927
3946
3963
3650
32
33
34
5
10
16
3
6
5
4
7
8
9
10
11
12
1
2
Wash
Wash
Tennessee
R A M E N T O
A L L E Y



D. K. MARTIN & ASSOCIATES

SILVER HILL GROUP

MOHAVE CO, ARIZONA

Scale: 1" = 600'

SILAS C. BROWN – GEOLOGIST
PHOENIX, ARIZONA

August, 1983

SILAS C. BROWN & ASSOCIATES
GEOLOGICAL CONSULTANTS
Phone (602) 966-7874
2401 W. Southern Ave. B-78
Tempe, Arizona 85282

GEOLOGY OF THE SILVER HILL PROPERTY

Regional Setting

The Silver Hill Property lies in an area approximately 10 miles long and 4 miles wide called the Wallapai District. This area is highly mineralized and many mines are present. Within the Wallapai District, the ore deposits hold with depth. At the 1600 foot level of the Tennessee Mine, about one mile east of the Silver Hill and on a parallel vein, good sulfide ore is present. Many other mines in the district, indicate good commercial ore was still present at their maximum depth of 500 to 600 feet. The oxidized zone averages 150 feet in depth in the Wallapai District, however, the oxidized zone on Silver Hill is only about 70 feet in depth.

Silver Hill Geology

The surface outcrops on Silver Hill are primarily amphabolite schist and granitic rocks of pre-Cambrian age. Coarse granitic rocks of Laramide (Cretaceous-Tertiary) age have intruded the western base of the property. The Laramide complex is locally cut by dikes and stringers of garnet-bearing aplite granite and a coarse pegmatitic granite.

The schist, which occupies the western part of Silver Hill, has a strike of North 7° to 10° West, and dips 60° West.

The northern half of the ridge is cut by a well defined mineralized vein ranging from 2 to 12 feet or more in width. The vein or mineralized zone lies within a brecciated zone 20 to 40 feet wide, which was created by fault action. Slickenside material is prevalent in the breccia which is indicative of major fault action. The crushed (breccia) zone is primarily silicified rhyolite prophyry. The ore occurs as lenses in the crushed zone.

The main ore veins appear to be near the foot wall in the northern part of the property on the Valley View Claim. In the central part of the property, primarily on the Sonoma Claim, the vein material lies about half way between the foot and hanging walls. In the southern part of the Sonoma and northern part of the Silver Ball Claims, the vein splits into two parts, one near the foot wall and the other near the hanging wall. These veins range from

a few inches to as much as 10 to 12 feet in width. The veins can be traced on the surface along most of the Silver Hill for approximately 4000 feet. The most prominent outcrops extend for a distance of plus 2000 feet.

Mr. C. M. Heron reports: "The Silver Hill Vein occurs in a strong persistant fissure or fracture zone which follows the contact of the pre-Cambrian schist and the younger granite. The Silver Hill Vein or fault has a strike of North 10 degrees West and an average dip of 47 degrees East."

Subsequent field investigations show the strike to be 7 to 10° West and dips from 45° to 58° East. The younger granite intrusive is estimated to be of Laramide age (Cretaceous-Tertiary) which is considered the source of mineralization in the Chloride and adjacent areas. No attempt will be made to go into the geological sequence of events at this time, except to state the mineralization is related to the Laramide intrusives in the pre-Cambrian complex.

More than 200 samples have been collected by reliable mining personnel, and the resulting assay values are acceptable within a reasonable degree of accuracy. Many samples were taken underground before the shafts and tunnels caved and many more samples were taken from surface outcrops, dumps, etc.. Assay averages are as shown on the following pages.

SILVER HILL AND ADJACENT MINES

There is a total of 161 patented mining claims and mill sites in the Wallapai District, most of which have either mines or good prospects. Practically none of the mineralized area remains unclaimed by unpatented lode locations.

The alluvial deposits along the eastern edge of the District covers the basement complex, therefore, restricting extensive exploration work. It is believed good commercial ore veins exist in the basement rocks under the alluvium, but exploring with the drill would be too hap-hazzard and expensive.

The Juno Mine is about one-half mile north, and is on the northwest extension of the Silver Hill Vein. It has been reported to have been developed to a depth of approximately 600 feet. Production from 1901 through 1948 is shown to have produced the following:

ADJACENT MINES (continued)

Mineral	Production	Value	Total
Gold	1,238 oz	$ 400/oz	$495,200
Silver	43,128 oz	11.00/oz	474,408
Copper	4,517 lb	0.80/lb	3,614
Lead	235,498 lb	0.20/lb	47,100
Zinc	154,138 lb	0.40/lb	61,655
			$1,081,977

Approximately one mile to the East is the Tennessee-Schuylkill vein which lies parallel to the Silver Hill Vein. This mine is probably the largest and deepest in the Wallapai District, having a depth of about 1600 feet. Most of the other mines in the District have depths of 650 feet or less.

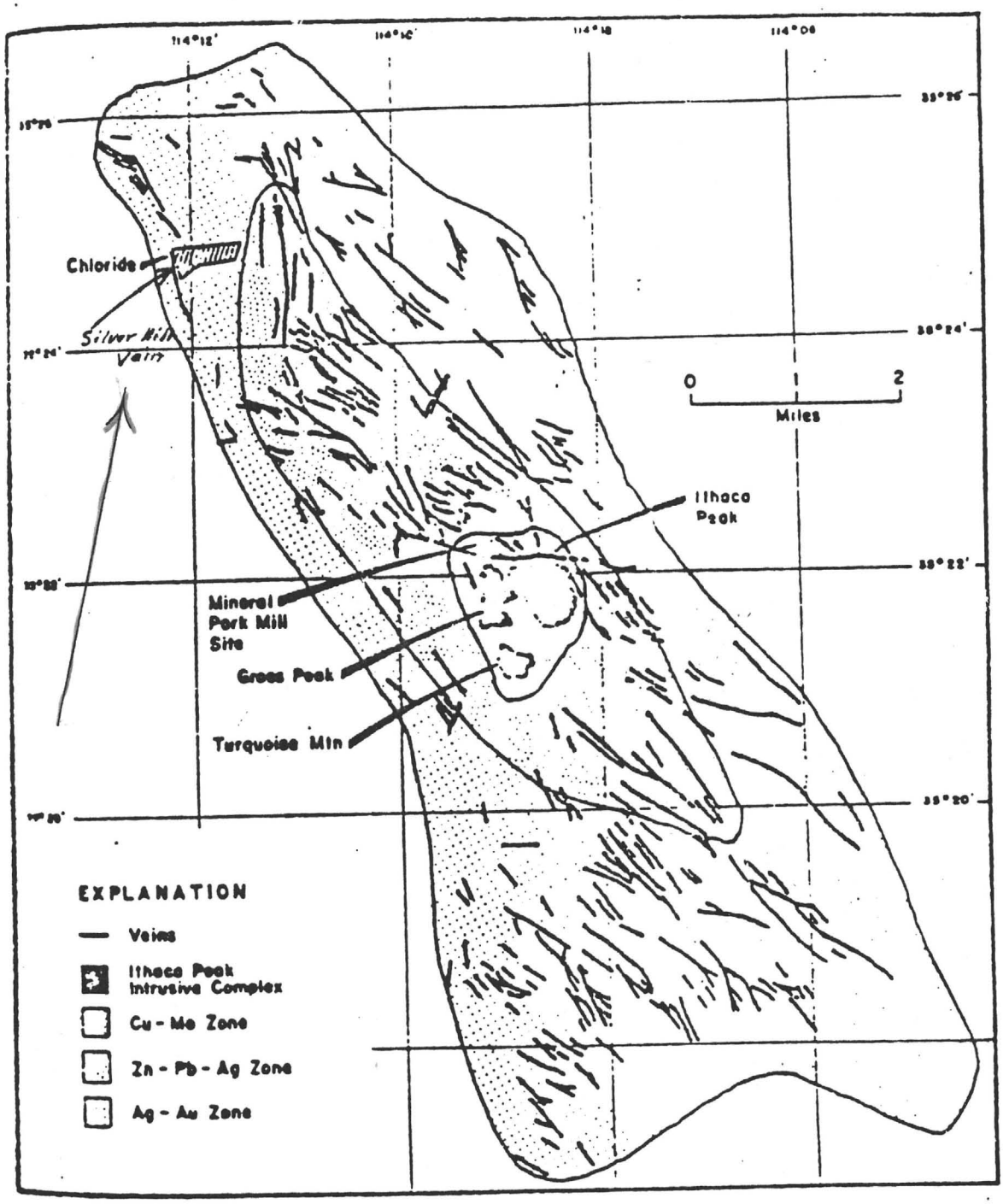
The total production of the Tennessee-Schuylkill Mine through 1948 are as follows:

Gold	43,383 oz	$ 400/oz	$17,353,200
Silver	1,514,187 oz	11.00/oz	16,656,057
Copper	839,837 lb	0.80/lb	671,870
Lead	59,897,096 lb	0.20/lb	11,979,419
Zinc	66,805,907 lb	0.40/lb	26,722,362
			$73,382,908

The Silver Hill Mine, which has only been explored to a depth of 200 feet or less, produced the following:

Gold	708 oz	$ 400/oz	$ 283,200
Silver	8,842 oz	11.00/oz	97,262
Copper	10,722 lb	0.80/lb	8,578
Lead	229,949 lb	0.20/lb	45,990
Zinc	143,594 lb	0.40/lb	57,438
			$ 492,468

The total tonnage of ore mined at the Juno is unknown. This is also true for the Silver Hill Mine. Only a few sketchy records were found from 1940 through 1944, indicating 2000 to 3000 tons were shipped from Silver Hill. The Tennessee-Schuylkill Mine records from 1901 through August of 1944, indicate 599,058 tons of ore were mined. Through 1948 the total tonnage mined would probably be between 600,000 and 700,000 tons. Most of the records of production on other mines in the District are quite brief or non-existant.



Vein Distribution and Zoning in the Wallapai Mining District (adapted from Dings, 2, Plate 1).

(Excerpt From)

Report on the

Silver Hill Group

Wallapai Mining District

Mohave County, Arizona

for

Highland Queen Mines Ltd.

by

John R. Poloni, B.Sc., P. Eng.

May 26, 1981

John R. Poloni & Associates Ltd.
1512B - 56th Street
[illegible], B.C.
[illegible]2A8

5.0 Chloride, having a population of a few hundred, has only limited services, including a bar-restaurant, service station, post office and grocery store. Electricity, however, is present a few hundred feet north of the Silver Hill group.

6.0 History

The property dates back to the early 1860's when the showings were initially explored by surface pits and declines. The claims were brought to patent on February 16, 1900, having Patent No. 32094.

Ownership changed hands frequently.

Much of the initial underground development work was completed around the turn of the Century and possibly prior to bringing the claims to patent.

The best documented period of activity occurred in the early 1940's when development ore from drifting, and winzing below the Segar level, and stope ore were shipped to Midvale, Utah. Total development amounts to:

	Shaft	X-Cut	Drift	Rse	Winze
Segar level & No. 3 Shaft	60'	430'	225'		95'
No. 1 & No. 2 Shaft	240'		350'		
North Adit			50'		

Reference is made to Plans No. 4 - 7 inclusive included in Appendix E.

6.0 The total development amounts to approximately 300 feet of shafts, 430 feet of X-cuts, 625 feet of drifting and 95 feet of winzing.

