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602-771-1601
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West. Minerals Activity Rpt. 4/91

[redacted]

A-2

CORONADO RESOURCES, INC.

PRESS RELEASE

FOR IMMEDIATE RELEASE

CORONADO RESOURCES ANNOUNCES COMMENCEMENT
OF DEEP DRILLING ON IRON KING PROPERTY

SCOTTSDALE, ARIZONA -- May 22, 1990 - Coronado Resources Inc. (VSE: CRD) announced today that drilling will commence within a week at its Iron King property in central Arizona. The first hole, which will take approximately two weeks to complete, will be drilled to a depth of 1500 feet and is sited as a 300 foot step-out to the south of the 1100-1200 foot level of the Iron King Mine. The focus of the current drilling is to test the copper zone and the concept of a multi-ore body massive sulfide deposit. An eight hole program is planned with targeted depths from the 1000 to 2000 foot level on the south extension of the Iron King Mine.

Coronado has entered into an option agreement with Stan West Mining Corp. to earn an 80% interest in the property, which consists of 16 patented and 74 unpatented claims, by expending a total of $3,500,000 (Cdn) by October 31, 1994 on exploration and development work.

As previously announced, the Iron King Mine is a high-grade volcanogenic massive sulfide deposit that was mined continuously from 1906 to 1969 producing six million tons of ore averaging 0.22 oz/ton gold, 4.7 oz/ton silver, 3.0% lead, 9.0% zinc and 0.33% copper. In total, 693,454 ounces of gold, 20,626,000 ounces of silver, 143,716 tons of lead, 419,185 tons of zinc and 11,328 tons of copper were recovered and sold from the property. At current metal prices this production would be worth over a billion dollars. The mine closed in 1969 when metal prices were: gold - $35.00 US/oz, silver -$1.29 US/oz., zinc - $0.125 US/lb., lead - $0.12 US/lb., and copper - $0.30 US/lb.

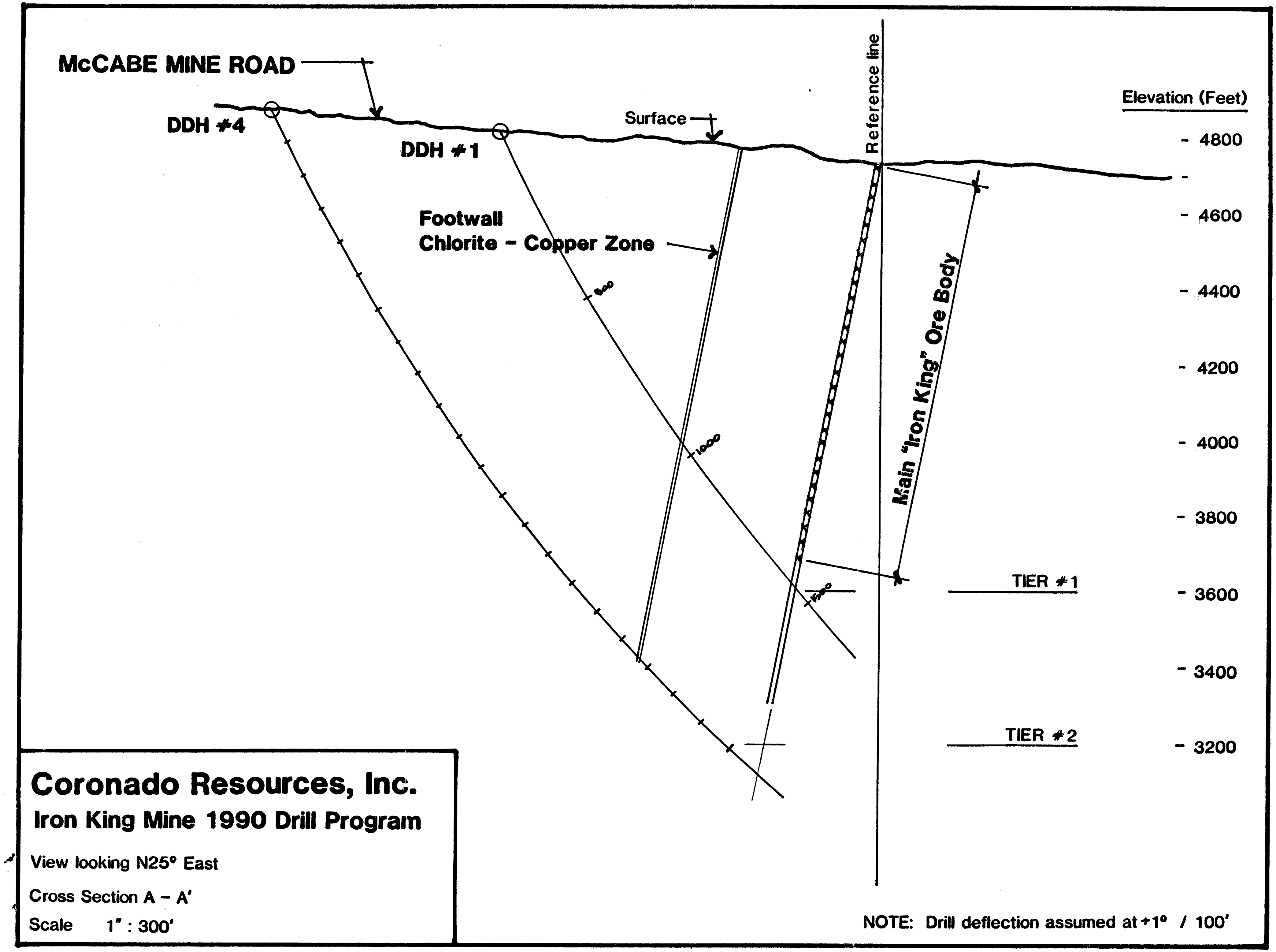
The ore bodies are banded, massive sulfide lenses hosted by Precambrian acid to intermediary volcanics similar to such massive strata-bound deposits as Noranda, Kidd Creek, Flin Flon, Jerome, Rio Tinto and a host of others worldwide.

Deborah A. Eden

Deborah A. Eden, Vice President

This News Release was prepared by Deborah Eden, Vice President of Coronado Resources Inc., who accepts responsibility for its contents. This News Release has neither been approved nor disapproved by the Vancouver Stock Exchange.

CORONADO RESOURCES INC.
8065 NORTH 85TH WAY, SUITE B-100 • SCOTTSDALE, ARIZONA 85258 • 602/483-8002 FAX 602/483-8004


McCABE MINE ROAD
DDH #4
DDH #1
Surface
Reference line
Elevation (Feet)
4800
4600
4400
4200
4000
3800
3600
3400
3200
Footwall
Chlorite - Copper Zone
500
1000
1500
Main "Iron King" Ore Body
TIER #1
TIER #2
Coronado Resources, Inc.
Iron King Mine 1990 Drill Program
View looking N25° East
Cross Section A – A'
Scale 1" : 300'
NOTE: Drill deflection assumed at +1° / 100'

CAMBIOR USA, INC.

March 23, 1990

George F. Warnock, President
CORONADO RESOURCES, INC.
8065 N. 85th Way, Suite B-100
Scottsdale, AZ   85258

RE: Iron King Mine-Yavapai County, Arizona

Dear Mr. Warnock:

Thank you for offering Cambior the opportunity of acquiring a control position in the Iron King Mine Project in Yavapai County.

We have reviewed the report prepared by Richard Pape and unfortunately we must conclude that at this time we are unable to pursue exploration of this property. We are returning herewith your submittal package.

Thank you for considering Cambior as a potential partner.

Sincerely,

Michel Drouin

MICHEL DROUIN

MD:lat
Enclosure

please return report
after making copies of
pages 2 to 6
21-33
page 42
+ plate #1
included longitudinal

230 South Rock Blvd., Suite 23, Reno, Nevada 89502-2345
702-786-5189   Fax 702-786-4549

CORONADO RESOURCES INC.

G. WARNOCK
PRESIDENT

RICHARD F. PAPE
VICE PRESIDENT
EXPLORATION

DEBORAH A. EDEN
VICE PRESIDENT
PUBLIC RELATIONS
AND SECRETARY

February 20, 1990

Mr. Michel Drouin
Cambior
Suite 23
230 South Rock Boulevard
Reno, Nevada 89502

Dear Michel:

Regarding your telephone conversation with Mr. Crerie, I am enclosing Mr. Richard Pape's detailed geological exploration report aimed at exploration professionals.

The mine was historically a lead-zinc mine with by-products of gold and silver but is now a gold mine with by-products of lead and zinc. With only the historical 60 percent recovery of gold into the lead concentrates, it produced over 690,000 ounces of gold. At a 1,000 tons-per-day production rate, it would produce 50,000 ounces per year. If one could get it up to 90 percent recovery by modern autoclaving, bioleach or otherwise on the pyrite flotation tailings, it would produce nearly 70,000 to 75,000 ounces per annum--a major gold mine. Please see the pro forma Net Smelter Return in the Appendix of the report where the 0.2 gold heads even at the 60 percent recovery, results in more than half the value being in gold not to speak of 4.7 ounces of silver per ton.

Based on overall historical metal recovery and today's metal prices and smelter terms, at only 750 tons per day the property could produce $27.0 million per annum or $120 per ton of crude ore. Total on-site operating costs using a modern rubber-tired stoping system on the plus 20-foot-wide almost-vertical orebodies and differential flotation surely will not exceed some $40 to $50 per ton. The economics are obvious--without even addressing the possibility of autoclaving and cyaniding the pyrite tails containing in the range of 0.07 opt gold, which would be an additional $16 to $17 per ton gross--estimating 60 percent recovery.

The target is, indeed, an excellent one--not to speak of the 850,000 tons of low grade at current metal values of $50 to $60 per ton. Within this 850,000 tons, 200,000 can be mined at a current value of $90 to $100 per ton. Incidentally, all of this tonnage is blocked under the old S.E.C. definition of proven ore--"Opened on all <u>four</u> sides." That is, not only is it developed on the 125-foot spaced levels, but raises are connected through.

Coronado acquired the property in early October and basically has the right to earn 80 percent for overall expenditures of $3.5 million U.S. with $500,000 firm commitment. At the same time, we recognize that the additional $3.0 million U.S. could be more difficult to raise and as a junior VSE company, that we would be diluted out of control in any case.

We, therefore, are prepared at this time, prior to the first stage expenditures, to offer a control position in the project to a few selected major gold companies.

We would propose that your group enter the project by picking up the commitments of Coronado to Stan West, to earn a 51 percent position in the property with the same timing and commitments as contained in Coronado's option. We enclose a copy of our Letter of Intent with Stan West for your information.

We are flexible in a basic deal between ourselves and a major but would suggest that if your group will spend the first committed $500,000, we might then have an option to join you on the continuing expenditures or be diluted on the basis of not having spent. Stan West's 20% carry through net profits might be negotiable also.

Both Richard Pape and I are available on short notice for a property inspection. As we are anxious to proceed on this project, we would appreciate your earliest indication of interest. If you determine lack of interest in this project, we would appreciate your returning the report to us.

Sincerely,

George F. Warnock

GFW/sem
Enclosures

CORONADO RESOURCES, INC.

GEOLOGIC REPORT ON THE IRON KING MINE

YAVAPAI COUNTY, ARIZONA

Prepared by:

Richard F. Pape, CPGS #6785

October 25, 1989

CORONADO RESOURCES INC.
8065 NORTH 85TH WAY, SUITE B-100 • SCOTTSDALE, ARIZONA 85258 • 602/483-8002 FAX 602/483-8004

INTRODUCTION

Between 1906 and 1968, the Iron King Mine of Central Arizona produced 6,033,912 tons of ore having a head grade of 0.192 oz. per ton gold, 4.33 oz. per ton silver, 2.82% lead, 8.42% zinc and 0.35% copper from 12 en echelon, westward dipping, massive sulfide horizons belonging to the lower member of the Precambrian Spud Mountain Formation. The Iron King as described is located in Secs. 20, 28, 29, 32 and 33, T. 13 N., R. 1 E., of the Gila and Salt River Base Meridian (G. & S. R. B. M.) at an approximate latitude and longitude of 34° 30' 04" N and 112° 15' 30" W respectively (see Figure No. 1). Both the old mine workings and the exploration area are situated along the west side of Arizona State Route 69, 18 miles east-southeast of Prescott, Arizona and 75 miles north-northwest of Phoenix, Arizona.

CLIMATE/VEGETATION/TOPOGRAPHY/ACCESS

The Iron King Property lies within the central mountain physiographic province of Arizona at a mean elevation of 4,750 feet above sea level (ASL). Relief on the property ranges from 4,700 feet to 5,300 feet ASL. Annual precipitation averages 18 to 20 inches and comes primarily during the "wet season" of July through September. Average daily temperatures range from 35° F (January) and 72.5° F (July).

The property is in the Big Bug Mining District on the eastern slopes of the Bradshaw Mountain Range and all drainage is from west to east with tributaries emptying into the Agua Fria River which ultimately flows into the Gila River south of Phoenix, Arizona.

Vegetation consists of plants and shrubs indigenous to the latitude and elevation. Shrub oak, manzanita, and cactus predominate. There are no trees on the property.

The claims are easily accessed by both dirt and paved roads exiting from Highway 69. No point on the property is more than 1.5 miles from the paved highway.

Three-phase electric power is available at the Iron King Mine site. Stan West Mining Corp. has installed a 200 Hp. submersible well pump 1,800 feet below the collar of the number 7 shaft and has rehabilitated the 200,000 gallon Iron King water reservoir.