Assay data from historical information shows excellent widths and grades of gold, silver, lead, and zinc. In a letter, Jim Hutchinson reports compiling data on 130 assays from old documents which showed an average of 0.34 Au oz/T, 2.87 Ag oz/T, 4.12% Pb and 4.91% Zonc.

Hedges, S.M. reportedly shipped 49.6 tons of winze ore which averaged 0.525 Au oz/T, 4.4 Ag oz/T, 8.9% Pb and 6.2% Zinc. This material was mined from the Segar level winze between the level and a depth of 17 feet with shipping ore width averaging 2.0 feet. On the level the ore shoot was about 70 feet long, had an average width of 3.4 feet and an average value of 0.30 Au oz/T, 2.0 Ag oz/T, 4.5% Pb and 6.0% Zn.

Several progress letters signed by J.P. Klein dated between July 30th and November 14th, 1943, describe development progress in the winze. Excellent grades are reported.

William Segar in July 1943 had obtained a governmental development loan of $20,000.00 which was used for mine rehabilitation, water supply, buildings, raising, and winzing. The winze had been driven to 110 feet below the Segar level at an average dip of 47°. Production amounted to 587 tons of ore and 97 tons of waste. A shipment of 155 tons was made to Midvale, Utah, which reportedly had a head assay of 0.34 Au oz/T,

6.0 3.5 Ag oz/T, 4.2% Pb and 4.4% Zn. Sockpiled ore is reported to have amounted to 432 tons with an average grade of 0.25 Au oz/T, 2.0 Ag oz/T, 2.4% Pb, and 4.8% Zn.

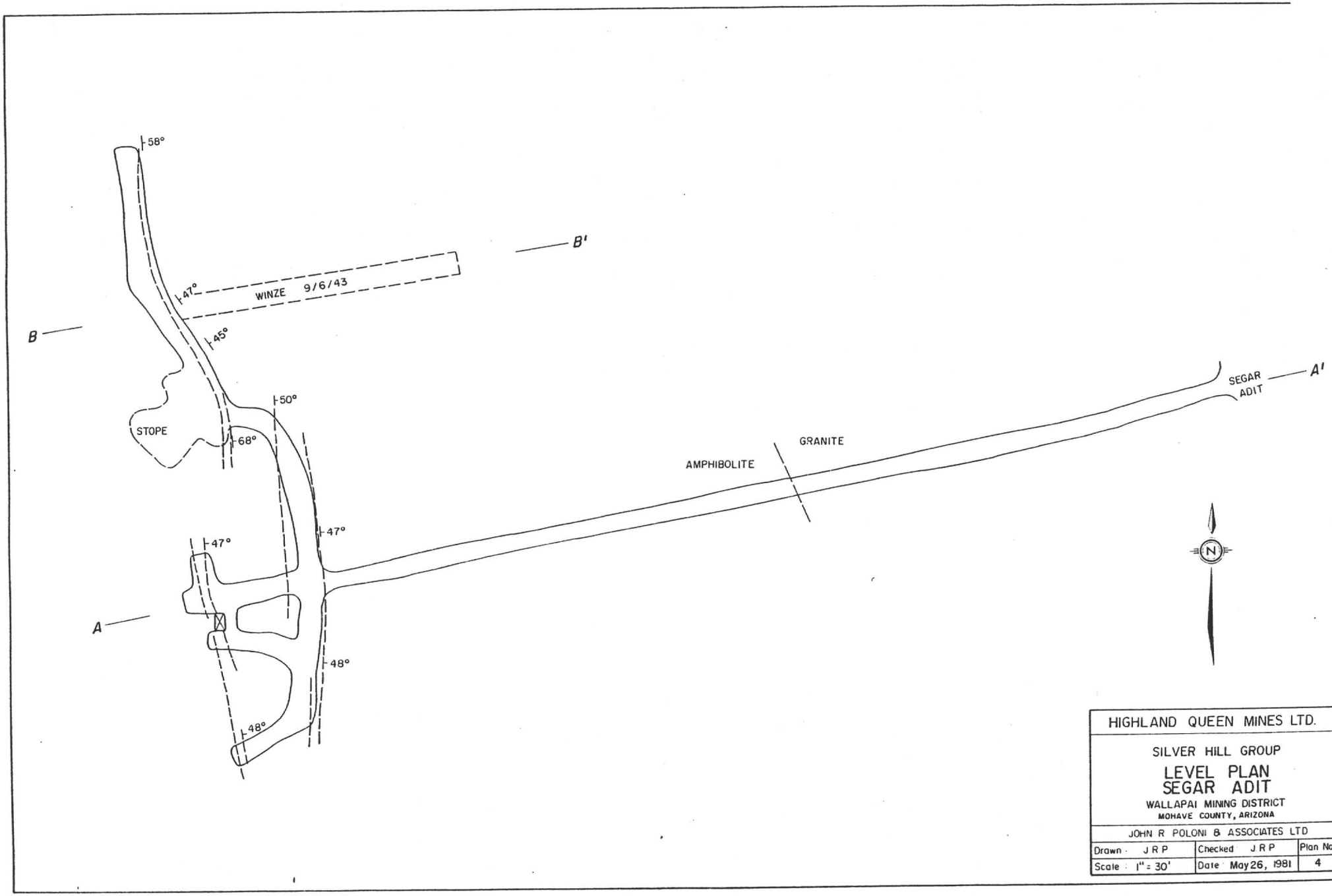
Carload shipments reported to Asarco are as follows:

Date	Tons	Au oz/T	Ag oz/T	PB %
3/19/42	41.96	0.78	3.7	5.25
5/21/42	22.98	0.915	5.15	9.45
7/21/42	40.84	0.565	3.4	6.4
9/21/42	27.32	0.572	4.9	8.05
11/23/42	42.67	0.52	4.25	6.9

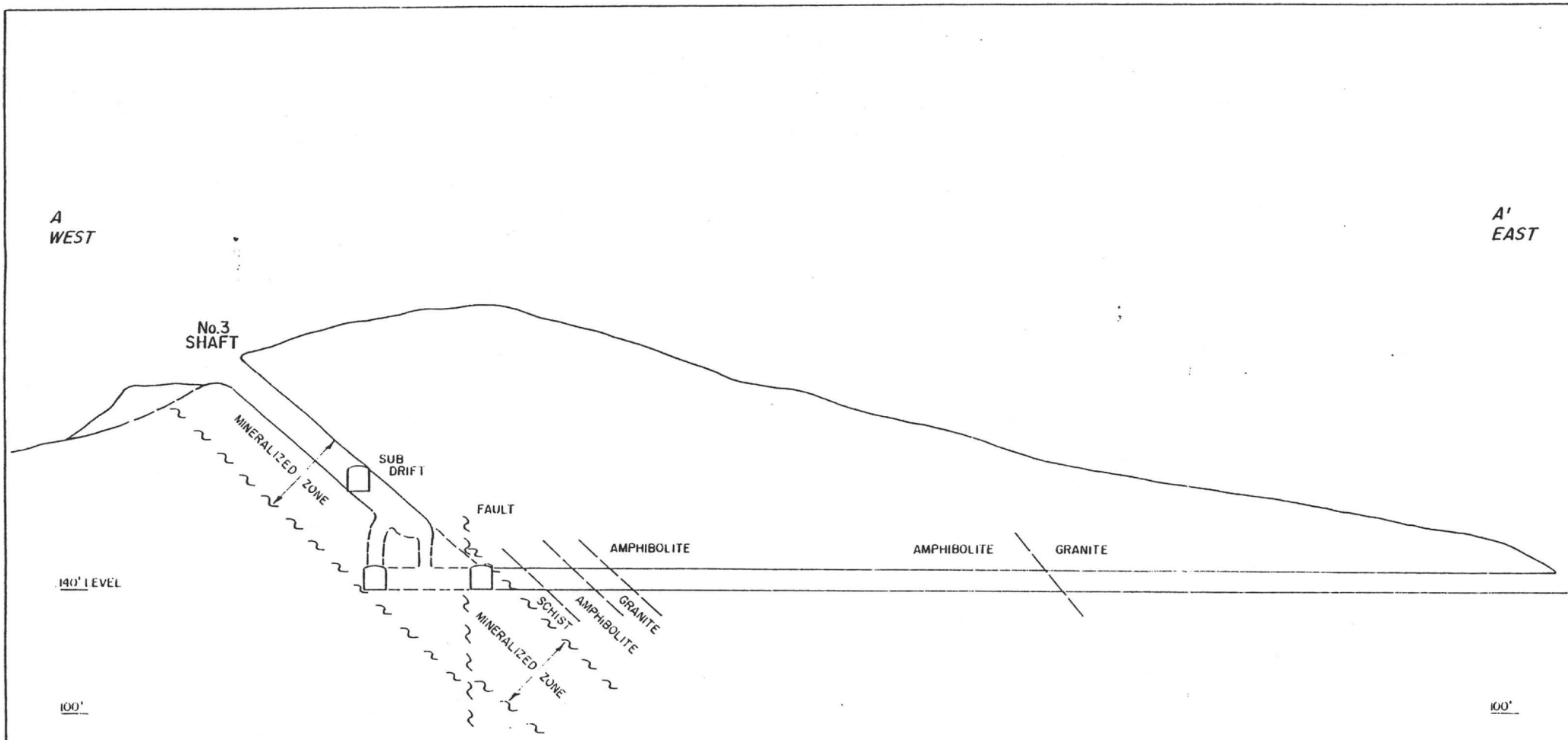
Plan No. 6, redrafted from old data, indicates that much of the hangwall zone had not been explored. Six jack leg drill holes show excellent grades and widths, Plan No. 6.

As described by Heron, C.M., 1941,

"The Silver Hill vein was one of the very early discoveries of the district. Jacobson's report quotes Schrader's report as follows: 'The Silver Hill mine from 1880 to 1930 produced 700,000 pounds of lead, $5,000 in gold and $10,000 in silver, a total of $50,000.00.' William S. Segar acquired the mine in 1936, and during the ownership most of the work was done on the tunnel level, the adit of which is on the east side of the hill."



HIGHLAND QUEEN MINES LTD.		
SILVER HILL GROUP LEVEL PLAN SEGAR ADIT WALLAPAI MINING DISTRICT MOHAVE COUNTY, ARIZONA		
JOHN R POLONI & ASSOCIATES LTD		
Drawn : J R P	Checked J R P	Plan No.
Scale : 1" = 30'	Date May 26, 1981	4



HIGHLAND QUEEN MINES LTD.