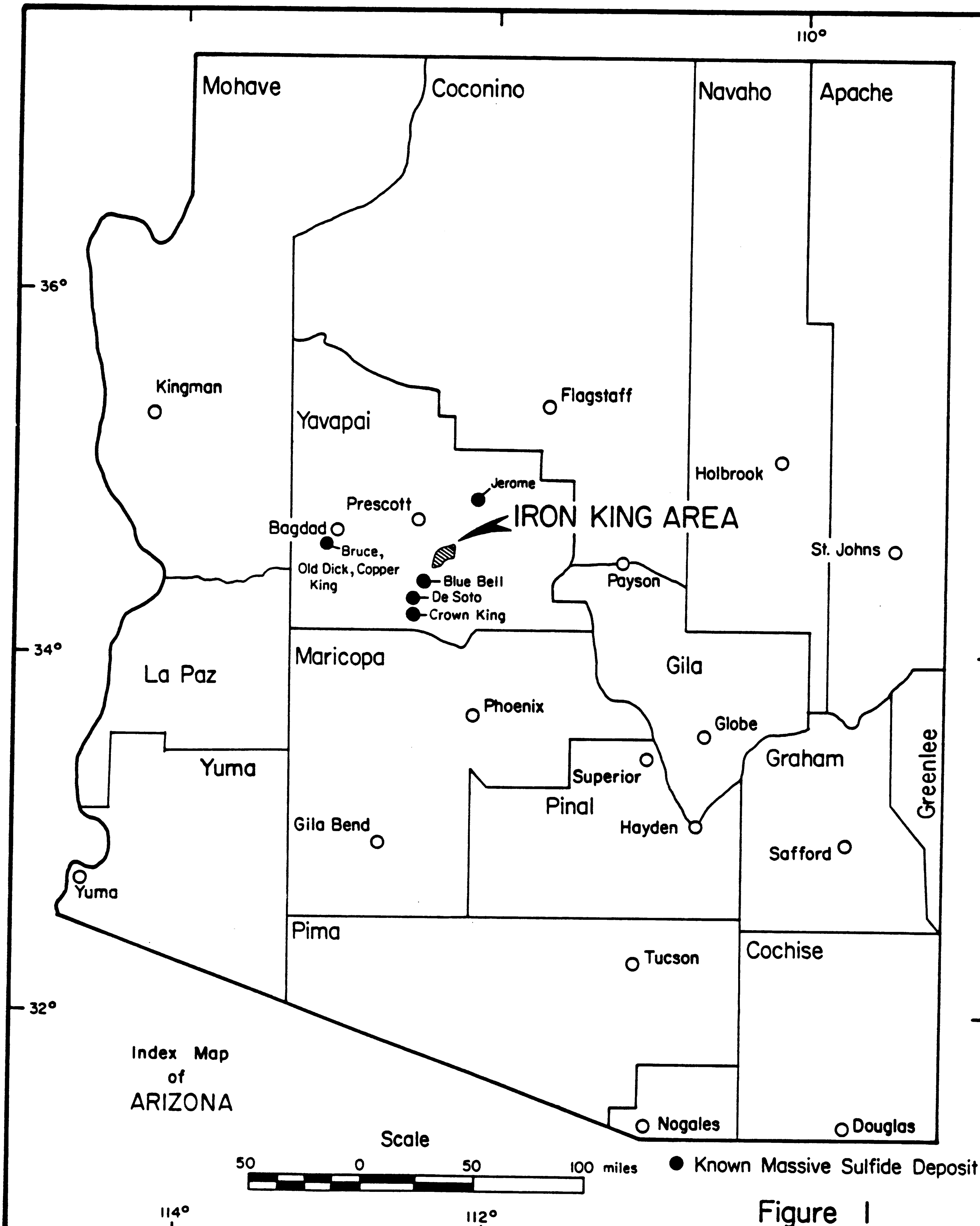

110°
Mohave
Coconino
Navaho
Apache
36°
Kingman
Flagstaff
Yavapai
Holbrook
Jerome
Prescott
IRON KING AREA
Bagdad
Bruce, Old Dick, Copper King
St. Johns
Payson
Blue Bell
De Soto
Crown King
34°
Maricopa
La Paz
Gila
Phoenix
Globe
Greenlee
Yuma
Superior
Graham
Pinal
Gila Bend
Hayden
Safford
Yuma
Pima
Cochise
Tucson
32°
Index Map of ARIZONA
Nogales
Douglas
Scale
50
0
50
100 miles
Known Massive Sulfide Deposit
114°
112°

Figure 1

PROPERTY

Figure No. 2 illustrates the configuration of the Iron King claim group and differentiates patented from unpatented lode mining claims. The property contains 16 patented and 71 unpatented claims. The property also contains an Arizona State Prospecting lease containing 454.77 acres in Section 16, T. 13 N., R. 1 E. The following agreements of sale and leases are in effect:

Patented Claims

Stan West Mining Corp. acquired control of the 16 patented Iron King claims in 1982. Total purchase price for the claims was $850,000. This 1982 agreement of sale was made by I.K.S. Corporation and Messrs. Peterson (1/2) and Jelonek (1/2). However, in 1987 the agreement of sale was amended after I.K.S. Corporation requested additional time to make a production decision. The purchase price for the amended agreement of sale was $727,500. The unpaid balance is payable as follows:

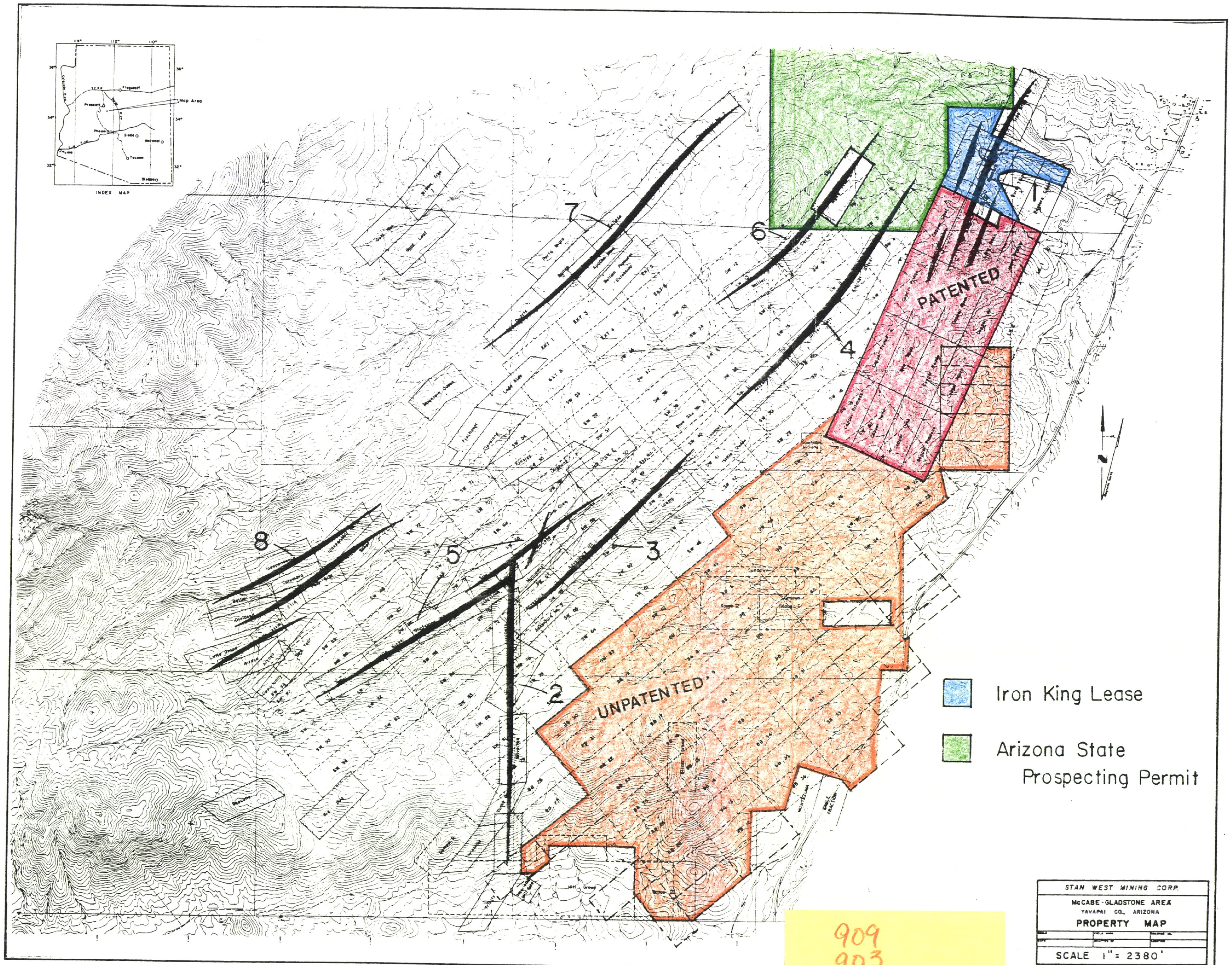
DATE	PAYMENT AMOUNT
June 1, 1990	$ 42,500
June 1, 1991	$100,000*
June 1, 1992	$100,000*
June 1, 1993	$100,000*
June 1, 1994	$100,000*
June 1, 1995	$100,000*
June 1, 1996	$100,000*

*Plus 9% interest on the unpaid balance.
The agreement of sale carries no royalties or net smelter payments.

Coronado Resources Inc. has signed a lease and option to purchase 80 percent of Stan West Mining Corp.'s interest of whatsoever nature in the patented and unpatented mineral claims enumerated above for an expenditure of $3,500,000 Cdn with $500,000 Cdn being committed prior to September 30, 1990.

Lease Agreements

Stan West Mining Corporation executed a lease agreement effective 23 December 1987 with Mr. and Mrs. Charles Bagby and Mr. Don Gibbs for the number 7 and number 6 shafts, ancillary workings and surface access at the site of the Iron King Mine. This property is all in Secs. 16, T. 13 N., R. 1 E. of the G. & S. R. B. M. of Yavapai County. The surface extent of this lease is shown on the property map, Figure 2. The lease is for twelve years and may be renewed for two four-year terms. Lease payments



909
903
923
918

Figure 2

1 Iron King

Past Production:

6 million tons ore
0.115 oz/ton Gold
3.42 oz/ton Silver
2.40% Pb, 6.90% Zn, 0.20% Cu

Potential:

3 million tons ore
0.20 oz/ton Gold
4.70 oz/ton Silver
3% Pb, 9% Zn, 0.33% Cu

2 Henrietta

Past Production:

53,000 ozs. Gold
593,000 ozs. Silver

3 Adventure

4 Arizona Silver Belt

Past Production:

75,000 tons ore
1.2 million ozs. Silver

Potential:

750,000 tons ore
16 million ozs. Silver

5 McCabe — Gladstone

Past Production:

77,800 ozs. Gold
817,000 ozs. Silver

Potential:

3 million tons ore
1 million ozs. Gold
5 million ozs. Silver

6 Kit Carson

7 Chaparal

8 Leland, Union, Little Jessie

are $1,500 per month distributed equally to the above-referenced parties. This monthly payment is subject to yearly adjustment based on the National Consumer Price Index.

The lease has an assignment clause which requires written notice to the lessor of any assignment. Stan West Mining Corp. is also required to maintain public liability insurance in an amount not less than One Million Dollars ($1,000,000) during the entire term of the lease. The lease provides Stan West Mining Corp. with a "first right of refusal" in the event a reasonable purchase offer is made on the property while the lease is in effect.

State Prospecting Lease

A 454.77 acre State of Arizona Prospecting Lease is shown on Figure 2. This lease requires annual labor and rental fees to remain in effect. It was located to cover northwesterly plunging extensions of the Iron King structure.

REGIONAL GEOLOGIC SETTING

On a broad scale, the Precambrian geology of Arizona may be divided into three northwest-southeast trending belts that extend from the Nevada-Arizona border near Lake Mead to the extreme southeast region of the state. Arizona has an abundance of Precambrian due to the widespread erosion of the Paleozoic section which occurred during Late Triassic, Jurassic and early Tertiary time.

The northern Precambrian section is confined to the lowermost portions of the Grand Canyon where it is known as the Vishnu Schist and consists of schist, quartzite and meta-volcanics. No known economic mineral deposits are known in the Vishnu Schist.

The Precambrian of southern and southeastern Arizona is known as the Pinal schist and contains metamorphosed sedimentary and volcanic rocks and has an estimated thickness of 20,000 feet.

The central Precambrian belt of Arizona (see Figure 3 next page) and the one in which the Iron King property is located is known as the Yavapai series. Rocks of the Yavapai Series have been dated at 1.7 b.y. The Yavapai Series is further divided into two groups separated by the Shylock Fault. The Ash Creek group, east of the Shylock Fault, is divided into seven formations, consisting of basaltic, andesitic, rhyolitic and dacitic flows and pyroclastic rocks and a thick sequence of tuffaceous sedimentary rocks with interbeds of jasper-magnetite and chert. The Ash Creek group is approximately 20,000 feet thick.

6) is well documented. The inclination of the plunge changes from -60 to -70 degrees at the extreme north end of the mine to -40 degrees north of the Copper Shaft. Armstrong (1986) probably summarizes the folding at the Iron King best when he notes that it is an environment of steep, west dipping axial plane foliations developed by west-dipping and recumbent isoclinal and transposed folds with hinges apparently plunging 60 to 70 degrees to the north.

Kink folds are common in the felsic schists as noted by Dixon (1986) and Pape (1983). These folds plunge both north and south between 50 to 75 degrees and probably represent a later compressional event.

Faults

No large-scale faults are noted in the past geologic mapping in the Iron King area. A small east-west fault northeast of the Copper Shaft appears to be a southerly dipping normal fault with a small component of dip-slip displacement to the east. The break in the Tertiary rhyolite dike south-southeast of the Copper Shaft is slightly conspicuous, especially since it coincides with a bulge in the Texas Gulch Formation.

Armstrong (1986) identified what he termed a mylonite or shear related domain in the Iron King Mine area. He states that the degree of mylonitization within this shear zone is strong, but seems to be limited to the rocks which were directly involved in the development of the Iron King orebody, i.e. the alteration mineralogy. This mylonitic zone has a width of 1,200 to 1,500 feet. The rocks in this shear domain contain the greatest amount of phyllosilicate minerals. During regional metamorphism these sheet silicates could have allowed the strain rate to accelerate from the ductile regime to a point at which brittle deformation or mylonitization would have occurred in the intermixed low phyllosilicate lithologies.

Armstrong (1986) concludes that there are multiple shear sense directions within rocks from the Iron King mylonite zone. The total or net effect this has had on the existence and positioning of truncated Iron King style ore and additional favorable stratigraphy to the northeast or southwest is not fully understood at this time.

ORE DEPOSITS

Recorded production from Precambrian stratabound, massive sulfide deposits of Arizona is in excess of 41 million tons of ore (Donnelly, 1981). Five deposits were the principal producers with the United Verde in Jerome at 26 million tons and the Iron King at 6 million tons responsible for over 75 percent of the total. Tables 1 and 2 summarize production for the United Verde and Iron King Mines respectively.

The oldest mine in the area was the Silver Belt Mine which is located 3/4 of a mile southwest of the Iron King. The Silver Belt was located about 1870, and rich silver ore was mined from 1870 to 1880 (Anderson, 1958).

Mineral discoveries were first made on the United Verde as early as 1875, but it wasn't until 1883 that the first production came from the United Verde.

The earliest history of the Iron King dates back to the 1880's when the property was explored for iron ore (Pape, 1987). Mr. J. R. Higgins made the original mining claim locations on the Iron King in 1899, but due to the complex nature of the ore he was not able to work or sell it. The claims were patented in 1904 by a New York-based stock promotion company called the American Copper Company. In 1904, this company constructed a small cyanide plant to recover the gold and silver in the oxide ore.