SILVER HILL GROUP

SECTION A-A'

LOOKING NORTH

WALLAPAI MINING DISTRICT

MOHAVE COUNTY, ARIZONA

JOHN R POLONI & ASSOCIATES LTD

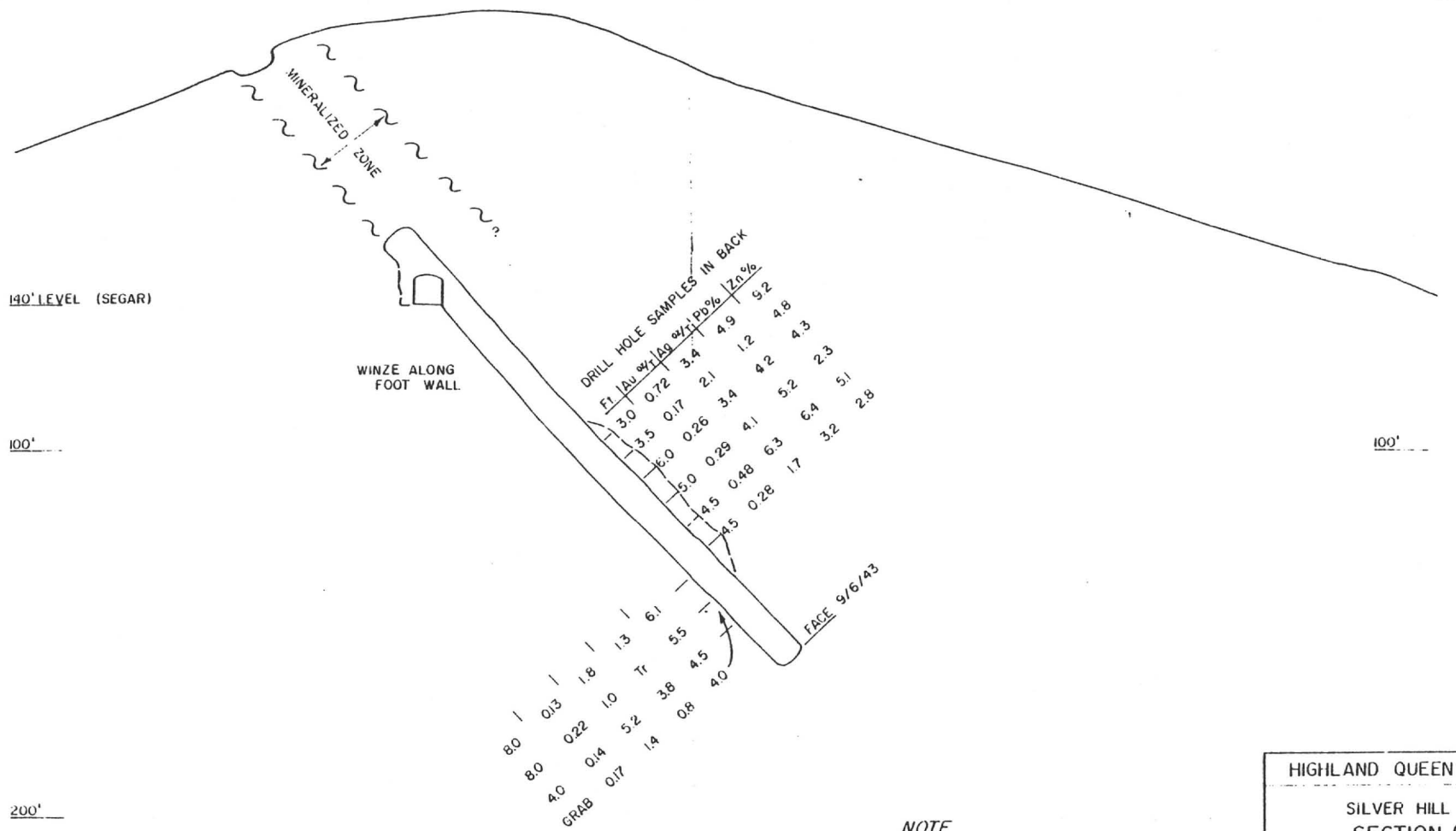
Drawn J R P	Checked J R P	Plan No
Scale 1" = 30'	Date May 26, 1981	5

B

WEST

B'

EAST



NOTE

MINED ORE FROM WINZE 587 TONS Of WHICH
- SHIPPED 155 TONS AT 0.34 Au, 4.4 Ag, 3.3 Pb, 6.1 Zn
- STOCKPILED 432 TONS AT 0.25 Au, 2.0 Ag, 2.4 Pb, 4.8 Zn

HIGHLAND QUEEN MINES LTD.

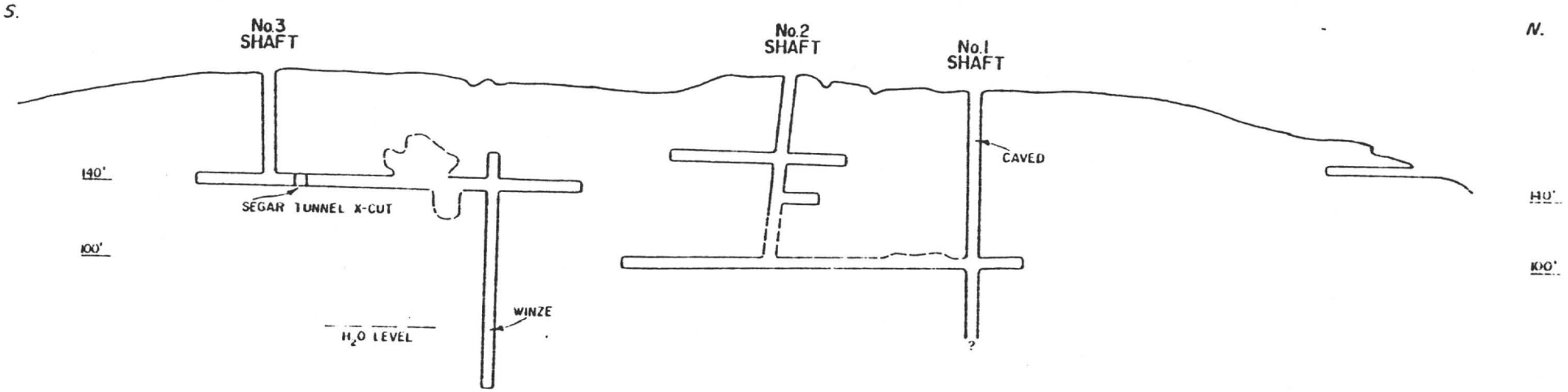
SILVER HILL GROUP

SECTION B-B'
LOOKING NORTH

WALLAPAI MINING DISTRICT
MOHAVE COUNTY, ARIZONA

JOHN R POLONI & ASSOCIATES LTD

Drawn J R P	Checked J R P	Plan No
Scale 1" = 30'	Date May 26, 1991	6

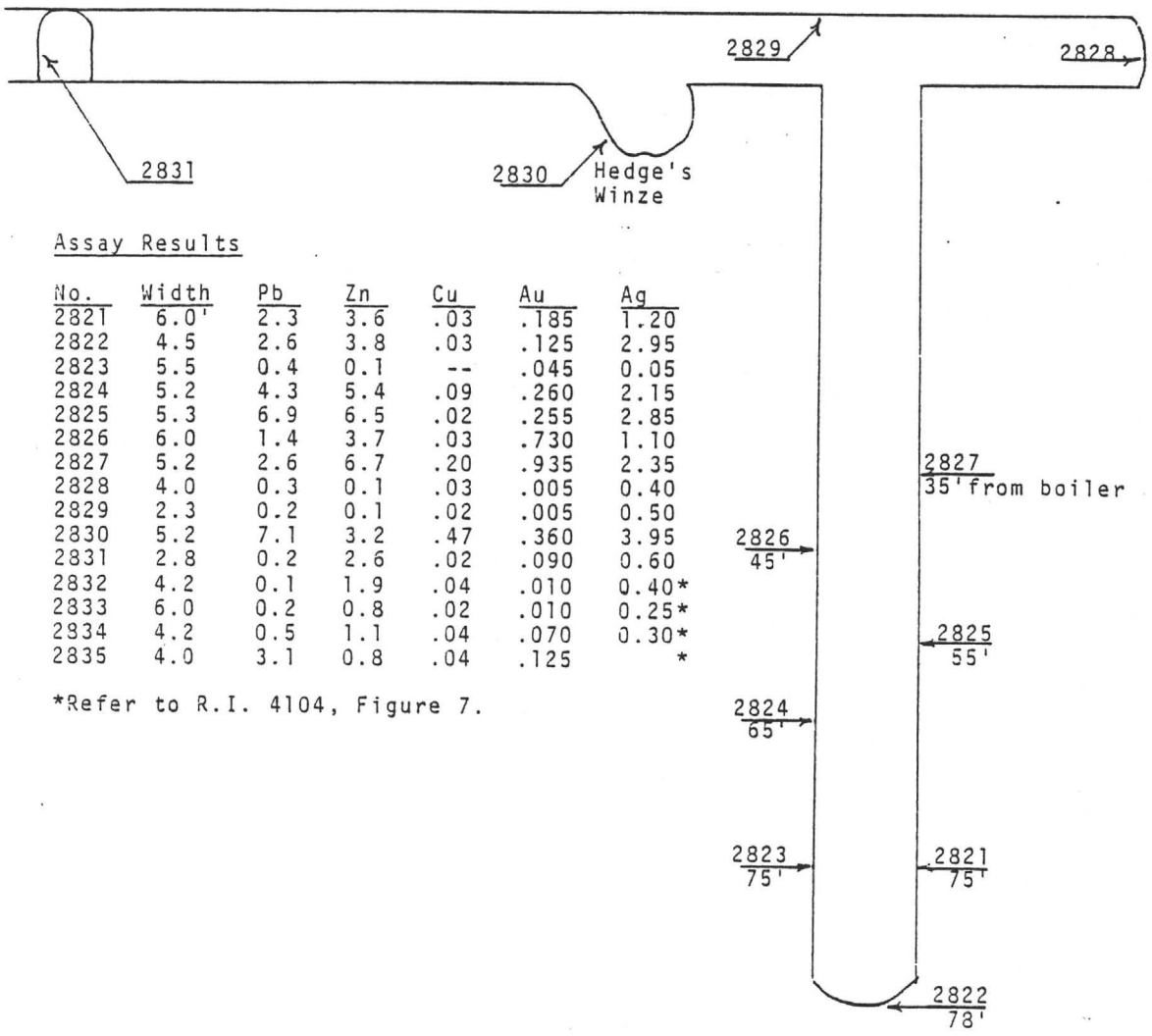


(20)

HIGHLAND QUEEN MINES LTD.		
SILVER HILL GROUP LONGITUDINAL SECTION LOOKING WEST WALLAPAI MINING DISTRICT MOHAVE COUNTY, ARIZONA		
JOHN R POLONI & ASSOCIATES LTD		
Drawn JRP	Checked JRP	Plan No.
Scale 1" = 60'	Date May 26, 1981	7