Between 1904 and 1934, there was only sporadic production from the Iron King Mine, and it wasn't until the acquisition of the Iron King Mine by Mr. Fred Gibbs in 1934 that the Iron King once again began to produce. Mr. Gibbs acquired the Iron King at a delinquent tax sale for $100. Mr. Gibbs and his associates were able to demonstrate the ore potential at the Iron King and in 1937 sold their interests to a syndicate called the Iron King Mining Company.

The Iron King Mining Company invested $100,000 to install a mine plant and selective flotation system capable of 100 tons per day. In 1939, selective flotation was converted to differential flotation. Within a short period of time, the Iron King Mining Company encountered business problems and in 1942 sold the property to the Shattuck-Denn Mining Company. Between 1942-1969 the Shattuck-Denn Mining Company produced over 5,700,000 tons of ore. When the mine closed in 1969, it was producing 1,100 tons per day and had 350 on the payroll. Lead and zinc concentrates were produced, with the former being shipped to El Paso, Texas and the latter shipped to A.S.& R. in Amarillo, Texas.

MINING METHODS

The Iron King Mine was served by 7 vertical shafts. Most of the ore was hoisted from the four compartment, 3,388-foot deep number 7 shaft, after 1954. The principal shaft in earlier use was number 6, located 420 feet to the south of number 7 (Peters, 1987). The number 7 shaft was photographed with a "down the

TABLE 1 - VERDE DISTRICT METAL PRODUCTION

YEAR	ORE TREATED (SHORT TONS)	GOLD (OUNCES)	SILVER (OUNCES)	LEAD (POUNDS)	ZINC (POUNDS)	COPPER (POUNDS)
1908		20,335	494,574			36,183,089
1909		17,021	495,479			36,695,259
1910		19,316	398,247			38,663,880
1911		15,240	461,145			33,167,987
1912		15,083	484,222			31,565,539
1913	393,866	20,667	641,074			35,334,694
1914		21,401	646,572			32,448,170
1915		28,405	922,273			50,266,821
1916		37,725	1,250,000			103,000,000
1917	949,094	36,443	1,884,673	205,817		145,933,703
1918	1,011,966	37,327	1,986,845	7,962		133,780,865
1919	566,445	21,148	949,436			72,332,704
1920	870,129	24,363	1,275,323			107,084,032
1921	189,474	4,671	319,646			26,567,602
1922	572,246	20,345	843,151			74,793,982
1923	1,465,006	84,418	2,480,692			140,425,401
1924		52,030	1,839,844			142,238,947
1925		56,740	2,097,951			151,920,324
1926		55,538	1,971,914			150,269,756
1927		53,513	1,920,901			141,261,930
1928		61,677	2,195,595			163,312,041
1929		75,404	2,749,290			211,542,611
1930		50,796	1,530,000			117,600,000
1931		18,141	1,050,000			44,100,000
1932	241,113	10,086	361,273			35,790,460
1933	243,245	12,288	338,860			33,201,565
1934	200,754	8,065	242,632			26,147,463
1935	851,993	30,850	1,049,934			75,535,518
1936	1,312,012	64,405	1,911,774			99,157,152
1937	1,326,940	62,748	1,840,150			84,742,620
1938	799,564	45,541	1,144,652			57,863,745
1939	999,023	40,312	1,327,472			75,430,241
1940	896,727	24,652	1,144,028			74,459,646
1941	1,121,004	32,047	1,544,317			84,484,800
1942	1,242,133	28,429	1,532,108			87,874,000
1943	898,699	18,117	1,036,194			68,467,100
1944	525,263	8,620	589,538			52,429,000
1945	392,295	8,602	475,290			40,224,000
1946	350,465	8,132	418,578			32,351,000
1947	350,645	6,931	367,778			29,205,600
1948	358,491	11,374	408,669		917,000	29,087,800
1949	410,607	10,790	509,828	71,600	8,700,000	34,429,800
1950	361,320	9,412	456,254	100,000	15,600,000	26,581,400
1951	299,729	7,325	408,891	205,000	20,310,000	19,484,000
TOTAL		1,296,473	47,997,067	590,379	45,527,000	3,287,436,338

TABLE 2 - IRON KING MINE METAL PRODUCTION

YEAR	TONS	GOLD (OUNCES)	SILVER (OUNCES)	LEAD (POUNDS)	ZINC (POUNDS)	COPPER (POUNDS)
1906-1938	78,452	15,590	313,808	3,138,080	6,276,160	470,700
1938	13,477	2,317	45,938	404,300	1,078,160	67,400
1939	70,227	9,911	272,604	1,872,680	5,854,020	351,120
1940	65,812	9,239	266,497	1,891,060	7,220,440	329,060
1941	69,159	9,720	331,746	2,320,040	7,617,100	345,800
1942	88,200	11,659	392,458	3,540,100	10,585,560	441,000
1943	73,721	9,167	307,465	3,164,380	10,095,300	220,720
1944	99,164	9,460	308,567	3,611,660	13,623,860	423,820
1945	117,287	13,068	436,506	5,259,640	16,156,180	455,280
1946	115,615	13,065	467,387	5,734,280	16,875,320	485,780
1947	122,368	15,298	533,642	6,194,880	16,925,320	411,820
1948	145,823	17,036	540,548	6,854,120	19,048,100	453,020
1949	175,111	21,432	737,925	8,414,680	23,547,440	546,660
1950	203,063	27,289	904,284	10,645,040	28,220,800	686,460
1951	202,581	27,135	764,731	9,528,680	26,075,380	657,100
1952	197,747	23,430	730,280	10,203,740	29,306,000	672,000
1953	190,735	26,703	730,515	10,528,000	27,008,000	610,000
1954	180,512	28,106	745,514	11,372,000	30,074,000	722,000
1955	222,909	31,296	884,949	12,170,000	32,902,000	758,000
1956	253,956	35,452	992,968	14,476,000	37,992,000	914,000
1957	300,729	38,644	1,118,712	16,540,000	47,696,000	1,082,000
1958	314,266	39,629	1,147,071	18,038,000	53,236,000	1,194,000
1959	299,981	38,728	1,124,929	17,338,000	51,476,000	1,140,000
1960	304,485	34,285	1,020,025	16,442,000	52,980,000	1,158,000
1961	235,885	22,857	702,937	11,700,000	39,912,000	1,038,000
1962	271,171	28,066	854,189	13,776,000	44,635,000	1,138,000
1963	280,807	27,463	901,390	12,468,000	39,200,000	1,010,000
1964	314,163	30,348	917,356	13,132,000	39,522,000	1,320,000
1965	333,743	25,738	713,930	12,518,376	38,135,352	1,254,987
1966	318,830	24,100	663,179	11,023,904	32,009,890	1,159,239
1967	273,737	21,586	569,741	9,869,966	25,988,296	961,727
1968	100,196	5,537	184,712	3,263,855	7,098,752	177,995
1906-1968	6,033,912	693,454	20,626,053	287,433,461	838,370,430	22,655,688
Recovery		60%	79%	85%	82%	58%
Recovered Grade		.115 OPT	3.42 OPT	2.40%	6.90%	0.20%

hole" camera in 1983 by Stan West Mining Corp. at which time the shaft appeared to be in good shape and suitable for re-use.

The Copper Shaft and workings are approximately 1,600 feet to the south of the Iron King number 5 shaft or 600 feet to the south of the limit of the Iron King Mine stoping. At this location, a 132-foot inclined shaft has two mine levels with approximately 900 feet of workings (Peters, 1987).

Mining methods at the Iron King varied over time and changed as experience with the orebody increased. During the early days, much of the mining was done by shrinking and open stope methods as wall rocks were firm and dilution and safety were no problem (Sloan, 1967). As mining progressed to lower levels and stopes remained open, concern developed over a possible air blast from sudden caving. Accordingly, it was decided to fill the stopes to eliminate this possibility. A gob system was started by caving hanging wall schists above the 600 level. The caving has extended to surface and the resultant steep-sided "glory hole" measures 350 feet by 250 feet and is several hundred feet deep.

Between the 600 and 1800 levels a combination of shrinkage and longhole stoping methods were used. No attempt was made to gob stopes, but rather, the stope was allowed to gob itself by caving from the hanging wall and old gobbed stopes above. Occasional square sets were used in faulted areas and as mining approached a level above.

From the 1800 level down, the amount of timbered stopes increased, due to bad ground, which resulted in a corresponding increase in mining costs. It was known from drilling that there would be a decrease in ore values below the 2100 level, and this plus the increased mining costs made it necessary to develop a cheaper method of extraction.

From the 2200 level to the 2700 level, which is the lowest level worked at the Iron King, sub-level stoping methods were used. Basically this method involved driving a 1,600-foot footwall drift approximately 40 to 50 feet from the ore vein. Cross-cuts were driven normal to the ore vein on 110-foot intervals, extending into the hanging wall far enough to provide tail room for the cars. Once the footwall drift and cross-cuts had advanced 300 to 400 feet along strike, the ore drift was started. It was driven 10 feet wide by 13 feet high on the vein. Steel sets, made of 8-inch by 6-inch wide flange beams, were installed, forming a slusher drift through which the ore was drawn from the stoping operation. As time progressed, this method was altered to a footwall slusher drift with draw-points extending into the ore vein thereby eliminating the need for timber sets.

In summary, total development at the Iron King includes drifts, shafts, cross-cuts, raises and winzes covering a vertical length of 3250 feet and a strike length averaging 1,600 feet with an average width of 9 feet. There exist some 40 miles of excavations on the property (see longitudinal section, Plate No. 1, Appendix).

MINERALOGY

In regards to Arizona's massive sulfide deposits, there is general agreement that the deposits are coeval with the encasing volcanic and volcaniclastic host rocks and formed by exhalative emissions at or near the rock-water interface (Donnelly, 1981). Most massive sulfide deposits in Arizona are associated with silicic eruptive rocks. Iron formation, which frequently accompanies massive sulfide deposits, is considered to have formed in response to volcanic exhalations. However, these chemical sediments are not restricted to areas of felsic activity and are also associated with mafic and intermediate volcanic assemblages. Barren chert and iron formation frequently extend into flanking basins (Donnelly, 1981).

Sulfide mineralogy at the Iron King is simple and consists chiefly of pyrite, sphalerite, galena and chalcopyrite. The order of deposition is thought to be pyrite-arsenopyrite-chalcopyrite and sphalerite-tennantite-galena and gold gangue. Iron King ore is usually hard, dense and abrasive, finely crystallized with much intergrowth of sphalerite into pyrite and some interlocking between sphalerite, galena, pyrite and gangue. Microscopic gold has been found in both sphalerite and galena. Silver seems to be related to copper and much of it is probably there as tennantite. The zinc varies in range from light-colored, free floating to dark-colored marmatites. Chalcopyrite and arsenopyrite are minor constituents and are hosts for some of the gold and silver. Pyrite constitutes up to almost half of the average mine ore and carries a major portion of the gold.

Primary mineralogical banding as well as sedimentary features such as reworked sulfides, size grading, and soft sediment slumping are all present in the Iron King sulfide rocks.

MILLING

The mill crushing plant received a minus-3 inch feed from the mine which was reduced to minus-5/8 inch by a Nordberg 4-foot shorthead crusher in closed circuit with a 5-by 8-foot Rod Deck screen. Mill feed was ground in 3 identical Marcy mills in close circuit with Krebs 15-inch cyclones. The primary mills were fed with a rationed charge of 3- and 2-inch alloy steel balls.

Lead sulfide flotation was carried out on a pulp containing 25% solids using creylic acid as a frother and various flotation reagents. The pulp then went through nine rougher Fagergren cells. Froth from the first four cells was taken to a single stage set of two cleaners cells. The final five roughers made a middling product for the regrind circuit and the rougher lead sulfide tailing reports for zinc flotation.

Lead rougher tailing was conditioned with copper sulphate to activate sphalerite, lime to depress iron sulfides, and the sphalerite floated using cresylic acid and Sodium Aerofloat. The froth from the Fagergren roughers in the zinc circuit was cleaned in two stages and pumped to the filter plant.

Filtration of the zinc concentrate had been a problem in the past because of the preferential tendency for sphalerite to grind to an extremely fine size. The final method of treating the zinc concentrate was through the use of reagents fed to a tank on an Eimco disc filter. Flotation tailings were cyanided after desliming.

In its last years of operation the mill at the Iron King was capable of processing 1,000-1,200 tons per day. Zinc concentrates during the last decade of operation contained an average of 60% zinc; lead concentrates contained an average of 35% lead. Concentration ratios were on the order of 8.2 to 1 for zinc concentrates and 14 to 1 for lead concentrates, with minor amounts of zinc and lead reporting in the opposite concentrates.

Metallurgical recoveries, taken from the available records between 1957-1967 averaged:

Gold................	60%
Silver	79%
Lead	85%
Zinc	82%
Copper	58%

Gold, silver and copper were contained in both concentrates, with the major amounts reporting in the lead concentrates. The distribution, based on 1957-1967 records, was approximately:

95% of the gold in lead concentrates
5% of the gold in zinc concentrates

96% of the silver in lead concentrates
4% of the silver in zinc concentrates

91% of the copper in the lead concentrates
9% of the copper in the zinc concentrates

Appendix 5 contains a Projected Net Smelter Return calculation based on current metal prices and using 60% and 90% gold recoveries.

PREVIOUS EXPLORATION WORK

Since the initial discovery of the Iron King Deposit, there has been varied types of geologic mineral exploration conducted on the property. Reports on work completed prior to the mid-1940's are non-existent. Significant work completed since that time consists of: geologic mapping by numerous individuals at scales ranging from 1"=600' to 1"=100', drilling of 53 core and reverse circulation holes, three geophysical E-M surveys in excess of 30 line miles and geochemical soil and rock-chip surveys. Details and highlights of this work are summarized below according to category.

Geologic Mapping

C. A. Creasey's 1952 mapping of the Iron King area was the first attempt to detail the Iron King ore deposit and associated geology. His work was preceded by the regional geologic study of the Bradshaw Quadrangle in 1889 by Jaggar and Palache and a 1926 ore deposit study of the Bradshaw District by Lindgren. Creasey divided the Precambrian into two formations, andesitic volcanics and volcanic breccias. He attributed the mineralization to ore bearing solutions which first introduced quartz, pyrite, ankerite and sericite, forming a sporadically mineralized zone (in the hanging wall of the deposit) and probably veins of the Iron King fracture system (Creasey, 1952). It was during the early years of production at the Iron King that the system of labeling the en echelon massive sulfide lenses was originated. From southeast to northwest the veins were designated as follows: X, Y, P, A, B, C, D, E, F, G, H, and I. The I vein, although indicated as a single vein, actually consists of four echelon veins.