D A V I S S H A F T

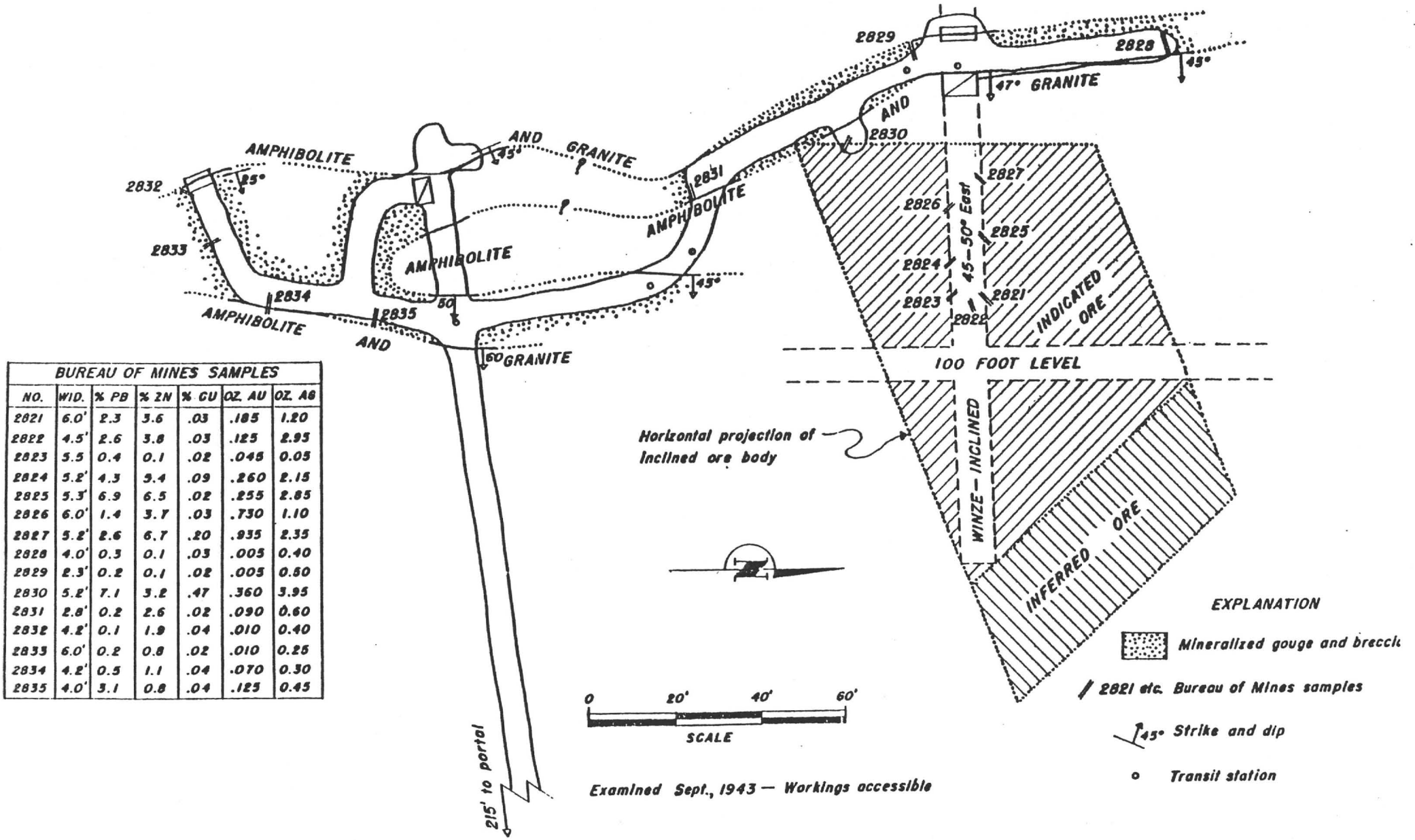
Bureau of Mines
July 1943
R.I. 4104
(reproduction)



Assay Results

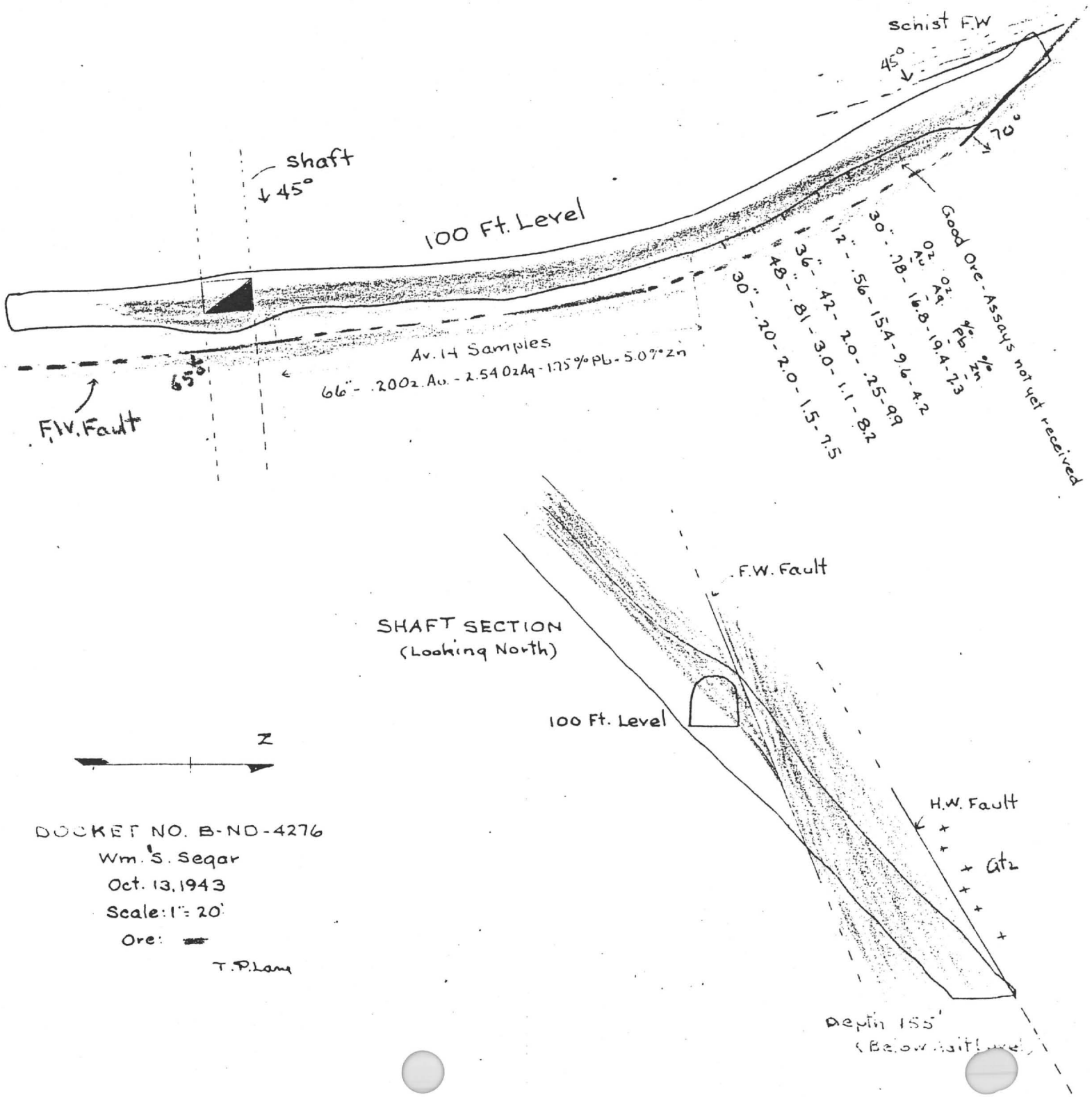
No.	Width	Pb	Zn	Cu	Au	Ag
2821	6.0'	2.3	3.6	.03	.185	1.20
2822	4.5	2.6	3.8	.03	.125	2.95
2823	5.5	0.4	0.1	--	.045	0.05
2824	5.2	4.3	5.4	.09	.260	2.15
2825	5.3	6.9	6.5	.02	.255	2.85
2826	6.0	1.4	3.7	.03	.730	1.10
2827	5.2	2.6	6.7	.20	.935	2.35
2828	4.0	0.3	0.1	.03	.005	0.40
2829	2.3	0.2	0.1	.02	.005	0.50
2830	5.2	7.1	3.2	.47	.360	3.95
2831	2.8	0.2	2.6	.02	.090	0.60
2832	4.2	0.1	1.9	.04	.010	0.40*
2833	6.0	0.2	0.8	.02	.010	0.25*
2834	4.2	0.5	1.1	.04	.070	0.30*
2835	4.0	3.1	0.8	.04	.125	*

*Refer to R.I. 4104, Figure 7.



BUREAU OF MINES SAMPLES						
NO.	WID.	% PB	% ZN	% CU	OZ. AU	OZ. AG
2821	6.0'	2.3	3.6	.03	.185	1.20
2822	4.5'	2.6	3.8	.03	.125	2.95
2823	5.5	0.4	0.1	.02	.045	0.05
2824	5.2'	4.3	5.4	.09	.260	2.15
2825	5.3'	6.9	6.5	.02	.255	2.85
2826	6.0'	1.4	3.7	.03	.730	1.10
2827	5.2'	2.6	6.7	.20	.935	2.35
2828	4.0'	0.3	0.1	.03	.005	0.40
2829	2.3'	0.2	0.1	.02	.005	0.50
2830	5.2'	7.1	3.2	.47	.360	3.95
2831	2.8'	0.2	2.6	.02	.090	0.60
2832	4.2'	0.1	1.9	.04	.010	0.40
2833	6.0'	0.2	0.8	.02	.010	0.25
2834	4.2'	0.5	1.1	.04	.070	0.30
2835	4.0'	3.1	0.8	.04	.125	0.45

FIG. 18-SAMPLE PLAT SHOWING ORE RESERVES


Schist F.W
45°
70°
shaft
↓45°
100 Ft. Level
Good Ore-Assays not yet received
30" - .28 - 16.8 - 19.4 - 7.3
12" - .56 - 15.4 - 9.6 - 4.2
36" - .42 - 2.0 - .25 - 9.9
48" - .81 - 3.0 - 1.1 - 8.2
30" - .20 - 2.0 - 1.5 - 7.5
Av. 14 Samples
66" - .20 oz. Au. - 2.54 oz Ag - 1.75% Pb - 5.0% Zn
65°
F.W. Fault
SHAFT SECTION
(Looking North)
F.W. Fault
100 Ft. Level
H.W. Fault
Gt2
Depth 155'
(Below Main Level)
N
DOCKET NO. B-ND-4276
Wm. S. Segar
Oct. 13, 1943
Scale: 1" = 20'
Ore:
T.P. Lamy

ment of chalcocite on the pyrite and chalcopyrite. The vein at this point stands about vertical or dips very steeply northeast instead of southwest, its normal direction.

Later a fine body of high-grade copper sulphide ore, 18 to 24 inches in width, was opened in extending the drift northwestward on the fourth or 140-foot level. This ore averaged about 9 per cent of copper and 60 ounces of silver to the ton.

On the fifth or 230-foot level, which is practically the bottom of the mine, the vein dips about 70° SW. and is from 4 to 6 feet in width. The face of the drift, 100 feet northwest of the shaft, shows a width of 8 feet with the foot wall not yet in sight. Here the vein consists of coarsely streaked or irregularly banded ore, crushed quartz, and altered country rock, all pretty soft and containing 4 to 6 inch gouge seams.

South of the shaft the vein is mineralized for a width of 20 feet or more, and at the end of a 40-foot crosscut into the hanging wall there is a good looking small vein 1½ feet wide, which dips steeply to the northeast.

MIDNIGHT MINE.

The claim of the Midnight mine practically joins that of the Pinkham mine on the northwest, as shown in Plate III, and, like the Pinkham, is situated on open, gently sloping ground. (See Pl. VI, *B*.) The mine was discovered prior to 1866. The original owner was a pioneer named Carpenter, who in early times hauled some of the ore to the Mineral Park mill. Later the mine was owned by Heimrods, McDuffee & Gilleland, and still later by the partners Darius Brown, Robert Gibson, James Boyd, and John St. Charles. Finally, about 1898, John St. Charles and his brother Keene became the sole owners. They alone have done most of the development, and have shipped ore from the deeper levels.

The mine is developed principally by inclined shafts, drifts, and crosscuts, and is equipped with a gasoline hoist. The main shaft is 200 feet deep, and the drifts, crosscuts, and stopes aggregate several hundred feet of workings.