A detailed description of the mineralogy of the Iron King was given by Creasey (Anderson and Creasey, 1958). He concluded that the ore formed as a vein by selective replacement of sulfides in sheared volcanic and sedimentary lithologies. He noted the delicate mineralogic banding of pyrite, sphalerite, and lenses of quartz-ankerite. Localized cross-cutting comb quartz veins, late-stage rosin sphalerite veinlets, and pseudomorphic minerals obviously influenced the belief that the ores were all replacement in origin. Creasey and Anderson divided the geology into three Precambrian units and made an attempt to explain the associated alteration.

Additional interpretation of the Iron King geology was done by Gilmour and Still in 1968. They divided the Spud Mountain tuff into a lower and upper unit. The stratification of the lower tuff unit, going up section, is meta-andesite, quartz-sericite schist, pyritic quartz schist, the massive sulfide horizon, and a quartz (chert) capping. They also described a copper zone located 150 to 200 feet stratigraphically below the main zinc-lead ore horizon. Gilmour and Still were the first to ascribe a volcanogenic origin to the sulfide ores at the Iron King.

Mr. A. Still (1959, 1961, 1963), as a consultant for Shattuck-Denn Mining Company, made many observations and recommendations relative to the Iron King orebody both along strike and at depth. Portions of his work will be discussed under Iron King Massive Sulfide Model and Suggestions for Future Exploration.

Recent mapping by Dixon (1968), Lawrence (1986) and Pape (1983) have defined the surface alteration envelope associated with the massive sulfide mineralization on the Iron King horizon and the Copper Zone. The zone of intense sericite-ankerite alteration and the quartz-gossan veins associated with ore mineralization at the Iron King number 5 shaft have been mapped for 1,700 feet to the south. An extended zone of sericitic alteration with ferruginous chert and chlorite was mapped for 5,000 feet south of the number 5 shaft. A second group of chloritic and sericite-pyrite altered zones was identified as extending over some 3,000 feet within the Iron King Volcanics in the south area (Plate 26).

Dixon and Lawrence conclude that the Spud Mountain tuff originated as crystal-rich tuffaceous sediments of alternating mafic to felsic composition. They also state that the upper 200 feet of this zone is marked by multiple sulfide bearing siliceous exhalite horizons, which generally increase from a fraction of an inch to 14 feet at the top of the unit. Dixon notes that the outcrop patterns also suggest isoclinal folding and transposition of bedding.

<u>Drilling</u>

Since the early 1940's, there have been three drilling campaigns on the Iron King property. During the summer of 1942, five surface diamond drill holes were put down on the south end of the Iron King vein zone to test for shallow ore possibilities. According to Still (1959) only specimen pieces of core (1/2" every few feet or every change of rock type) were retained for permanent storage and only sketchy logs were prepared. In addition, only a portion of the mineralized zones encountered were sampled for assay and the hole sizes were EX or smaller resulting in very poor core recovery. The location of these 1942 core holes is noted on the longitudinal section, Plate No. 1. Mr. Still concluded that the 1942 drilling encountered numerous areas of mineralization, and that the oxidation extended to a depth varying between 140 and 300 feet. He also noted that the "Copper Shaft Vein" is not economic in the oxidized zone and that the holes were not laid out so as to test any of the mineralized belt at a sufficient depth to fairly evaluate the ore potential in the primary zone.

The best intercept from the 1942 drilling was a 6.5-foot zone from hole #79 which yielded 5.2% copper. Total footage drilled in the 1942 program was 1594.5 feet.

A second diamond drilling program occurred in 1962-1963. During this period, 10 surface holes were completed for a total footage of 6,670 feet. These holes were numbered SES (south end surface) #3 through SES #13 and are shown on Plate No. 1. Both the 1942 and 1962 drilling was done during the Shattuck-Denn ownership. Overall, the 1962 drill holes were deeper and larger in diameter than the 1942 holes (see Plate No. 1). Pertinent points of the 1962-1963 drilling are best summarized by Mr. Art Still (Still, 1963) and are presented below:

A. The "main segment" of the Copper Vein tapers downward and projects in depth into two massive andesite bands which converge. The mineralization in this copper structure segment is 9 feet wide in the outcrop and only 1 to 3 feet wide on the 96' level. However, another sizeable ore shoot could re-occur either in depth (vertical) or along plunge.

B. Although we (the drilling) have not, as yet, made any ore intersections, significant mineralization does occur in Y, A, C, D, E, and F veins and in the copper structure south of the present Iron King mine workings. This mineralization is more than merely alteration.

C. The previously unknown ore control of X through D veins was greatly clarified. The south ends of several of the tuff units were found and it was established that some of these tuff lenses re-occur, in essentially the same stratigraphic position, on the south end of the area drilled. Mineralization within these new tuff bands is increasing in strength to the south.

D. It has been established by this project that "A" vein has an economic oreshoot south of the main Iron King workings.

It should be noted that even though larger diameter core was recovered during the 1962-1963 drilling program, that core recovery was still poor at 86% recovered.

Between 1985-1986, 26 shallow reverse-circulation and 11 diamond drill holes were completed on the Iron King property by Santa Fe Mining under a joint venture agreement with Stan West Mining Corp. The 1985 program of reverse circulation drilling was performed within a 1,300-foot length of ground from the southernmost workings of the Iron King Mine to the vicinity of the Copper Shaft. The holes reached vertically equivalent depths of 200 feet to test for open pit gold mining potential beneath the siliceous pyritic and iron-stained zone within which rock-chip sampling at the surface had outlined several gold anomalies. Drill hole samples taken at 5-foot intervals and near perpendicular to the structure showed intercepts of gold mineralization at greater than 0.05 ounces per ton with attendant silver, zinc, lead and copper values in 12 of the holes. In 4 of the holes, the intercepts had gold values greater than 0.1 ounce per ton.

In three of the holes, intervals of 35 feet averaged 0.07 to 0.09 ounce per ton gold and 0.7 to 1.1 ounces per ton silver. The better gold values were in the footwall rocks of the massive sulfide-bearing trend near the Iron King workings and were associated with pyritic and iron-stained zones of siliceous and sericitic schist in the Spud Mountain Volcanics.

Seven of the eight diamond drill holes were in the same length of ground as that of the reverse circulation drilling. These holes were designed to test the potential of the main Iron King system at vertical depths of 400 to 900 feet and are shown on the Longitudinal Section, Plate No. 1.

One of the 8 holes was used in testing and rejecting an electro-magnetic anomaly in the Iron King Volcanics to the east of the main system in the Spud Mountain Volcanics.

Excepting one hole that did not reach the objective, all of the remaining holes encountered sulfide mineralization; gold mineralization was also identified at a geochemical level of 0.3 to 1.7 parts per million. One drill intersection penetrated an unmined area on the 600 level approximately 1,250 feet south of the No. 7 shaft. This hole assayed 0.029 ounce per ton gold, 3.18 ounces per ton silver, 0.05% copper, 1.85% lead, and 2.70% zinc over a true width of 6.45 feet.

The three diamond drill holes on the southernmost portion of the property were situated to test a surface geochemical zinc anomaly and an electromagnetic anomaly near an old prospect shaft. The drill holes looked at targets having a vertical depth of 250 to 500 feet. All three holes encountered skarn-hornfels rocks, indicating metamorphism associated with the Big Bug granodiorite stock. Two of the holes intersected pyritic zones, and one hole cut a 200-foot zone of geochemically anomalous zinc-copper-lead values. No definite conclusions were reached in this area with the three hole program. Collar locations of the three holes is noted on Plate No. 2B.

Geophysical Surveys

Three separate electromagnetic surveys have been conducted on the Iron King and surrounding claims. The earliest survey was done by Moreau Woodard and Company, Ltd. in June of 1964 for Shattuck-Denn Mining Company. The purpose of this Turam electromagnetic survey was to locate sub-surface conductors which might prove to be sulfide deposits of economic importance. This survey located several weak zones of conductivity, which were recommended for investigation.

Geophysical surveys were undertaken again in 1982 and 1985 for Stan West Mining Corp. and Santa Fe Mining respectively. Both surveys were conducted by Crone Geophysics Ltd. and employed the "DEEPEM" pulse electromagnetic method. The 1985 geophysics program involved magnetometer traverses and pulse electromagnetic surveys in the northern part of the Iron King project area. In total, over 30 line miles of pulse E-M was completed.

An overlay, (Plate 3a and b) shows the relationships between these two surveys. The locations of the conductive zones are significantly different from the 1982 locations. More lines in 1982 may have produced greater line-to-line correlation, but the 1985 survey yielded more definitive zones of closely spaced moderate conductors.

In his 1982 summary of the Iron King "DEEPEM" survey, Mr. Duncan Crone noted that there exists a series of parallel conductors perpendicular to the grid and that these zones are weak to moderate in conductivity. He also observed that the massive sulfides from the Iron King deposit were of poor to moderate conductivity, therefore, zones of high conductivity were not expected (Crone, 1983).

In a 1985 Santa Fe Mining internal correspondence, consulting geophysicist, Mr. David A. Smith, recommended that consideration be given to an IP (induced polarization) survey.

Geochemistry

Preliminary soil and rock geochemical sampling was done during 1982-83 and a more detailed soil geochemical survey was done in 1985-86 (Plate 4). In general, these soil surveys detected broad lead-zinc-copper anomalies in the Copper Shaft-Iron King Mine zone and again in the southernmost part of the Iron King property near recognized alteration, prospect pits, and electromagnetic anomalies.

More specifically, the detailed 1985-86 geochemical survey, which was carried out on 200-foot line and 25-foot sample spacing on 21 lines each 1,300 feet in length, revealed noticeable copper-lead-zinc anomalies up to 1,800 feet south of the Copper Shaft. A short summary is noted below:

Copper: Anomalous to 700 feet south of Copper Shaft with highs 2 times background.

Lead: Lead highs are shifted to the east relative to copper highs; anomalous to 1,800 feet south of the Copper Shaft. Highs are one time background.

Zinc: Anomalous for 800 feet south of the Copper Shaft with highs 2 times background.

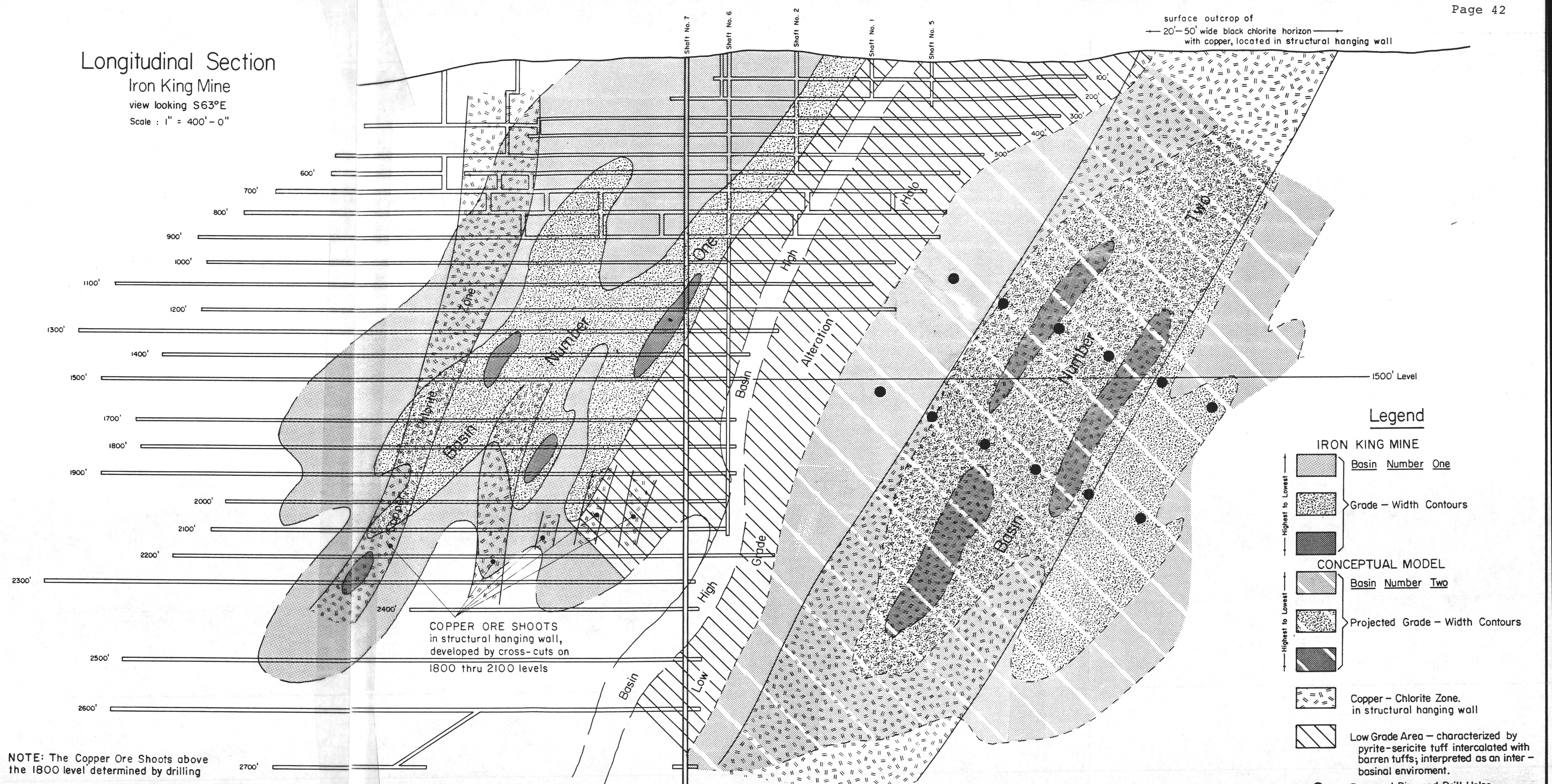
IRON KING - MASSIVE SULFIDE MODEL

The work of Gilmour and Still (1968) was especially significant in that it identified the Iron King mineralization as stratabound, volcanogenic massive sulfide. This type of economic mineral occurrence, although typical to many parts of the world and actually constituting entire mining districts, i.e. Noranda, Timmins, etc., is actually rare in the United States--especially when actual producing mines are considered, (note Figures 3 & 4). The massive sulfide model advanced by Gilmour and Still was that the Iron King deposit was formed through the agency of volcanic hot springs on or near a submarine surface of deposition. Stratigraphically the massive sulfide, rock containing greater than 50% sulfide minerals, formed contemporaneously with the enclosing host volcanics and prior to folding of the host rocks.

Massive sulfides at the Iron King are associated with siliceous rocks which represent the waning stage of a volcanic, eugeosynclinal cycle which commenced with the eruption of andesites and terminated with explosive rhyolitic volcanism. Lines of evidence for such an environment at the Iron King are the presence of thin interbeds of chert (Photo 1), concordant massive quartz and banding of sulfides.