The same country rocks prevail as in the Pinkham vein, being principally pressed and crushed microcline-biotite granite, and this is also intruded by the same classes of diabase and granitic dikes in or near the mine, the diabase apparently being the later of the intrusives (fig. 11). The vein or lode is less well defined than the vein in the Pinkham mine. As shown in figure 10, it strikes in general about N. 65° W. and on the southeast seems to join the Pinkham vein. It has a width of 50 to 75 feet and contains much low-grade ore. As [illegible] the mine, it contains two main veins or ore bodies, of which the principal or south one strikes about northwest and dips irregularly southwest at angles of 35° or more. The second vein strikes about N. 80° W. and dips steeply to the north.

A large amount of good ore is shown in the mine, but it contains much zinc, and considerable disturbance, including lateral faulting, has taken place, by reason of which further development is needed before the structure can be worked out. The ore contains silver, copper, gold, zinc, and iron. The silver occurs mostly in chalcopyrite, the rule being the more chalcopyrite the more silver. Some bornite is present. The gold is found principally in the pyrite. The zinc blende, though more or less mixed with the ore, occurs also in a relatively pure 3-inch shoot on the hanging wall in the northeastern part of the mine.

For some years past the mine has been shipping copper ore in a small way. This ore was rich and averaged about $1,500 a ton, but some of it contained 5 or 6 per cent more of zinc than the 10 per cent allowed by the smelters and was accordingly penalized. It seems probable that by the use of a suitable magnetic separator the zinc could be extracted and profitably marketed as zinc ore. In certain parts of the mine the ore contains 30 to 40 per cent of zinc, and is so low in other values that it will be shipped as zinc ore. A recent carload shipment of the ore averaged 66 ounces in silver and $2.50 in gold to the ton and 4.5 per cent of copper. Under the present management the mine has produced about 300 tons of ore, with a total value of about $7,000. The ore is reported to mill about 5 to 1.

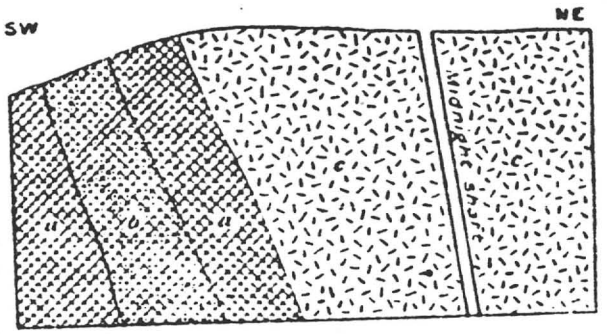


FIGURE 11.—Diagram showing intrusions near Midnight shaft. *a*, Aplite; *b*, diabase, intrusive into aplite; *c*, granite.

SILVER HILL VEIN.

The Silver Hill vein is located on Silver Hill, a prominent elongated ridge just southwest of Chloride and rising about 150 feet above it. It extends southward nearly to the railroad station. The ridge trends about north and south, is about three-fourths of a mile long and one-eighth of a mile broad, and is composed almost wholly of dark amphibolite schist. A coarse granititic rock appears to be intruded in its western base, and it is locally traversed by dikes and stringers of the garnet-bearing aplitic granite and also by a coarse pegmatitic granite. The schist dips about 60° E. and is cut by a well-marked sheeting that dips about 35° W.

As shown by openings and croppings, the northern or main half of the ridge is traversed longitudinally just west of the crest by a well-marked vein or mineral zone, varying from 2 to 12 feet or more in width, whose croppings, hardly rising above the surface, consist of brownish, yellowish, or greenish stained quartz, and seemingly altered dike material, which in places is calcareous and brecciated. The foot wall consists of a bowldery or brecciated schist.

The vein strikes N. 7° W. and dips steeply east. It is opened at intervals along its extent by five or six inclined shafts, some of which attain a maximum depth of about 100 feet. The work was done mostly in pioneer times, as this was among the first veins worked in the district. The ore contains silver, lead, and gold and is reported to carry about 2 ounces of gold to the ton, but the principal production is stated to be a small amount of lead.

JUNO MINE.

The Juno mine is situated in the low foothills about three-fourths of a mile northwest of Chloride, and is supposed to be located on the northward continuation of the Silver Hill vein. It is one of the early locations and was worked intermittently until about five years ago, when the shaft caved in, since which time work has been suspended. It was developed to the depth of 600 feet and equipped with a steam hoist. It is owned by E. T. Lloyd and B. Miller.

The vein dips steeply to the northeast. It is said to have been large on the surface, and the ore on the whole is rich. The surface ore was treated by a leaching process. The mine is stated to have produced much good ore and is regarded as a good property. Several operators have derived good returns from it.

MERRIMAC MINE.

The Merrimac mine is situated about a mile west of Chloride, at the border of the foothills and the Sacramento Valley, on open ground. It is one of the early discoveries and is owned by the Minnesota-Connor Mining Company. It is developed to the depth of about 200 feet and is equipped with a hoist and concentrating mill, but has not been worked for some time. The concentrating tables have been removed from the mill, and the mine has the appearance of being abandoned.

The country rock is pre-Cambrian coarse porphyritic gneiss. It is traversed by numerous veins or stringers, which are opened by prospect pits and shallow workings. The vein on which the mine is located seems to trend about N. 60° W. and dips to the northeast. The gangue is hard quartz and the ore contains silver and gold associated with pyrite. Much of the ore is banded and hard. The high-grade ore contains ruby silver with a small amount of gold. Difficulty is said to have been encountered in concentrating the low-grade ore. A large dump shows that much work has been done, and the mine is reported to have produced considerable good ore.

TUCKAHOE MINE.

The Tuckahoe mine, one of the early discoveries, is 1¼ miles west of Chloride, on the main road to White Hills. It is located on open ground, like the Merrimac mine, at an elevation of about 3,900 feet and in about the same class of porphyritic pre-Cambrian granite, which a few hundred yards east of the mine is cut by a diabase dike. Some basalt débris is strewn upon the surface. The mine is developed by a 45° inclined shaft, 200 feet deep, sunk upon the vein, and is equipped with a windmill hoist. It is owned by John Barry.

The vein strikes about N. 25° W. and dips about 45° NE. Certain irregularities suggest that other associated veins or stringers may be present near by, as at the Merrimac mine. The gangue is hard quartz and a mixture of quartz and country rock, locally crushed and recemented in the form of a breccia or conglomeratic mass, with many of the rock fragments rounded or pebble-shaped. The ore contains principally silver values, but some gold and galena are also present, all in association with iron pyrite.

The mine has produced a considerable amount of good ore. It was worked some years ago by the hyposulphite leaching process and $10,000 is said to have been extracted in one year. The latest ore shipped is stated to have averaged $10 in gold and 75 ounces of silver to the ton, and 17 per cent of lead. The mine is now producing in a small way.

TINTIC MINE.

The Tintic mine is situated on open ground in Sacramento Valley, about 1¼ miles west of Chloride and half a mile south of the Tuckahoe mine. It is said to be located on a nearly flat-lying vein, which dips to the northeast and is from 2 to 10 feet thick. Water is said to be encountered at a depth of 10 feet below the surface.

The ore values are almost exclusively in gold and are said to average about $150 a ton in carload lots. The production is reported to be many thousand dollars, most of which has been obtained within a distance of about 200 feet, extending horizontally along the vein.

OTHER MINES.

Besides the mines already described there are in the district probably a score or more of small mines and promising veins, such as the Century group, Bobby Burns, Roger Boy, Goldback, and others, concerning whose locations and character data adequate for description

ASSAY SUMMATION

	Au oz/ton	Ag oz/ton	Pb %	Zn %	Cu %
Smelter Returns					
1941	0.358	2.30*	3.70*		0.19*
1942	0.780	3.70	5.25	3.20*	0.44
	0.910*	5.15	9.45*	6.20*	0.65
	0.560	3.40	6.40	5.30	0.36
	0.570	4.90	8.05		
	0.520	4.25	6.90		
1943	0.530	4.02	8.90	6.20*	0.55*
	0.264	4.69	6.70	6.05	0.45
1944	0.350	3.45	3.80	4.65	0.36
1945	0.190*	6.69*	4.85	4.94	0.21
1946	0.252	2.98	4.35	4.78	0.28
AVERAGES	0.465	4.06	6.13	3.18	0.41

*Highest and lowest values deleted from averaging

4PLES NOT KEPT OVER 30 DAYS EXCEPT BY REQUEST

SAMPLES SENT US BY MAIL WILL RECEIVE PROMPT ATTENTION

CERTIFICATE OF ASSAY FROM LABORATORY OF

R. V. McALLISTER

ASSAYERS, CHEMISTS, METALLURGISTS

FRONT STREET

KINGMAN, ARIZONA

FLOTATION TE

CYANIDE TESTS

PHONE BLUE 252

Liberty Mines Operator — Aug. 13, 1943 — 194

MOHAVE MINER PRINT

OFFICE NUMBER	OWNER'S MARK	GOLD, PER TON OUNCES	GOLD, PER TON VALUE	SILVER, PER TON OUNCES	SILVER, PER TON VALUE	TOTAL VALUE GOLD & SILVER	COPPER PER CENT	LEAD PER CENT	ZINC PER CENT	PER CE
10843	Silver Hill # 1 8/11	0.31		2.20	Grab Sample 48 ft.			2.45	6.50	
10844	" 2 "	0.24		2.20	" " 51 ft "			3.30	5.50	
10845	" 3	0.72		3.40	Hanging Wall Drillings 3 ft wide 53' Down			4.90	9.25	
10846	" 4	0.18		2.60	Grab Sample - 55' Down			4.30	5.95	
10847	" 5	0.27		4.90	Face Sample So End 58 Ft Down			8.60 7' wide	6.70	
10848	" 6	0.54		5.50	" " "			12.50 7' wide	5.65	
10849	" 7	0.23		1.30	Fines Foot Wall at 50 ft.			0.75	5.10	

DEC 11 19 ARIZONA, U.S.A.

GOLD $35 PER OUNCE

SILVER 71 CENTS PER OUNCE

R V McAllister

REGISTERED ASSAYER

ASSAY RECORD** MINE RUN SAMPLES FROM DEVELOPMENT WORK SILVER HILL MINE

Samples taken from ore used in mill-run test made in June 1940; ore taken from the new Segar North Drift Level; work done since that time in driving drifts and upraise to complete #3 Shaft connection show higher values.

Date	Number	Description	Gold	Silver	Pb & Zn	
1940						
4/22	57	1st 10 cars - South Drift	.52	1.38		
4/24	60	24 cars - face South Drift, upraise	.38	1.86		
5/01	63	18 cars - face South Drift, upraise	.19	1.81		
5/03	65	24 cars " " " "	.27	1.81		
5/04	65	(recheck by Jacobson)	.58	2.98		
5/04	66	(recheck by Jacobson of 57,60,63)	.145	2.38		
5/06	68	9 cars North Drift CC	.14	2.36	3.8	
5/06	69	14 cars South Drift & Upraise	.66	4.94	2.7	
5/06	69	(recheck by Jacobson	.49	7.43	4.7	
5/08	71	10 cars North Drift CC	.18	1.22	3.6	
5/13	--	Check by Nelson North Drift CC	.24	1.76		
5/08	71	Recheck	.645	2.22	3.2	

Note: From #63 to 71 totaling 75 mine cars, our first carload of ore to AS&RCO, El Paso, averaged 0.315 Au, 215 Ag; shipped May 10; AS&RCO averaged 0.325 Au and 2.6 Ag.

5/10	72	6 cars South Drift	.375	6.87	3.6	
5/13	73	14 cars South & North Drifts	.335	3.37		
5/16	76	10 cars 1st round North Drift	.40	3.60	6.7	
5/21	77	11 cars South & 30 cars North CC	.295	2.03	2.4	3.2

Note: From #72 to 77, 78 cars - our second carload shipment to AS&RCO at Hayden, Arizona, averaged 0.315 Au and 2.9 Ag; shipped May 24th; AS&RCO paid for 0.275 Au and 1.7 Ag

5/25	78	14 cars, North Drift	.30	1.50	
5/26	80	11 cars, North Drift	.37	1.87	
5/27	81	11 cars, North Drift	.262	2.14	
5/29	83	41 cars, North Drift	.345	3.33	5.2
6/03	84	60 cars, North Drift	.365	2.66	
6/05	86	36 cars, North Drift	.38	2.34	
6/08	88	60 cars, North Drift	.295	2.71	
6/10	89	54 cars, North Drift	.365	2.26	

Note: Assay averages remain close to an average of 0.33 Au, 2.5 Ag, and 2.5% to 3% lead. The same average obtained from the sampling done in the 200 feet of the 100 foot level drift north from #1 Shaft.

**The above was copied from data supporting a request for a Governmental Loan (RFC).

REPRESENTATIVE SAMPLES TAKEN SINCE JANUARY 1941:

Number	Description	Ounces Gold	Ounces Silver	Percent Lead	Percent Zinc
A25	1st contact new ore-south drift	.19	16.53		
B 9	6' upper outside edge, new ore 22' above drift level	.355	1.14		
B10	7' Breast, across vein, drift	.485	2.34		
B11	From fault next to ore,	.215	1.59		
B13	4' lower half, face in drift, under ore body	.24	6.40		
B14	4' upper half, ditto above	.21	2.00		
B15	Grab sample, from breast of drift around B13, B14, A25	.40	4.60		
B16	Breast sample 7' wide	.70	6.10		
B17	32 cars - after blasting breast shown in B16	.44	2.84		
B18	4' upper part of stope	.23	1.40		
B19	5' lower part of stope	.64	6.20		
B20	18 cars - all taken on break of B18, B19 - broke through main tunnel, taking much fault material	.39	4.60		
#14	In north drift, driving to connect with #1 shaft	.23	4.80	9.02	4.46
#15	ditto	.91	3.60	6.16	10.60
#16	"	.04	0.20		
#17	"	.23	0.90		
#18	"	.58	3.40	4.12	8.03
#19	"	.32	5.40	4.95	
#20	"	.61	0.70		
#21	"	.56	6.50	3.47	11.60
#23	"	.97	1.90		
#24	"	.47	1.80		
#25	" - 4' oxides, top of drift	.67	1.60		
#26	" - 4' oxides, next to top	.56	1.60		
	Average	.44	3.67	5.54	8.67

CARLOAD SHIPMENTS TO AS&RCO:

3/19/42	41.96 tons	.78 Au,	3.7 Ag,	5.25% Pb - Value=$30.39 per ton
5/21/42	22.98 tons	.915 Au,	5.15 Ag,	9.45% Pb - " 39.45 "
7/21/42	40.84 tons	.565 Au,	3.4 Ag,	6.4 % Pb - " 24.24 "
9/21/42	27.32 tons	.572 Au,	4.9 Ag,	8.05% Pb - " 26.98 "
11/23/42	42.67 tons	.52 Au,	4.25 Ag,	6.9 % Pb - " 23.82 "
Average		.67	4.28	7.21

NOTE: Until recently it was necessary to cob out the zinc because the Smelter fined us for anything in excess of 5%; now we have a contract with USS&RCo to pay for the zinc as well, and are just sending them a carload of ore containing zinc as well as the gold, silver and lead.

ASSAYS

On June 2, 1983, D. K. Martin, mining consultant, and Dave Kuran, geologist, entered the Segar Tunnel which is partially caved at its entrance and the intersection to the vein at Shaft #3.

Two samples were taken underground. One sample was taken on the surface near Shaft #3 in the Silver Hill vein.

			Ag	Au	Cu	Pb	Zn
Sample #1	Surface	Hi-grade footwall	6.15	0.067	(Not Assayed)		
Sample #2	Underground	X-cut 2"x6"x10'	10.98	0.099	10%	1.14%	0.57%
Sample #3	Underground	X-cut 10'	0.59	0.006	(Not Assayed)		

JDB Company
3010 South 48th Street / Suite 9
Phoenix, Arizona 85040
(602) 966-8566

ASSAY CERTIFICATE

NAME D.K. MARTIN PHONE 246-9573

ADDRESS _____ DATE SUBMITTED 5-27-83

SAMPLE NO.	AU oz/t	AG oz/t	CU %	PB %	ZN %
#1 SILVER HILL	0.067	6.15			
#2 SILVER HILL	0.099	10.98	0.10	1.14	0.57
#3 SILVER HILL	0.006	0.59			
#1 Hi grade Face well ...					
#2 3"x6"x10" x-cut "					
#3 10' x-cut - Same as #3 "					
Lower Bench Samples					

JDB CO. IS NOT LIABLE FOR ANY LOSS RESULTING FROM THE USE OF ITS SERVICES. NO GUARANTEES ARE EITHER EXPRESSED OR IMPLIED CONCERNING THE WORK OF JDB CO.

REGISTERED ASSAYER CERTIFICATE NO. JOHN D. BEST Date Signed ARIZONA, U.S.A.

ASSAYER _____

RECOMMENDATIONS

PHASE I

The first requirement for an exploration venture on this property is a detailed geological field study. This study would include the mapping of the types of rock outcrops, formation contacts, faults, vein systems, dips and strikes of the mineralized ore bodies, structural folds and any other conditions pertinent to ore deposits. During the preliminary field study, a drilling program would be proposed based upon assay results from surface samples and known values obtained from previous sampling. Certain previously mined mineralized zones may be checked with the drill. Most of the shafts and stopes are inaccessible due to caving, while the Segar tunnel is open at this time.

The results of this field study would determine the advisability of going into Phases III and IV, although, all research to date indicates commercial ore to the depth mined. Regional studies indicate commercial ore will continue with depth which should be determined by deeper drilling.

PHASE II

It is further recommended that about 2,000 feet of drilling be initiated. The drilling equipment should be a down-the-hole hammer type, as diamond drilling would have difficulty penetrating and recovering adequate samples from the crushed ore zone.

The drilling should be concentrated near the old shafts and Easterly toward the Eastern property line to deliniate the depth, grade, width and dip of the known mineral bearing vein.

Some commercial ore may be blocked out with the drilling program. A few deeper holes will determine if the ore holds with depth as regional studies indicate.

PHASE III

Rehabilitation of the Segar Tunnel should be done in order to gain access to the exposed vein in the drifts, winzes and raises. Resampling and mapping should be done.

PHASE IV

Further metallurgical testing should be carried out on dumps and engineering studies should be carried out to evaluate the methods of treating this material. It is emphasized strongly that such studies have frequently a tendency to underestimate the capital and operating cost along with over estimating the recoverable values. Heavy capital costs should not be incurred without a very healthy projected profit margin and it is felt that such margin will not be reached until good grade material has been opened by exploration and development.

From the available assays and reports, it seems likely that good commercial grade material was left in the undeveloped parts of the mine.

The first two phases of the recommendations should be initiated at the onset, while phases III and IV could be carried out only if the drilling exploration results are positive.

PHASE I

EXPLORATION TARGETS

There is one major vein on the property which was worked in the past. New ore can probably be discovered at depth, below the old workings. There is no evidence or indication that the deposit diminishes with depth. As stoping was carried out on the upper levels, the old reports state there was no diminishing of grade with depth. The vein extensions below the old workings offer the best possibility for new ore.

The logical primary exploration target should be the North drift of the "Segar Tunnel". Source of the highest grade ore on the property came from this area. One area is reported to have averaged 0.50 ounces of gold and 5.50 ounces of silver per ton. There is possibly an extension of this faulted vein yet to be found. The mine has only been worked to a vertical depth of less than 200 feet, and stoping on the lower levels was apparently just begun. Approximately 708 ounces of gold and 8,842 ounces of silver were produced prior to 1948, according to the USGS.

Eight (8) additional claims were staked West of the Silver Hill patents. By a projection of trends from the North, where several prospects and mines occur, it appears likely that more mineralized veins could occur below the Silver Hill vein. A drilling program would be necessary to locate and evaluate any existing new mineralization.

On the Eastern and Southern side of the Silver Hill patents, four (4) fractional claims were staked. A drilling program in these claims should outline the Eastward dipping Silver Hill vein and block out additional mineable ore.

A water well could be drilled along Tennessee Wash which passes through the Silver Hill patent and Silver Hill #11 claim.

PHASE II

DRILLING CONTRACT

Clark-Oliver Mining Co., Inc.

Drilling & Mine Development

419 South 113th Place, Apache Junction, Arizona 85220
(602) 986-5681

THIS AGREEMENT, entered into this_____ day of _____198_____. by and between Clark-Oliver Mining Co. Inc., of Apache Junction, Arizona, hereinafter designated as CONTRACTOR, and_____ of D. K. Martin & Associates hereinafter designated as LANDOWNER or his representative acting as his agent.

Contractor agrees to drill a 4½" diameter vertical prospect hole to a total depth of 2000 feet, for the price of:

$ 11,000 for first 1000 feet.

$ 10,500 for next 1000 feet.

Above price includes samples taken at 5 foot intervals and marked in 8X12" plastic bags.

Mobilization to be for the Lump Sum of $ 1,500.

IF UNEXPECTED CONDITIONS (As explained in attached schedule A) are encountered due to unpredictable subsoil conditions, the contractor has the option to place the remainder of that particular hole on an hourly basis, providing the Landowner is notified prior to continuing hole. If Landowner or his agent is unavailable the contractor is to charge only for footage drilled if hole is voided.

In case of legal action, any lien, attachment or otherwise, to be caused by Landowner, attorney's fees to be paid by Landowner.

IN WITNESS hereof, Contractor is in receipt of $ 10,000 dollars, signifying approximately 49 % of contract price. Remainder to be paid as follows Upon completion of drilling.

Clark-Oliver Mining Co. Inc.
By-Frank H. Clark - Sec. Treas.

Landowner

Address

Landowner's Agent

City and State

SCHEDULE "A"

Clark-Oliver Mining Co., Inc.

Drilling & Mine Development

419 South 113th Place, Apache Junction, Arizona 85220
(602) 986-5681

Additional charges are, but not limited to the following:

1. Stand-by-time: Stand-by-time is usually charged for consistent excessive layover time (more than 1 hour) between drill locations caused by the Landowner or his agent. The rate charged for this is $60.00 per hour.

2. Excessive distance between drill locations. $60.00 per hour for moves in excess of one mile. No charge for less than 1 mile when hole exceeds 50 L.F. in depth.

3. Hole set up and tear down for shallow drilling patterns of 50 L.F. or less , a fee of $60.00 per hole will be charged.

4. Unstable hole conditions. This is due to cave-ins in the hole. When this condition is encountered we place our drill rig and crew on a rental basis of $120.00 per hour for the remainder of that particular hole . The Landowner or his agent must decide at that time if he wishes to sign a tool guaranty and continue or void that particular problem hole.

5. Excessive hard rock Conditions. This condition is determined when the drilling cycle falls below 10 L.F. per hour, which represents a negative profit balance in regards to our fixed costs which would require a rental agreement or voiding deeper drilling of that particular hole. Rental will be at $120.00 per hour plus a bit wear provision.