During the eruptive rhyolitic cycle, volcanism was accompanied by intermittent hot spring activity where the thin beds of chert and masses of siliceous sinter or exhalite were deposited (see Photos 2 and 3). Precious and base metals were incorporated during the exhalative phase.

The genetic condition for massive sulfide ore deposits is that of an accumulation or series of accumulations of sulfide minerals on the sea floor near a hydrothermal discharge center. Proximal deposits, those having formed near a major discharge vent, are characteristically copper-rich, thick, and associated with andesitic to rhyolitic volcanic breccia (see Figure 3). At a distance from the vent measured in miles and tens of miles, copper-zinc deposits accumulate in sea floor basins. These are distal deposits.



Longitudinal Section
Iron King Mine
view looking S63°E
Scale : 1" = 400'-0"
surface outcrop of
20'-50' wide black chlorite horizon
with copper, located in structural hanging wall
Shaft No. 7
Shaft No. 6
Shaft No. 2
Shaft No. 1
Shaft No. 5
100'
200'
300'
400'
500'
600'
700'
800'
900'
1000'
1100'
1200'
1300'
1400'
1500'
1500' Level
1700'
1800'
1900'
2000'
2100'
2200'
2300'
2400'
2500'
2600'
2700'
Basin Number One
Basin Number Two
High Alteration Halo
Basin High Grade
Basin Low High Grade
Copper Chlorite Zone
COPPER ORE SHOOTS
in structural hanging wall,
developed by cross-cuts on
1800 thru 2100 levels
NOTE: The Copper Ore Shoots above
the 1800 level determined by drilling
Legend
IRON KING MINE
Basin Number One
Grade – Width Contours
Highest to Lowest
CONCEPTUAL MODEL
Basin Number Two
Projected Grade – Width Contours
Highest to Lowest
Copper – Chlorite Zone.
in structural hanging wall
Low Grade Area – characterized by
pyrite-sericite tuff intercalated with
barren tuffs; interpreted as an inter-
basinal enviroment.
Proposed Diamond Drill Holes.

Figure 6


5400' ASL
5200'
5000'
4800'
4600'
4400'
4200'
4000'
3800'
3600'
3400'
3200'
3000'
2800'
2600'
2400'
2200'
2000'
1800'
1600'
1400'
1200'
1000'
800'
Extension Shaft
Fraction Shaft
No. 7 Shaft
No. 6 Shaft
No. 2 Shaft
No. 1 Shaft
No. 5 Shaft
Copper Shaft
SES No 8
SES No 3
SES No 7
SES No 5
SES No 6
SES No 9
SES No 10
GRAVEL
GRAVEL
LOWER LIMIT OF OXIDATION
King 7-Cu Vein, 3.40' TW 1.97% Cu
5.0' at 2.1% Zn, .69% Pb, .050 Au,
King 7
6.45' at 0.029 Au, 3.18 Ag, 0.05% Cu, 1.85% Pb, 2.70% Zn
King 1 11.00' T.W. 1.54% Zn
9.3' at 5.98% Zn, 1.97% Pb, .144 Au, 3.11 Ag
8.5' at 1.89% Zn, .62% Pb, .045 Au, 0.98 Ag
King 2 15.8' TW 0.59% Zn
6.5' at 2.15% Zn, .71% Pb, .052 Au, 1.12 Ag
King 8 (open stope)
6.67' at 4.33% Zn, 1.43% Pb, .104 Au, 2.25 Ag
7' at 3.61% Zn, 1.19% Pb, .087 Au, 1.88 Ag
7' at 4.7% Zn, 1.55% Pb, .113 Au, 2.44 Ag
8.67' at 1.54% Zn, .51% Pb, .037 Au, 0.80 Ag
2.5' at 6.23% Zn, 0.380 Au
composite of 8 drift faces, average width = 7.33' at 0.081 Au., 1.74 Ag., 1.26% Pb., 3.35% Zn.
King 4 7.5' TW 3.1% Zn
5.7' at 0.97% Cu
6' at 1.7% Zn, 5.2% Cu
5' at 2.5% Zn
2' at 2.26% Cu
3' at 2.6% Cu
5' at 0.92% Cu
6' at 0.35 Au, 8.39 Ag, 6.01% Pb, 7.73% Zn, 0.25% Cu
10.3' at 0.10 Au, 1.12 Ag, 1.88% Pb, 7.22% Zn, 0.10% Cu
7.9' at 0.14 Au, 2.06 Ag, 2.55% Pb, 3.91% Zn, 0.15% Cu
9.3' at 0.07 Au, 1.59 Ag, 2.86% Pb, 8.57% Zn, 0.20% Cu
10.7' at 0.08 Au, 0.66 Ag, 2.90% Pb, 7.10% Zn, 0.26% Cu
9.8' at 0.05 Au, 0.26 Ag, 1.66% Pb, 4.57% Zn, 0.18% Cu
5.1' at 0.01 Au, 0.20 Ag, Trace Pb, Trace Zn, 1.94% Cu
6' at 0.09 Au, 1.76 Ag, 1.58% Pb, 3.50% Zn, 0.09% Cu
6' at 0.14 Au, 3.63 Ag, 2.96% Pb, 5.23% Zn, 0.22% Cu
6' at 0.06 Au, 0.23 Ag, 0.43% Pb, 1.81% Zn, 0.15% Cu
6.9' at 0.06 Au, 1.36 Ag, 1.79% Pb, 6.77% Zn, 0.23% Cu
6' at 0.07 Au, 1.92 Ag, 1.62% Pb, 3.35% Zn, 0.15% Cu
100'
200'
300'
400'
500'
600'
700'
800'
900'
1000'
1100'
1200'
1300'
1400'
1500'
1700'
1800'
1900'
2000'
2100'
2200'
2300'
2400'
2500'
2600'
2700'
4000 N
3800 N
3600 N
3400 N
3200 N
3000 N
2800 N
2600 N
2400 N
2200 N
2000 N
1800 N
1600 N
1400 N
1200 N
1000 N
800 N
600 N
400 N
200 N
0
200 S
400 S
600 S
800 S
1000 S
1200 S
1400 S
1600 S
1800 S
2000 S
2200 S
2400 S
2600 S
2800 S
3000 S
LEGEND
Mined Out Reserves — 6 million tons ore at 0.115 Au, 3.42 Ag, 2.40% Pb, 6.90% Zn, 0.20% Cu.
Low Grade Reserves — 22 Blocks at 28' wide containing 876,904 tons ore at 0.041 Au, 0.80 Ag, 0.71% Pb, 2.38% Zn, 0.151% Cu.
Six Best Low Grade Blocks — average 27.5' wide containing 201,618 tons ore at 0.055 Au., 1.22 Ag., 1.31% Pb, 4.59% Zn., 0.15% Cu.
Diamond Drill Hole — (Projected to section)
1942 Drilling
1962-63 Drilling
1985-86 Diamond Drilling (Santa Fe)
Shattuck-Denn U/G Drilling
Plate No. 1
CORONADO RESOURCES INC.
Iron King Mine
Inclined Longitudinal
View Looking S 63° E
Scale: 1" = 200'-0"
Date: May 1989
Data: R.F. Pape
Drawn: M.E. Pape
County: Yavapai
State: Arizona

Co: Stan West

IRON King Mine

ARizona
U.S.A.

BEHRE DOLBEAR—RIVERSIDE, INC.

STAN WEST MINING CORP.

TORONTO, ONTARIO, CANADA

THE ORE POTENTIAL
OF THE IRON KING PROJECT AREA,
BIG BUG MINING DISTRICT
YAVAPAI COUNTY, ARIZONA

November, 1987

Behre Dolbear-Riverside, Inc.
Denver, Colorado

PROJECT NO. 0021

BEHRE DOLBEAR - RIVERSIDE, INC.

Minerals Industry Consultants

1601 Blake Street
Suite 510
Denver, Colorado 80202

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TEX: 640103
FAX: (303) 620-0024

November 5, 1987

Mr. Peter W. Holmes
Stan West Mining Corp.
7 King Street East, Suite 1001
Toronto, Ontario M5C 1A2
CANADA

Dear Mr. Holmes:

Behre Dolbear-Riverside, Inc. (BDR) is pleased to transmit its updated 1987 report, "The Ore Potential of the Iron King Project Area, Big Bug Mining District, Yavapai County, Arizona." The review of documentation in support of the report and primary authorship were undertaken by Dr. William C. Peters, geologist and Associate.

The Project area is located in a zone containing lithologies and geology favorable to the deposition of massive sulfide ores. Existing geophysical and geochemical anomalies, plus the results of preliminary drilling, lend strong credence to the possibility of the existence of an as-yet undiscovered deposit. BDR postulates the possibility of a new discovery of some 3 million tons, equal to roughly half the reserve of the nearby, now inactive, Iron King Mine.

Based on grade data from the Iron King Mine and mining and processing characteristics, the conjectured potential discovery would be of ore grade tenor at currently indicated metals prices of $470 per ounce for gold, $8.00 per ounce for silver, $0.40 per pound for lead and $0.40 per pound for zinc.

BDR appreciates the opportunity of having been of service in this study, and is prepared to amplify, as may be required, any aspect of the assignment.

Very truly yours,

BEHRE DOLBEAR-RIVERSIDE, INC.

Rudi P. Fronk
Vice President

RPF/md

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INTRODUCTION

LOCATION

The Iron King Project area is located in the Bradshaw Mountains, 18 road miles south of Prescott, Arizona, and one mile southwest of the town of Humboldt (see Figure 1, page 2). The property, in the Big Bug mining district, occupies parts of sections, 15, 16, 20, 21, 22, 28, 29, 32, and 33, T13N, R1E.

The property extends for approximately 3 miles along the west side of Arizona State Route 69 and is adjacent to the paved highway. Access from the highway to the north end of the project area near the surface facilities of the Iron King Mine is by one-quarter mile of gravel road. Principal access to southern areas of the project area is provided by a few miles of existing dirt road.

Electric power and water are available at the Iron King Mine site. Adequate labor is available in the Prescott-Humboldt area.

The climate is suited to year-round operation, with approximately 20 inches of precipitation per year and average temperatures of 35°F (January) and 72.5° (July).

GEOLOGIC AND MINING BACKGROUND

The Big Bug mining district is within the Jerome-Prescott belt of massive sulfide mineralization, a part of the Precambrian terrain that extends through Central Arizona.

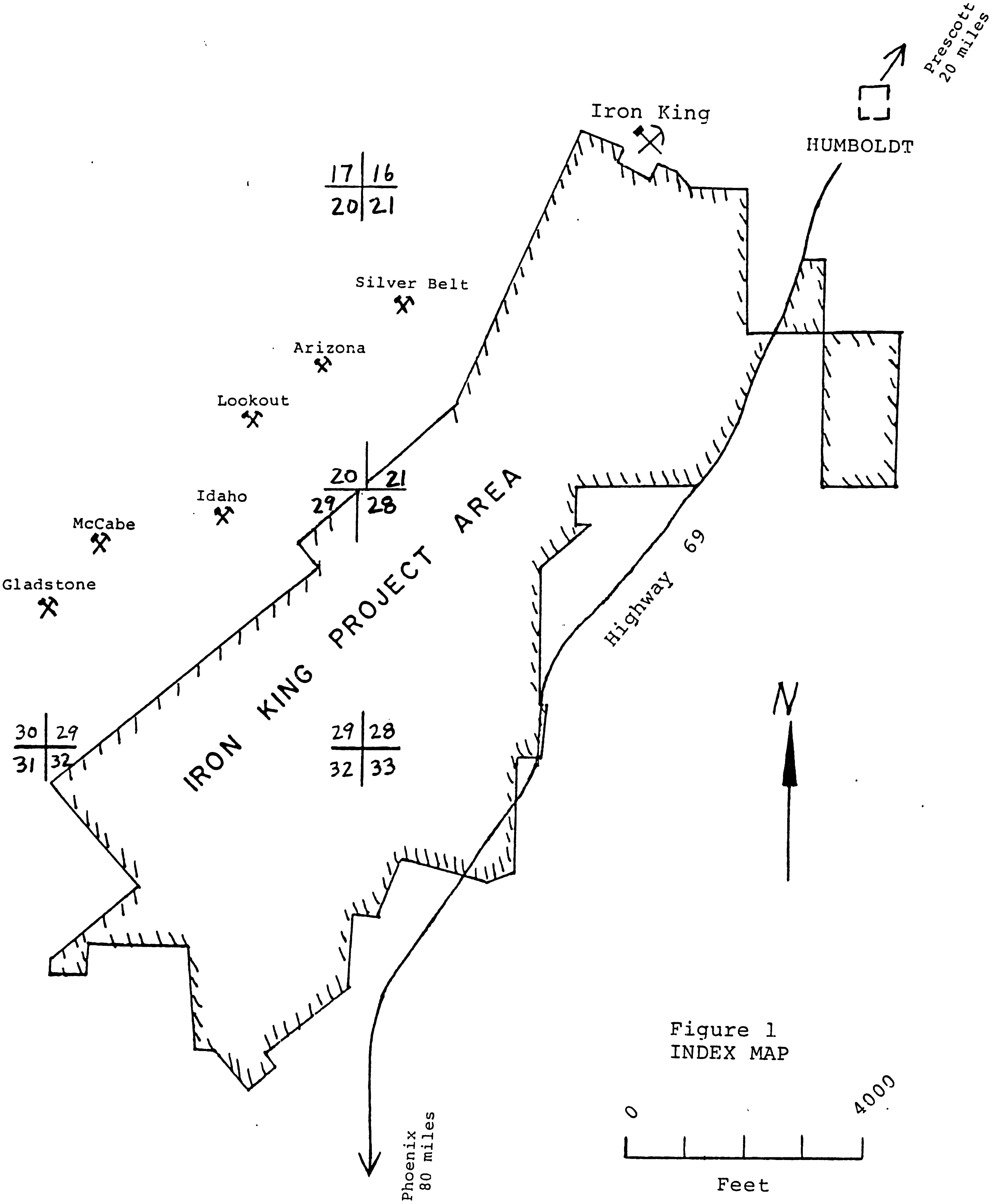

Figure 1
INDEX MAP

BEHRE DOLBEAR-RIVERSIDE, INC.

This belt contains the largest number of massive sulfide deposits in the state, and has accounted for more than 41 million tons of ore production. The United Verde Mine and the United Verde Extension in the Verde mining district have been the principal producers.

STATUS OF MINERAL RIGHTS HOLDINGS

The project area encompasses 16 patented mining claims held under a purchase agreement, 72 unpatented claims, 3 subdivisions of land sections as State of Arizona prospecting permits, and 2 adjacent leases to surface rights, all held by Stan West Mining Corp. The claims cover favorable ground for exploration to the southwest of the Iron King Mine.