6. Casing if and when required to be furnished at contractors cost plus $2.00 per L.F. additional for installation.

PHASE III

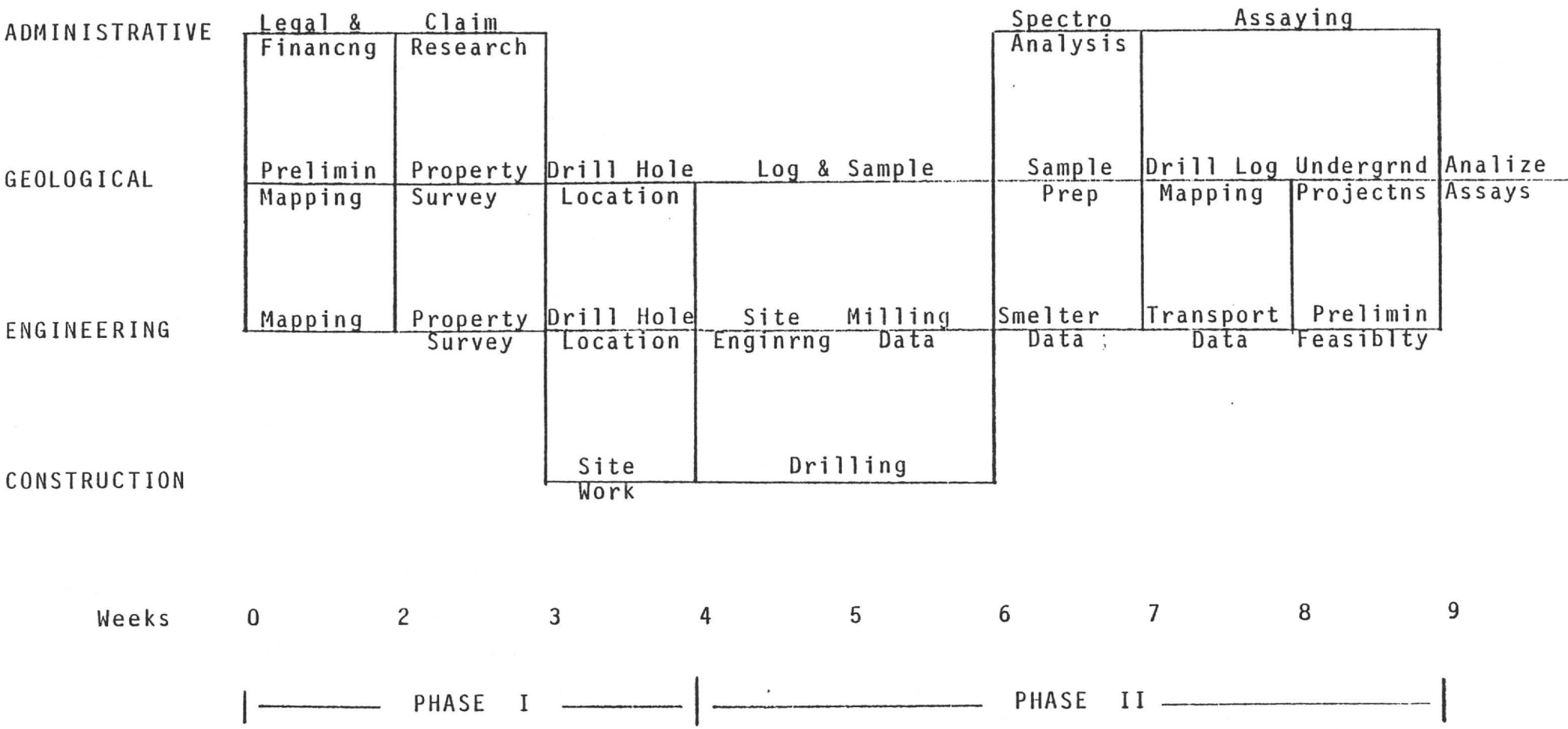
UNDERGROUND DEVELOPMENT

It is reported the widths of ore exposed in the winze above the Segar Tunnel ranged from 12 feet to a minimum of 4 feet, with an average of about 7.5 feet. This ore is exposed along the Segar Adit level for a distance of 110 feet, 60 feet to the south and 50 feet to the north of the winze to the face of the drift. Judging from the assay maps of R. C. Jacobson and R. D. Leisk of the old 100 foot level from Number 1 shaft (now inaccessible), this ore shoot could persist for another 200 feet north of the face of the Segar Adit level. The ore shoot thus has a possible or indicated length of some 300 feet. Should it be found to have a length of 200 feet and with an average width of 7.5 feet; it would produce about 125 tons per foot of depth. Should the proposed development program, here-in outlined, prove successful, it would on the above basis, put in sight about 28,000 tons of ore averaging approximately: 0.34 Au, 3.06 Ag, 4.7% Pb, and 5.89% Zn. This should yield a gross total value of ore at $21,300 per one hundred tons.

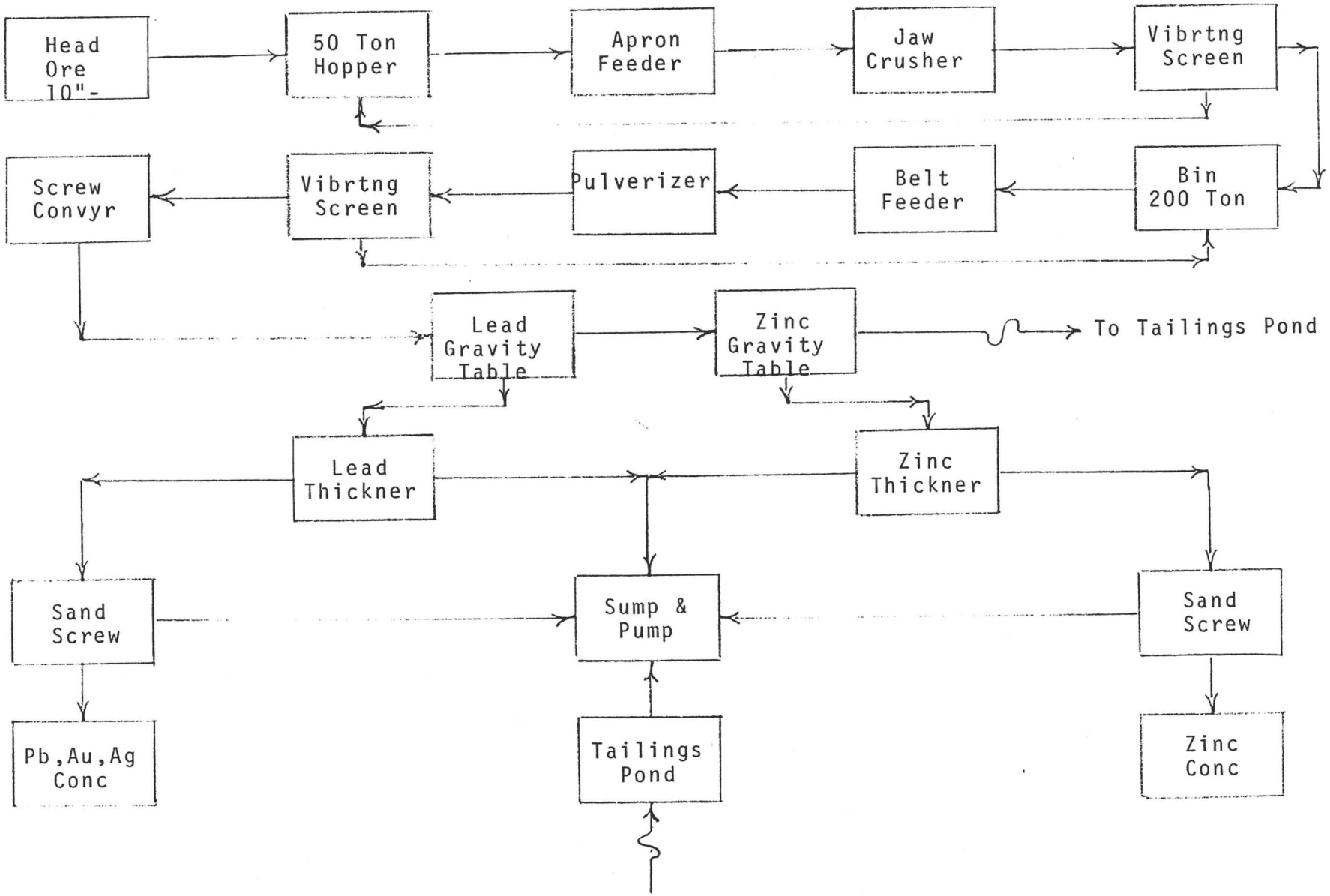
Travis P. Lane, Supervising Engineer of the Liberty Mine (Silver Hill), suggested a raise from the north end of the ore shoot on the 100 foot level and would be an excellent project to persue. The raise would start in ore and, if the old records are reliable, it should continue in ore into the workings from the Number 2 shaft at a point some 50 feet above it's starting point. This might be an easy means for proving up a substantial block of ore, and, if the old workings are made accessible, the ore situation there might afford a valuable guide for further development from the present winze.

SILVER HILL MINE

Development Schedule



FLOWSHEET FOR GRAVITY CONCENTRATOR



REVENUE PROJECTION

Estimated results are calculated using a 95% tabling efficiency, assuming all conditions and metalurgy are perfect to produce one ton of gold, silver and lead concentrate, and 1.4 tons of zinc concentrate from 33 tons of head ore:

Head Ore 33 tons	Au 0.28 oz	Ag 2.80 oz	Pb 3%	Zn 4.9%	Cu 0.05%	Fe 8%
1st Table Concentrate 1 ton	8.78	87.78	94			
2nd Table Head Ore 32 tons				4.9	0.05	8
2nd Table Concentrate 1.44 tons				94%		
Values used	$400	$9	$.20	$.38	Total	
Extension	$3512	$790	$20	$1137	$4535	

A separation can be made on shaking tables between any two minerals or substances that differ in specific gravity to an appreciable extent, but unless the concentration criterion is greater than 1.25, separation by reason of specific gravity alone is relatively crude and imperfect; 2.5 or more is sufficient for rapid treatment and substantially complete recovery.

SPECIFIC GRAVITY:

Au = 15.6 to 19.3
Pb = 11.4
Zn: Chalcopyrite = 4.1 to 4.3
Chalcocite = 5.5 to 5.8
Zincite = 5.4 to 5.7
Ag = 10.1 to 11.1
Cu = 8.8 to 8.9
Fe = 7.3 to 7.8

PHASE I and II

ESTIMATED COST OF EXPLORATION

Geologist	Field	$350/day	15 days	5,250
	Office		15 days	5,250
Engineer	Field	$200/day	6 days	1,200
	Field		2	400
	Office		19	3,800
Mileage	3200	$.40/mile		1,280
Subsistance	23 man days	$40/day		920
Legal	Contracts, etc.			470
Testing	Assays, Analysis			2,040
Materials				50
Drilling	Mobilization		1,500	
	1st 1000 feet		11,000	
	2nd 1000 feet		10,500	23,000
Site Preparation, Dozer work				1,500
Contingency	15%			6,770
Land Payments (Monthly) OPTIONAL				6,600
Cased Exploration Hole*				8,000
TOTAL ESTIMATED COST, PHASE I & II				$66,530

* It is advisable to drill an additional cased exploration hole with a 6" diameter near the mill site at this time, eliminating the transportation charges to bring the drilling rig back onto the site at a later date, and to also eliminate the newly arising problem of Arizona's groundwater law. Further justification for this cased hole is to test the aquifer strata for perculation contamination from the tailings pond once in operation.