Some relatively minor areas are excluded by reason of other ownership; these are 3 unpatented claims, parts of 2 patented claims, a few very small surface rights areas on the eastern edge of the holdings, and a small surface area occupied by the "Iron-ite" soil conditioner plant adjacent to the Iron King Mine.

Property payments on the group of 16 patented claims involve $40,000 per year during a 4-year exploration period and a balance of $600,000 plus interest to be paid out of production over a 6-year period. There are no royalties to be paid on revenue of any kind from production. Stan West has the right to withdraw from its continuation in the agreement at any time.

In addition to the control of mineral rights, an agreement has been made with the owners of the idle Iron King Mine and of the patented claims to the northeast of the project area for access to the major number 6 and number 7 shafts. These shafts, reported to be in good condition, are to be available for renovation and use by Stan West for exploration, access, and development of potential new orebodies in the project area to the southwest of the existing Iron King workings. The agreement, for all rights including pumping, provides for rental payments to the owners of $2000 per month. There are no royalties to be paid.

METHODOLOGY OF STUDY

The present study, intended as an evaluation of the exploration potential within the property of the Iron King Project, includes:

(a) A digest of notes prepared by Behre Dolbear-Riverside, Inc.'s Associate, W.C. Peters, during field trips taken at the Iron King Mine and in the immediate area during recent years.

(b) The study and review of a report "The Ore Potential of the Iron King Project Area", prepared for Stan West in November, 1983, by Behre Dolbear and Company on the basis of studies by W.C. Peters at the Iron King Project site.

(c) A 5-day study and review, by W.C. Peters, of file material from the Stan West office at Humboldt, Arizona, on post-1983 exploration work done in the Iron King Project area.

SUMMARY

The Iron King Project area is situated to the south of the Iron King Mine and within a distinct trend of massive sulfide ore mineralization. During its period of recorded production, the Iron King Mine accounted for 6 million tons of ore with the recovery of approximately 700,000 ounces of gold, 21 million ounces of silver, 287 million pounds of lead, 838 million pounds of zinc, and 23 million pounds of copper. Taking into consideration metallurgical recoveries and mining dilution, the in-situ ore grade averaged about 0.22 ounces per ton gold, 4.7 ounces per ton silver, 3.0% lead, 9.0% zinc, and 0.33% copper.

The project area is in a zone of Precambrian metamorphic rocks that are the host for, and have a genetic relationship to, the principal orebodies in the Big Bug mining district.

The project area can be divided into: (1) a geologically mapped and investigated north area; (2) a south area of less detailed geologic mapping and investigation; and (3) a less investigated central area with reconnaissance-scale geologic mapping.

In the north area, there is an association with the zone of metavolcanic rocks that contains the Iron King orebodies; this is marked by surface occurrences of mineralization, an extensive band of alteration, geophysical plus geochemical anomalies, and the results of preliminary drilling.

In the south area, a metavolcanic formation adjacent to exposures of the formation that hosts the orebodies at the Iron King Mine shows a zone of significant alteration, occurrences of ore-type mineralization, and several moderate geophysical and geochemical anomalies. A single small portion of the south area has also been investigated by a few drill holes.

The central area covers the same lithologic zones that show significant alteration, geophysical anomalies, and geochemical anomalies in the north and south areas. Exposure in the central area, however, are less distinct and have not been mapped in detail or examined beyond a reconnaissance scale for geochemical and geophysical patterns.

CONCLUSIONS

Potentially discoverable orebodies in the Iron King Project area would be in deposits consisting of multiple lenses of sulfide ore arranged in closely spaced en echelon groups.

Geologic mapping, geophysical information, geochemical surveys and preliminary drilling support the Iron King Project area as a favorable locus for massive sulfide zinc-lead mineralization with appreciable values in gold and silver and with associated copper values.

It is estimated that the geologically favorable ground to be tested for the upper limits of new ore mineralization extends from a depth of a few hundred feet to a thousand feet, and it is estimated that the deposit thus discovered would be in a plunging zone of associated bodies with axes measuring several thousand feet. The geologically favorable ground is identified at the surface in two major zones extending for approximately 5,000 feet (refer to Figure 3, Pocket) and 4,000 feet (refer to Figure 4, Pocket); additional zones have been indicated, and these are worth investigation.

The exploration target in each of the two zones of favorable ground can be quantified as being about half the size of the once-mined Iron King deposit, essentially 3 million tons of massive sulfide ore, and with a recoverable grade on the order of that produced in the Iron King Mine.

The Iron King Project area represents an attractive zone for subsurface geologic exploration.

Mining and metallurgical conditions and costs are postulated to be potentially favorable in discoverable orebodies.

GEOLOGIC SETTINGS AND ORE MINERALIZATION CONTROL

DISTRICT

The prevalent rocks in the Big Bug District are Precambrian schists, phyllites, and slates. These are metavolcanic rocks that represent a sequence of andesitic, rhyolitic, and dacitic flows, breccias, and tuffaceous sediments with chert pebble conglomerates and with thin beds of ferruginous chert.

The metamorphic terrain has been intruded in the southern part of the district by a younger granodiorite stock of probable Laramide age; fingers and dikes of granodiorite extend to the northeast along the metavolcanic bedding and foliation.

While most of the ore in the district is directly associated with the metavolcanic rocks, some is also spatially associated with the borders of the granodiorite stock and with Precambrian volcanic inclusions in the stock.

The Precambrian rocks are cut by a few thin dikes of Tertiary rhyolite and olivine basalt which follow the metamorphic texture; they are not in themselves associated with any of the mineralization. The older terrain disappears to the north beneath Tertiary-Quaternary gravels and alluvium. Thinner Tertiary-Quaternary gravels also cover some local portions of the Precambrian terrain.

The Precambrian lithologic units in the mining district are the Texas Gulch Formation and the older Big Bug Group, a unit of the regionally-designated Yavapai Series. The Big Bug Group, principal host for the ore deposits, comprises the Iron King Volcanics, the older and thicker Spud Mountain Volcanics, and an oldest unit, the Green Gulch Volcanics. The Spud Mountain Volcanics unit is the specific host rock for ore deposits at the Iron King Mine and at other locations in the district, such as the nearby McCabe-Gladstone mines and Lookout-Arizona National-Silver Belt series of mines.

In addition to having underground regional metamorphism to a greenstone and to a greenschist (locally amphibolite) facies, the Precambrian volcanic rocks have been folded into tight northeast-trending anticlines and synclines with steeply-dipping isoclinal limbs. Steep shear zones follow the axial trends of the folds, with shearing more intense in the well-foliated schists of tuffaceous origin than in the more massive greenstones and schists of flow origin.

The ore mineralization is in steeply dipping massive sulfide lenses that occur along narrow "vein" systems associated with the northeasterly shear zones and tuffaceous schists.

In addition to the Iron King zone of lenses, zones that have been designated as vein systems include:

(1) The Adventure vein-Idaho vein system, 800 to 1,500 feet to the northwest in the Iron King Project area: this includes the Idaho mine workings and a trend in geologic expression.

(2) The Revel vein-Gladstone-McCabe vein-Lookout-Silver vein system, 600 to 2,000 feet to the northwest; this includes the geologic expression between mines and geologic projections.

(3) The Kit Carson vein, 2,000 to 3,000 feet to the north-west, apparent in mine workings and structural trend.

The Big Bug Group rocks are bounded on the east and west sides of the district by major regional fault zones. There are only a few north and northwestern trending fault zones; these deflect and offset the principal vein systems for short distances.

IRON KING MINE

The host rock at the Iron King Mine strikes north-northeast and dips steeply to the west in a tightly-folded and overturned sequence of schists and phyllites that represent metamorphosed andesite, andesitic breccia, tuffaceous andesites, and felsic (rhyolitic) tuffs. Ore mineralization occurs in a 200 to 400 foot siliceous and sericitic interval along a contact between rhyolitic and andesitic (chloritic) tuffaceous rocks.

The specific ore zone (Figure 2, Page 12) consists of a series of closely-spaced tabular or thin lenticular massive sulfide bodies dipping to the west and arranged en echelon. The zone is approximately 100 feet wide and extends several thousand feet to the north beneath gravels and alluvium. The massive sulfide bodies, each plunging to the north, have been referred to as 12 separate "veins" or zones at widths of one foot to 20 feet and plunge lengths of 700 to 3,500 feet. The 12 veins are considered to have been mined-out to limits represented by chalcedonic

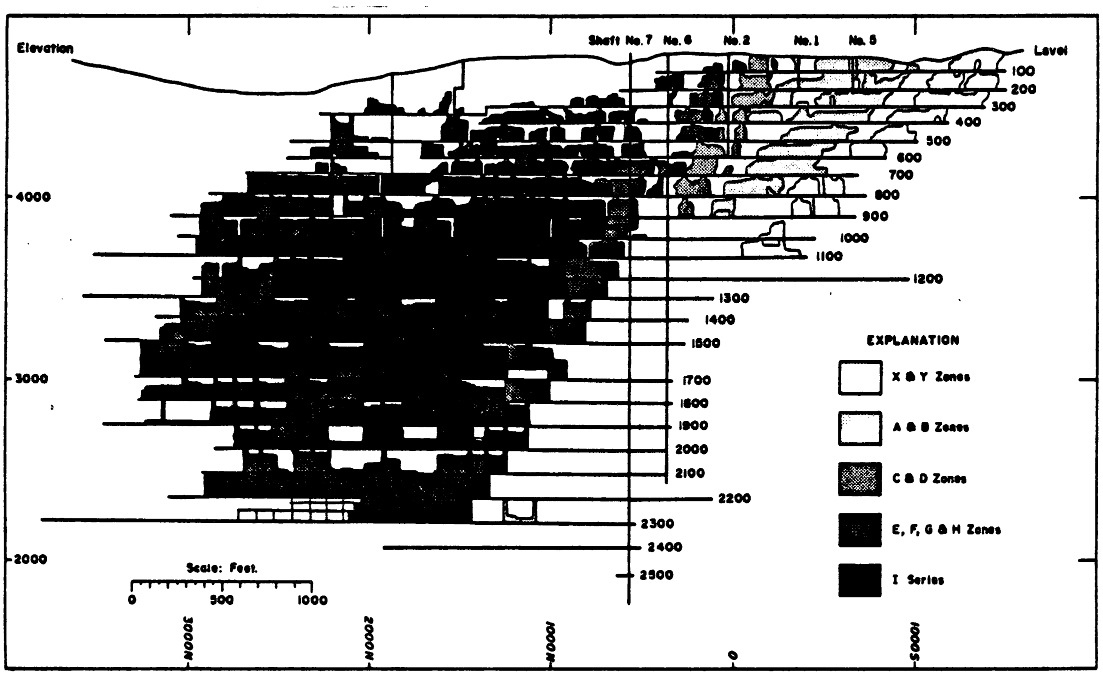

FIGURE 2

THE VERTICAL LONGITUDINAL SECTION OF THE IRON KING MINE

(From Gilmour and Still's "The Geology of The Iron King Mine." See "References," page 50).

Note: After this map was made, workings were extended an additional 200 feet.

quartz "noses" to the north, assay boundaries to the south, and assay boundaries or an increase in waste partings at depth. Six of the veins (X, Y and A to D lenses), toward the south and on the structural footwall of the ore zone, have been characterized as smaller and shallower lenses of siliceous ores with relatively higher gold and silver content thanthe larger, deeper, and stratigraphically older pyritic and base metal sulfide lenses to the north and on the structural hanging wall.

The massive sulfide orebodies or veins have been described as consisting of 50% to 80% sulfides (pyrite, sphalerite, galena, chalcopyrite, and arsenopyrite) in a gangue of quartz, carbonates, sericite, and minor chlorite. On the basis of annual production figures, the range in grade of ore in place appears to have been on the order of 0.2 to 0.3 ounces per ton gold, 4 to 6 ounces per ton silver, 2 to 3% lead, 6 to 12% zinc, and 0.3 to 0.6% copper. A series of shorter and narrower ore shoots characterized by a higher copper content in chalcopyrite and tennantite, with somewhat lower zinc, lead, and precious metal content, provided a minor amount of ore from stopes in the structural hanging wall (stratigraphically older rocks) approximately 50 feet to the west of the main series of lenses. Small masses of "early brecciated quartz" ranging from a few inches to 5 feet in diameter were found within the massive sulfide bodies on the lower levels; these were high in precious metal content, with some having more than one ounce per ton gold and 30 to 50 ounces per ton silver.

The overall plunge of the ore zone, constituting the en echelon lenses ore veins, is to the north. The angle of plunge flattens out from approximately 60 degrees in the northernmost and deeper part to approximately 40 degrees in the southernmost and shallower part.

Production from the Iron King Mine, dominantly form the pyritic base metal sulfide lenses but including contributions from siliceous lenses, the copper zone, and the early brecciated quartz masses, has amounted to approximately 6 million tons of ore.

IRON KING PROJECT AREA

The project area extends to the south-southwest from the Iron King Mine, enclosing the trend of the mineralization and significant areas of alteration. The area is underlain by rocks of the Spud Mountain Volcanics and Iron King Volcanics in the Big Bug Group, by the Texas Gulch Formation, and by a small area of granodiorite and by minor Tertiary rhyolite and basalt.

The Spud Mountain Volcanics occur in four interfingering but mappable units. These units, steeply dipping, commonly overturned, and repeated in folding are shown in Figures 3 (North Area) and 4 (South Area) as:

Sma (Spud Mountain andesite) -- The westernmost and oldest unit, massive fine-grained porphyritic andesite, interlayered with Smb.

Smb (Spud Mountain andesite breccia) -- Weakly foliated with fragments having northeasterly lineation.

Smp (Porphyritic andesite) -- Tuff, weakly foliated with conspicuous feldspar phenocrysts. Intercalated to some extent with Smb and Sma, but generally in an exposed band to the west of Smt.

Smt (Spud Mountain tuff) -- The easternmost unit and the host rock for the en echelon ore lenses in the Iron King Mine. A fine-grained intertonguing of andesitic tuff, rhyolitic tuff, "quartz eye" rhyolite crystal tuffs, and ferruginous chert beds and lenses. Locally sericitized and chloritized, with variable amounts of calcite, ankerite and kaolinite, especially near limonitic quartz vein exposures.