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PHASES III and IV

UNDERGROUND EXPLORATION

REHABILITATE DRIFT FOR EXPLORATION

Clean & Timber caved areas (estimate 3)	
Crew of 3, 3 weeks	$ 3,600
Material & Timber	2,600
Equipment	
Miner's Lamps & Charger	700
Generator Rental	300
Electrical	300
Hand Tools, Safety, Self Rescue	1,200
Supervision (F. Brown) 2 weeks + expenses	1,800
Engineer 4 days + Subsistance	1,760
Geologist 2 days	1,060
Assays	200
Remove one ton of average ore	
Crew of 3, 1 day	240
Transport ore to Casa Grande	230
Two Test Tabling Runs	210
Assays	80
Land Payment	3,300
15% Contingency	2,640
Total Estimated Cost of Phases III & IV	$20,220

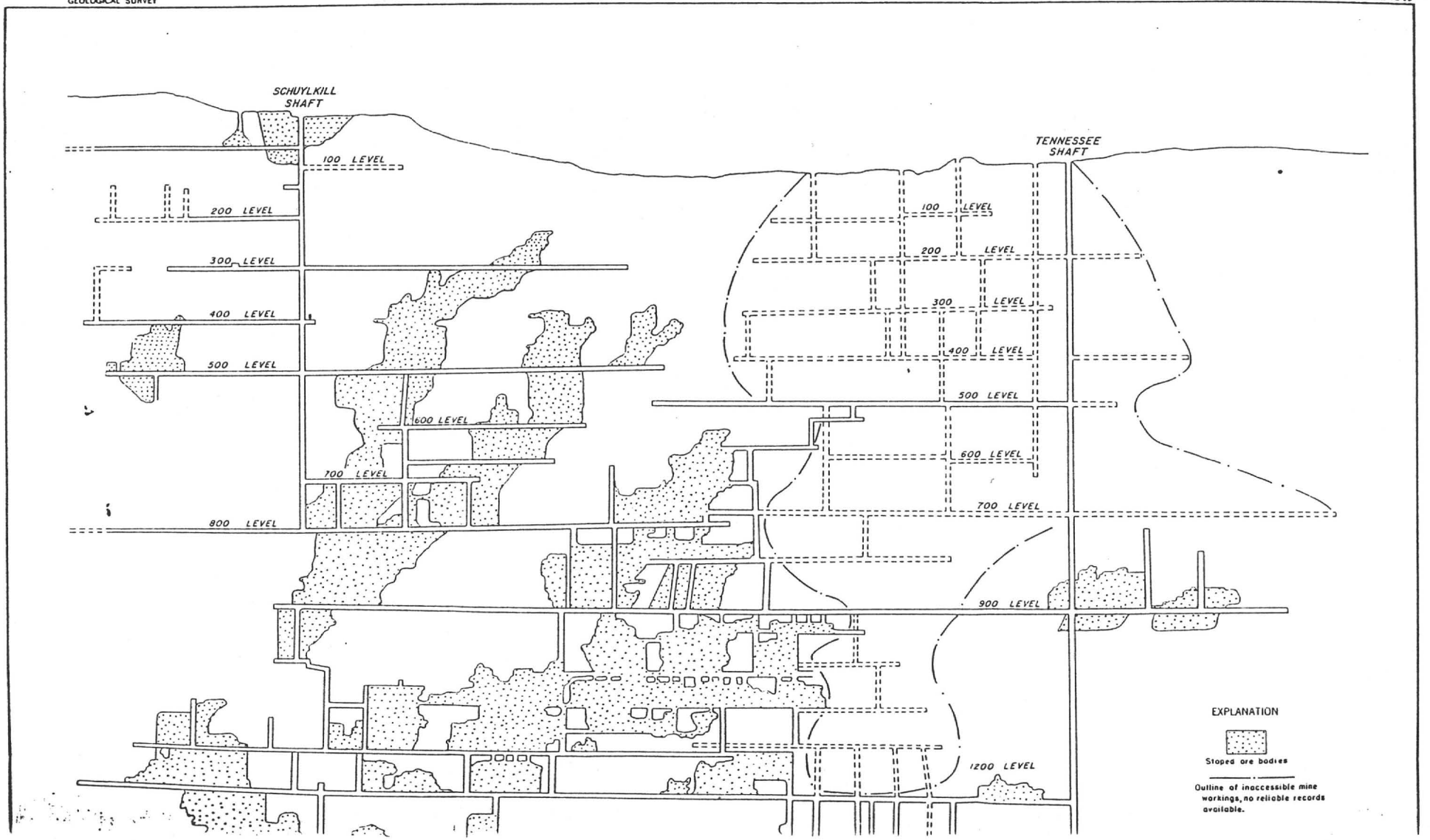
Note: The above figures are based on ideal conditions and minimal caving. If, however, unsafe, hazardous or a complete blockage of the tunnel is discovered, the above figures may increase materially.

11/30/82
Rev 8/8/82

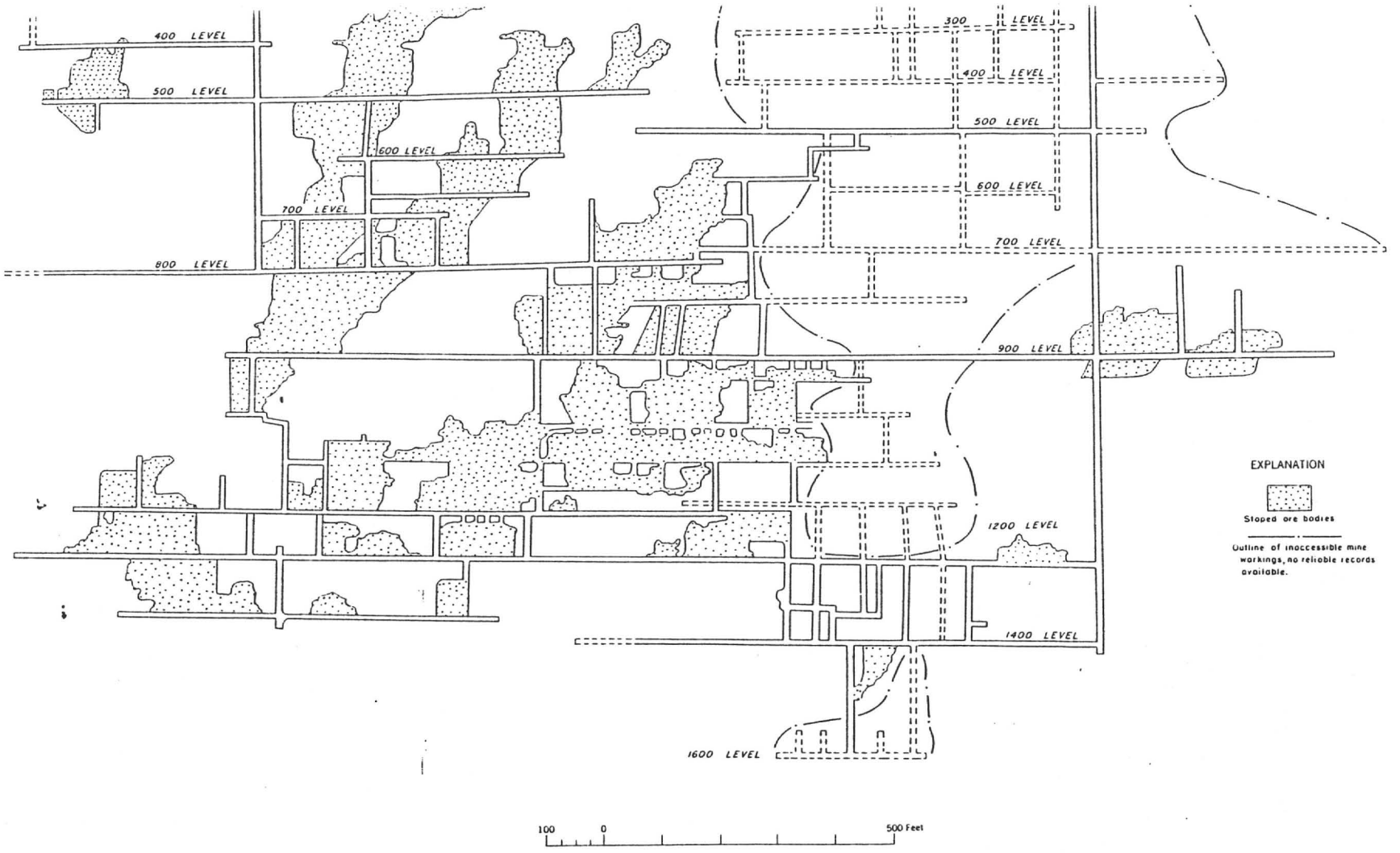
EXHIBITS

GOLD, SILVER, COPPER, LEAD and ZINC RECOVERED FROM ORES
at the
TENNESSEE - SCHUYLKILL MINE
Chloride, Arizona
from
1901 to 1943

	TONS		OUNCES			POUNDS	
Year	Ore	Conc	Gold	Silver	Copper	Lead	Zinc
1901	25,805		8.87	2,469		4,421,678	
1902	7,567		85.89	29,448		1,619,640	
1903	1,090		15.86	4,360		279,468	
1907	154		23.89	2,047	235	90,960	
1910	70	10	3.28	127		6,654	
1911	998	328	78.63	2,638	1,837	97,572	87,486
1912	1,358	988	266,67	13,127	2,361	459,771	260,966
1913	29,486	14,360	1,370,29	106,924	2,361	4,740,278	4,233,641
1914	22,081	12,671	739.15	74,748	11,981	3,657,302	4,932,108
1915	47,633	22,187	2,191.00	171,366	45,000	6,034,998	8,351,839
1916	47,013	19,777	1,564.00	135,158	32,285	5,086,177	7,517,627
1917	41,133	21,347	1,914.00	160,981	55,300	5,039,156	8,352,860
1926	164	71	12.71	819	435	32,024	32,697
1929	58	29	4.41	307	183	15,142	13,008
1936	12,233	3,239	2,870.00	40,850	24,300	1,433,000	1,000,000
1937	59,990	12,???	10,467.00	138,960	100,000	4,553,000	3,414,000
1938	54,092	11,340	9,642.56	107,720	86,500	3,792,450	5,449,656
1939	11,762	3,197	1,088.60	24,198	22,280	676,560	1,624,000
1940	55,577	17,581	3,249.51	132,775	19,880	4,607,740	9,543,100
1941	45,150	10,990	2,843.28	113,061	11,340	4,854,860	4,330,580
1942	40,055	7,552	2,278.08	100,194	17,160	3,284,880	3,383,980
1943	38,286	6,115	1,079.63	71,698	58,521	2,677,185	3,492,209
	541,755	163,406	41,796.65	1,433,975	506,166	57,460,495	66,019,758



Upper Elevation Tennessee-Schuylkill Mine



LONGITUDINAL VERTICAL SECTION OF TENNESSEE-SCHUYLKILL MINE, WALLAPAI DISTRICT, ARIZONA, THROUGH TENNESSEE AND SCHUYLKILL SHAFTS, WITH PROJECTION OF MINE WORKINGS AND STOPED ORE BODIES

954714 O - (In pocket)

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Corwin Coe, Geologist, Arizona Silver Corporation, Vancouver, B. C., Canada