Stratigraphically overlying and structurally underlying the Spud Mountain Volcanics and exposed in steeply-dipping folded sequence along the eastern edge of the project area are the Iron King Volcanics, an alternating sequence of fissile tuffs, amygdaloidal andesites, and minor hematitic chert beds. The Iron King Volcanics are not directly associated with exposed ore mineralization or alteration in the northern part of the project area, but they are associated with pyritic iron-stained tuffs, sericitic alteration, and some prospect pits in the southern part of the area. Two members of the Iron King Volcanics (Ika and Ikt) are exposed in the north near the Iron King Mine; only the Iron King tuffs (Ikt) are apparent to the south, where they are locally sericitized and are virtually indistinguishable from the tuffs of the Spud Mountain Volcanics. Epidotization of the tuff is also noted to the south, and this type of alteration increases toward the granodiorite exposed at the southern boundary of the project area.

Tuffs and slates of the Texas Gulch Formation are exposed in a band between the Spud Mountain Volcanics and the Iron King Volcanics. The band, 150 to 200 feet wide near the Iron King Mine and 200 to 500 feet wide near the southern boundary of the area, represents the youngest of the Precambrian formations. It has either been faulted -- or more probably -- folded into the older sequence. Ore mineralization is not apparent in this formation, but there are some prospect pits with oxidized copper minerals and gossan, especially near the contact with Spud Mountain tuff and near the granodiorite at the south end of the area.

Intrusive and extrusive rocks in the project area are granodiorite (variously designated as Cretaceous-Tertiary (Laramide) or Precambrian) at the southern end, a Tertiary rhyolite prophyry dike trending parallel to the general northeasterly pattern, and minor occurrences of Tertiary basalt (Hickey Formation). The Tertiary rocks are not mineralized. The granodiorite has not been mapped as hosting ore mineralization in the project area, but is associated with veins and mineralized pendants of Precambrian metamorphic rock elsewhere in the district.

The structural pattern in the Iron King Project area is dominated by isoclinal folding. Except for a few reversals in minor flexures, the foliation strikes northeasterly and dips steeply to the northwest. There is lithologic evidence that the project area is on an overturned western limb of a major syncline, with younger rocks to the southeast and with stratigraphic units repeated by subsidiary infolding.

Within the northeast trend of the metamorphic texture in the project area there is also evidence in a few minor fold structures that the subsidiary folds may plunge to the southwest. Considering that the strata-controlled ore mineralization in the Iron King Mine plunges northeasterly with steepening inclination to the northeast, there is an indication of a flattening and possibly a reversal to a southwesterly plunge of the fold structures and ore control within the project area.

Shear zones are commonly associated with the limbs of isoclinal folds, but no major faults have been recognized in the intensely metamorphosed terrain. One narrow shear zone associated with gossan and a prospect pit has, however, been recognized in the Iron King Volcanics near the south end of the project area. No major cross faults have been identified, but there is evidence of small faults with minor offset.

Ore mineralization is most apparent in Spud Mountain tuffs at the northern end of the project area near the Iron King Mine. There is also evidence of oxidized ore mineralization in gossan exposure in Spud Mountain tuffs and Iron King tuffs near the south end of the area. Alteration, associated with the recognized ore mineralization and with potentially underlying zones of ore mineralization is also more significant in the northern and southern portions of the project area.

Strong sericitic alteration, with chloritic zones and with various amounts of ankerite and pyrite, is associated with ferruginous chert horizons and gossanous quartz veins for 2,000 feet to the south of the Iron King Mine. Strong sericitic alterations with lesser ankerite and pyrite continues in Spud Mountain tuffs on the same trend, being traceable for more than 3,000 feet to the south of the Iron King Mine.

In the southern part of the project area, several zones of heavily iron stained and slightly sericitic Spud Mountain tuff are apparent. The principal alteration is, however, in the Iron King Volcanics. Here, there is strong sericitic alteration with quartz and coarse disseminated pyrite-derived limonite in several zones that occupy a 300-foot wide band extending for some 3,000 feet.

INFORMATION BASE

The information base includes reports on mine exploration at the Iron King Mine during 1959 - 1967, reports on more recent and current geologic, geophysical, and geochemical work plus preliminary drilling in the project area on behalf of Stan West Mining Corp., and published literature from the U.S. Geological Survey and Arizona Bureau of Mines. The principal sources of information are listed at the end of this report.

MINING AND PRODUCTION HISTORY

History deals principally with the Iron King Mine. Historical information on other mines in the district, in similar terrain, is also taken into consideration. There is no information available on prospects and workings in the project area except for some notes on the "Copper shaft", a small mine working 1,600 feet to the south of the southernmost (Number 5) shaft at the Iron King Mine.

The Iron King Mine records cover the period from 1906 until 1968, when the mine was closed down and the shafts were sealed. The surface plant and mill were dismantled in the 1970's.

Production was intermittent and amounted to some 80,000 tons of oxidized ore above the 200 foot level until the late 1930's, when a flotation mill was installed to treat the zinc-lead-copper sulfide ores. Shattuck Denn Mining Corporation purchased the property in 1942 and operated the mine and mill continuously until 1968; during this time, the mill capacity was increased from 225 tons per day to 1,000 tons per day.

Zinc concentrates and lead concentrates were produced by Shattuck Denn, with cadmium values in the zinc concentrates and with most of the gold, silver, and copper recovered in the lead concentrates.

The Iron King Mine was served by 7 vertical shafts. Most of the ore was hoisted from number 7 shaft 3,388 feet deep after 1954. The principal shaft in earlier use was number 6, located 420 feet to the south of number 7 shaft. Both shafts are thought to be in good condition at the present time and are considered suitable for renovation as a means of access to the adjacent part of the Iron King Project area.

Table 1 (Page 21) shows the production of recoverable metals from the Iron King Mine. 6,033,912 tons of ore were produced from the Iron King Mine, yielding a total of 693,454 ounces of gold, 20,626,053 ounces of silver, 287,433,641 pounds of lead, 838,370,430 pounds of zinc and 22,655,688 pounds of copper. Therefore, the average recoverable ore grade was approximately 0.123 ounces per ton gold, 3.69 ounces per ton silver, 2.50% lead, 7.34% zinc and 0.19% copper; in-situ grades were greater due to mill recovery rates and mining dilution.

The geologic character of the Iron King deposit, as mentioned in a prior section of this report, is that of a series of

TABLE 1

PRODUCTION OF RECOVERABLE METALS
IRON KING MINE, HUMBOLDT, ARIZONA

Year	Tons	Gold (ounces)	Silver (ounces)	Lead (pounds)	Zinc (pounds)	Copper (pounds)
1906-1938(1)	78,452	15,690	313,808	3,138,080	6,276,160	470,700
1938(2)	13,477	2,317	45,938	404,300	1,078,160	67,400
1939	70,277	9,911	272,604	1,872,680	5,854,020	351,120
1940	65,812	9,239	266,497	1,891,060	7,220,440	329,060
1941	69,159	9,720	331,746	2,320,040	7,617,100	345,800
1942	88,200	11,659	392,458	3,540,100	10,585,560	441,000
1943	73,721	9,167	307,465	3,164,380	10,095,300	220,720
1944	99,164	9,460	308,567	3,611,660	13,623,860	423,820
1945	117,287	13,068	436,506	5,259,640	16,156,180	455,280
1946	115,615	13,065	467,387	5,734,280	16,875,320	485,780
1947	122,368	15,298	533,642	6,194,880	16,925,320	411,820
1948	145,823	17,036	540,548	6,854,120	19,048,100	453,020
1949	175,111	21,432	737,925	8,414,680	23,547,440	546,660
1950	203,063	27,289	904,284	10,645,040	28,220,800	686,460
1951	202,581	27,135	764,731	9,528,680	26,075,380	657,100
1952	197,747	23,430	730,280	10,203,740	29,306,000	672,000
1953	190,735	26,703	730,515	10,528,000	27,008,000	610,000
1954	180,512	28,106	745,514	11,372,000	30,074,000	722,000
1955	222,909	31,296	884,949	12,170,000	32,902,000	758,000
1956	253,956	35,452	992,968	14,476,000	37,992,000	914,000
1957	300,729	38,644	1,118,712	16,540,000	47,696,000	1,082,000
1958	314,266	39,629	1,147,071	18,038,000	53,236,000	1,194,000
1959	299,981	38,728	1,124,929	17,338,000	51,476,000	1,140,000
1960	304,485	34,285	1,020,025	16,442,000	52,980,000	1,158,000
1961	235,885	22,857	702,937]	11,700,000	39,912,000	1,038,000
1962	271,171	28,066	854,189	13,776,000	44,635,000	1,138,000
1963	280,807	27,463	901,390	12,468,000	39,200,000	1,010,000
1964	314,163	30,348	917,356	13,132,000	39,522,000	1,320,000
1965	333,743	25,738	713,930	12,518,376	38,135,352	1,254,987
1966	318,830	24,100	663,179	11,023,904	32,009,890	1,159,239
1967	273,737	21,586	569,741	9,869,966	25,988,296	961,727
1968	100,196	5,537	184,712	3,263,855	7,098,752	177,995
1906-1968	6,033,912	693,454	20,626,053	287,433,461	838,370,430	22,655,688

(1) Production before milling. Gross value shipped to smelters=±$120,200,000
(2) Last three months of milling. Net value after frt & treatment=±$ 68,500,000

en echelon ore lenses. Each lens was mined to a definitive boundary or "quartz nose" on the north end and to a low grade or split area with multiple waste partings at depth (3,150 feet maximum depth, on the 2,600 mine level).

The southern limit of mining was an assay boundary taken at cut-off widths and in-place grades which appear to have been on the order of 3 feet and from 4% to 7% zinc, depending upon the mining method and the content of other metals. On some longitudinal sections of the mine, short drifts beyond the south limit of stoped zones in the upper levels indicate as much as a 9-foot width with 6% zinc. A sub-economic low grade zone outlined near the southern limit of mining and near the number 7 shaft in later years of operation was reported to have a width of more than 20 feet with 0.041 ounces per ton gold, 0.80 ounces per ton silver, 0.71% lead, 2.38% zinc, and 0.15% copper.

Diamond drilling was done near the Copper Shaft to the south of the Iron King Mine in 1942 and during 1962-1963. In the 1942 program, four angle holes of EX size and with low core recovery were completed to vertical depths of 170 to 225 feet; 3 of the holes intersected several zones of weak ore mineralization, some of which approach commercial tenor. Examples of reported intersections are: 16 feet of 2.2% zinc and 0.5% copper; 6 feet of 1.7% zinc and 5.2% copper; and 4 feet of 2.5% zinc and 0.8% copper. In the 1962-1963 program, 10 angle holes of BX to NX size were drilled in the Copper Shaft area in a series extending from 100 feet to 2,000 feet south of the Iron King workings. A few of the holes reached a vertical depth of 600 feet and penetrated zones of extensive pyritic-sericitic alteration. Intersected intervals of mineralization amounted to 4.2 feet of 2.77% zinc and 0.28% copper in one hole and 2.6 feet of 2.0% copper plus 1.0 feet of 4.8% copper in another hole. Sixteen other intersections of "significant" mineralization (greater than 1% copper of 2% zinc) were reported at narrower widths.

The Copper Shaft and workings are approximately 1,600 feet to the south of the Iron King number 5 shaft or 600 feet to the south of the limit of the Iron King Mine stoping. At this location, a 132-foot inclined shaft has two mine levels with approximately 900 feet of workings. It has been estimated that about 600 tons of ore have been stoped. The only recorded production is from a leasing operation some 35 years ago in which 132 tons of ore contained 6.13% copper, 0.97 ounces per ton silver, and 0.4% zinc.

In addition to the Copper Shaft workings, there are a few prospect pits along the trend of alteration and limonite staining to the south of the Iron King Mine, but nothing is known of their history.

In the southern part of the project area, 14 pits, adits, and shallow shafts (to 35 feet) are in evidence within the heavily altered zone in Iron King Volcanics. There are no records of these workings or of the few nearby pits in Spud Mountain tuffs.

At the Gladstone Mine, on the vein system 600 to 2,000 feet to the northwest of the Iron King Project area, stoping was carried out to a depth of 1,000 feet. At the McCabe Mine, on the same vein system, recent drilling and drifting in ore mineralization has been carried out to a depth of 1,500 feet. Combined McCabe-Gladstone production (1880-1950) accounted for 47,000 ounces of gold, 128,000 ounces of silver, 1,200 tons of lead, and 481 tons of copper.

INFORMATION COLLECTED ON STAN WEST HOLDINGS

Work by Stan West Mining Corp. and on Stan West's behalf includes a 1 inch = 600 feet geologic map of company holdings in the district, a 1 inch = 500 feet geologic map of the Iron King Project area, two geologic maps at a scale of 1 inch = 200 feet covering north and south portions of the project area, and a more detailed 1 inch = 100 feet geologic map of the extended Iron King zone immediately to the southwest of the mine.

Two geophysical survey programs, geochemical soil and rock sampling, the drilling of 27 shallow non-core holes, and the drilling of 11 diamond core holes have also now been completed on the property of the Iron King Project.

Detailed geologic mapping identified significant zones of alteration in the Spud Mountain tuffs and in the Iron King Volcanics. The zone of intense sericite-ankerite alteration and the quartz-gossan veins associated with ore mineralization at the Iron King number 5 shaft were mapped for 1,700 feet to the south; an extended zone of sericitic alteration with ferruginous chert and chlorite was mapped to 5,000 feet south of the shaft. A second group of chloritic and sericite-pyrite altered zones was identified as extending over some 3,000 feet within Iron King Volcanics in the south area.

The mapping of fold axes and subsidiary kink folds in both the north and south areas indicated that the plunge of some fold structures is to the west-southwest. This would be a possible orientation for plunging orebodies.

Geophysical surveys were undertaken in 1982 and 1985. The 1982 "DEEPEM" pulse electromagnetic survey detected several anomalies. Two moderate and closely parallel conductors in the Spud Mountain Volcanics were located in the north area near the Copper Shaft, with one anomaly continuing through the altered zone to the south of the shaft. Additional anomalies were associated with an altered zone in the Iron King Volcanics and with the Texas Gulch Formation.

In the south area (see Figure 4, in Pocket), two parallel moderate to strong anomalies were detected in 1982 over an extensively altered zone in Iron King Volcanics. The zone was traced to the north for some 1,200 feet, but could not be extended farther because of the interfering power line. Additional weak to moderate conductors were detected in the Iron King Volcanics and in the Spud Mountain tuffs; these are related to zones at a few prospect pits with iron and copper staining.

The 1985 geophysics program involved magnetometer traverses and pulse electromagnetic surveys in the northern part of the Iron King Project area. Positive magnetic response was obtained in parallel association to the borders of the 1982 electromagnetic conductors. Sensitive "DEEPEM" pulse electromagnetic surveys were able to separate the 1982 electromagnetic responses into more definitive zones of closely spaced moderate conductors that would compare to lenses of mineralization at depths of 400 to 500 feet in tightly folded host rock.

Preliminary soil and rock geochemical sampling were done during 1982-83 by Stan West, principally in the north area. Soil geochemistry was not effective because of contamination from the nearby Iron King Mine, dump, and tailings. Rock geochemistry, done as an orientation or preliminary survey, provided a very good response in each of the two sample lines involved. Definite anomalies in barium, iron, silica, base metals, potassium, gold, and silver were located in the zone of alteration to the south of the Iron King workings.

Further soil and rock-chip sampling was done throughout the Iron King Project area in 1985-86. Reconnaissance soil surveys detected broad lead-zinc-copper anomalies in the Copper Shaft-Iron King Mine zone and again in the southernmost part of the project area near to recognized alteration, prospect pits, and electromagnetic anomalies. Rock-chip surveys were used to delineate several occurrences of moderately anomalous gold mineralization in the northern iron-stained siliceous exposures and were used to identify zinc anomalies in the southernmost part of the project area.

Three drilling programs have been done of behalf of Stan West in the Iron King Project area. In 1985, 26 shallow reverse circulation holes and 8 diamond core holes were drilled in the ground to the south of the Iron King Mine. In 1986, 3 diamond drill holes were used in the investigation of a geochemical and geophysical anomaly in the southernmost part of the project area.

The 1985 program of reverse circulation drilling was performed within a 1300-foot length of ground from the southernmost workings of the Iron King Mine to the vicinity of the Copper Shaft. 26 angle holes to vertically equivalent depths of 200 feet were designed to test for open pit gold mining potential beneath the siliceous pyritic and iron-stained zone within which rock-chip sampling at the surface had outlined several gold anomalies. Drill hole samples taken at 5-foot intervals and near-perpendicular to the structure showed intercepts of gold mineralization at greater than 0.05 ounces per ton with attendant silver, zinc, lead, and copper values in 12 of the holes. In 4 of the holes, the intercepts had gold values greater than 0.1 ounces per ton.

In 3 of the holes, intervals of 35 feet averaged 0.07 to 0.09 ounces per ton gold and 0.7 to 1.1 ounces per ton silver. The better gold values were in the footwall rocks of the massive sulfide-bearing trend near the Iron King workings and were associated with pyritic and iron-stained zones of siliceous and sericitic schist in the Spud Mountain formation. The gold mineralization was indicated to be fairly consistent and to have enough significance to warrant further drilling in a future program.

The 1985 program of diamond core drilling was performed in the same length of ground as that at the reverse circulation drilling, but with the principal intent of testing the gold potential of the main Iron King system at vertical depths of 400 feet to 900 feet. One of the 8 holes was used in testing and rejecting an electromagnetic anomaly in the Iron King Volcanics to the east of the main system in the Spud Mountain Volcanics.

Excepting one hole that did not reach the objective, all of the remaining holes encountered sulfide mineralization; gold mineralization was also identified at a geochemical level of 0.3 to 1.7 parts per million. In a hole near the Iron King workings, a 116-foot length of drill core (100-foot structural width) in a siliceous sulfide zone contained geochemically anomalous gold with a 1.2-foot interval at 0.1 ounce per ton gold. An interpretation of this diamond drilling program is that the gold mineralization beneath the Iron King massive sulfide system appears to increase toward the north and down-plunge, making for a deeper target to be explored by additional drilling.

The 1986 program of 3 diamond core holes in the southernmost part of the project area at a depth of 250 feet to 500 feet was designed to test the site of a surface geochemical zinc anomaly and an electromagnetic anomaly near an old prospect shaft. The possibility was for a repetition of the Spud Mountain Volcanics-hosted Iron King system of zinc-lead-silver-gold mineralization to occur in the similarly altered Iron King Volcanics. All three holes encountered skarn-hornfels rock, indicating metamorphism associated with the nearby Big Bug granodiorite stock. Two of the holes intersected pyritic zones, and one hole intersected a 200-foot zone of geochemically anomalous zinc-copper-lead values. An interpretation of the information from the drill holes is that any economic mineralization would occur at considerable depth and that it would be associated with a boundary of the Big Bug stock rather than with a bedded siliceous zone of the Iron King Mine-type.

CONCEPTUAL BASE AND RATIONALE
REGARDING POTENTIAL ORE RESERVES

The most valuable concept in assigning a potential to exploration possibilities in the Iron King Project area is that of volcanic-hosted massive sulfide deposits that contain copper, lead, and zinc with significant amounts of gold and silver. These deposits follow specific lithologic zones in volcanic and volcanic-sedimentary host rock; they are also typically associated with and modified by shear zones that parallel the fabric of folded rock sequences.

Volcanic-associated massive sulfide deposits occur widely in Precambrian terrain in which the host rock and the stratabound or stratiform vein-like orebodies have been metamorphosed. With metamorphism, the ore minerals have in many instances been mobilized into spatially-associated structures where the ore has replaced wall rock. Most Precambrian massive sulfide orebodies were formerly classed as veins and, as with the en echelon ore lenses in the Iron King Mine, they still are commonly referred to as veins because of their tabular nature and steep dip.

Precambrian base metal-precious metal deposits that illustrate the concept and the volcanic association are those of major mining districts in the Canadian Shield (Val d'Or, Noranda, Kirkland Lake, Flin Flon, Timmins). Similar Precambrian massive sulfide base metal-precious metal deposits, but with a subsidiary volcanic association are at Broken Hill, Mt. Isa, and Mount Morgan, Australia.

Precambrian ore deposits associated spatially and genetically with metamorphosed volcanic-sedimentary rocks occur in several areas in Central Arizona. Recorded production from these deposits is in excess of 41 million tons of ore, with 3.5 billion pounds of copper, 1.05 billion pounds of zinc, 2.5 million pounds of lead, 62 million ounces of silver, and 1.7 millon ounces of gold. The largest tonnages have come from the United Verde and United Verde Extension ore bodies at Jerome, 20 miles to the northeast of the Iron King Mine, and from the Iron King Mine itself.

The genetic condition for volcanic-associated ore deposits is that of an accumulation or series of accumulations of sulfide minerals on the sea floor near a hydrothermal discharge center. Proximal deposits, those having formed near a major discharge vent, are characteristically copper-rich, thick, and associated with andesitic to rhyolitic volcanic breccia. At a distance from the vent measured in miles and tens of miles, copper-zinc deposits accumulate in sea floor basins. These are distal deposits. With further distance from the vent, distal deposits grade into thinner and more extensive lenses and beds of copper-zinc-lead sulfides with appreciable gold and, finally, into lead-zinc sulfide deposits with increased silver content in andesitic to rhyolitic tuffaceous volcanics or in mixed volcanic-sedimentary rock. In the distal deposits, carbonates (ankerite) and sulfates (barite) are commonly associated and there is an association with thin ferruginous and manganiferous banded chert or jasper beds.

The United Verde Mine at Jerome has the characteristics of a proximal massive sulfide deposit. The Iron King Mine has the characteristics of a distal deposit.

With tectonism, the assemblage of flows, sub-volcanic intrusions, and tuffaceious volcanic-sedimentary beds is folded and metamorphosed. The massive sulfide deposits are spatially associated with their original zones of deposition, but the shapes of the orebodies are controlled by folding, faulting, and metamorphism. Precambrian massive sulfide orebodies are therefore commonly found in association of en echelon vein-like bodies, irregular lenses, and gash veins in plunging zones on the flanks or axes of sharp folds.

A halo of altered rock is commonly associated with massive sulfide bodies; this is the combined result of hydrothermal alteration at the site of sea-floor deposition and metamorphic reactions during tectonism.

QUANTIFICATION OF ORE POTENTIAL

The potential for significant ore discovery in the Iron King Project area is related to the following considerations:

- The district geologic setting for major massive sulfide deposits, and the continuation of favorable terrain for volcanic-associated massive sulfide deposits throughout the project area.
- The position of the Iron King Mine and the extension of significant massive sulfide-type alteration, sulfide-bearing quartz veins, chert/jasper beds and geochemical anomalies along the same structural lithologic zone.
- Indications from drill hole information that base metal mineralization and accompanying gold-silver values are associated with the trend of the main Iron King Mine system in the Spud Mountain Volcanics.
- The presence of sericitic alteration in the Iron King Volcanics, especially in the south area, in addition to the on-trend extension of alteration in the Spud Mountain tuffs.
- The recognition of several geophysical anomalies on the main Iron King trend in Spud Mountain Volcanics and the recognition of moderate geophysical and geochemical anomalies in the younger Iron King Volcanics.
- The tonnage and grade of potential new ore.
- The economic aspect: the expected cost of development and production.

INFLUENCE OF GEOLOGIC SETTING

The strength of the geologic setting for additional massive sulfide mineralization in the region and in the district has been demonstrated by the occurrence of major deposits in the specific metavolcanic -- greenstone terrain. The United Verde deposit, also in the same Jerome-Prescott regional zone as the Big Bug District, produced 34 million tons of ore with 5.0% Copper.

The Big Bug District produced more than 700,000 ounces of gold, 22 million ounces of silver, 140,000 tons of lead, 370,000 tons of zinc, and 20,000 tons of copper. The mines are in massive sulfide deposits of both proximal and distal character. The Bluebell, Hackberry, and Lone Pine mines, several mines to the southeast of the Iron King Project area, were in copper-rich proximal deposits with gold-silver values. The Iron King, McCabe-Gladstone, and the mines on the Lookout-Arizona Silver Belt trend are in distal deposits.

SIGNIFICANCE OF MINING HISTORY

The Iron King Mine was worked to a vertical depth of 3,150 feet. The extent of the mined ore zone can be stated in terms of a plunging length of 5,200 feet and a normal breadth of 2,300 feet. Within the mined zone, the 12 en echelon ore lenses or ore veins with plunge lengths of 700 feet to 3,500 feet and normal breadths of 100 feet to 2,000 feet were stoped at widths of 3 feet to as much as 20 feet.

Within the overall volume represented by the mined ground, 6 million tons of ore have been produced. This tonnage, representing something on the order of 60 million cubic feet of ore, would allow for a nominal or effective stoping width of 5 feet.

The values in recoverable gold, silver, lead, zinc, and copper appear to have been relatively uniform in relation to the mined tonnages during the period of recorded production, 1906 to

1968. According to estimates of metallurgical recovery in milling during the last decade of operation, recoveries were on the order of:

Gold	58% to 61%
Silver	78% to 86%
Lead	68% to 93%
Zinc	68% to 89%
Copper	45% to 64%

Based on the reported production of recoverable metal (see Table 1, Page 21, and Gilmour and Still's "Geology of the Iron King Mine"), an overall recoverable grade of metals contained in the mill feed was 0.123 ounces per ton gold, 3.69 ounces per ton silver, 2.50% lead, 7.34% zinc, and 0.19% copper. The average grade of ore actually mined, as mill heads with a provision for the higher of the reported percentage recoveries in milling would have been:

Gold	0.20 ounces per ton
Silver	4.29 ounces per ton
Lead	2.7%
Zinc	8.2%
Copper	0.30%

If allowance were made for wall rock dilution in mining, nominally 10%, the average grade of ore in place would have been on the order of 0.22 ounces per ton gold, 4.7 ounces per ton silver, 3.0% lead, 9.0% zinc, and 0.33% copper.

Oxidation of surface ore at the Iron King Mine extended to a depth of 200 feet, where it gave way over a relatively short depth interval to primary sulfides.

During mining, extensions of ore to the south of Iron King Mine and at depth were sought in a few diamond drill holes from the surface and in drifts that extended for short distances beyond stoped ore. Commercial ore was not outlined, but the mineralization was found to continue.

SIGNIFICANCE OF RESULTS OF CURRENT WORK

Geologic mapping, geophysical surveys, geochemical sampling, and drilling on behalf of Stan West have provided sufficient information to identify a north and a south target area.

The north target area is characterized by a zone of significant to intense alteration and vein exposures on the trend of the Iron King deposit, by mine workings in the Spud Mountain Volcanics, by the presence of several parallel electromagnetic conductors, by a market response to geochemical work, and by drill holes in continued mineralization.

The south target area is characterized by a group of zones with significant alteration and correlative electromagnetic conductors and by a second group of geochemical anomalies related to prospect workings. The geophysical and geochemical anomalies are related in part to shear zones and prospect workings in the Iron King Volcanics and in part to minor vein exposures in the Spud Mountain Volcanics.

POSTULATED ORE POTENTIAL

Based on the foregoing, an estimate of the geologically favorable ground in the Iron King Project area would be essentially that of a 5,000-foot zone of significant alteration in the Spud Mountain Volcanics beyond the southernmost stopes in the Iron King Mine and a second 4,000-foot zone of extended Spud Mountain Volcanics, scattered evidence of mineralization, and significant alteration in Iron King Volcanics. Both of these zones are characterized by geophysical and geochemical anomalies. Additional zones of less distinct alteration, mineralization, and reconnaissance geophysical and geochemical anomalies between the two principal zones are worth consideration as possible targets for follow-up work.

Within either or both of the principal zones of favorable ground, the orebody model would have a relation to the known Iron King deposit. The length of the zone of significant alteration above the Iron King deposit, while not known because of alluvial cover, should be on the order of 4,000 to 5,000 feet plus an extended halo of lesser alteration in favorable ground at 4,000 to 5,000 feet in length, would have a distinct probability of being associated with a deposit of similar mineralogy and grade. The tonnage in the target deposit would represent a significant portion of that in the Iron King deposit. The size of the recognized alteration zones indicates a potential tonnage on the order of one-half that represented by the Iron King Mine. Studies of other mining districts (Boldy, 1981; Sangster, 1980) suggest that massive sulfide orebodies have a general pattern in which the largest orebody is approximately twice the size of the next-largest orebody.

The potential tonnage contained in the exploration target, estimated at 50% of the Iron King deposit's size, would be on the order of 3 million tons. The in-place grade of the target, after allowing for dilution and recovery, should be similar to that reported for a recoverable grade at the Iron King Mine.

PRODUCTION CONSIDERATIONS OF POSTULATED ORE POTENTIAL

MINING METHOD

Mining conditions at the Iron King Mine have been reported in the literature (Mitchell, 1964, Kumke and Mille, 1950) to be good. Mining conditions at the nearby McCabe-Gladstone Mine, viewed by Behre Dolbear-Riverside in old workings and in recently driven level workings, are also good. Behre Dolbear-Riverside is of the opinion that similar mining conditions may reasonably be expected to exist in a potentially desirable orebody to the south of the Iron King workings.

Mining at the Iron King was primarily by shrinkage stoping, with some square set and cut-and-fill stoping in upper levels. Below the 2,200 level, a form of sublevel stoping was employed. The mining method in a potential ore body within the Iron King Project area would likely be shrinkage stoping or some combination of sublevel and shrinkage stoping, with the latter method utilized in shorter ore lenses or shoots.

Pumping requirements at the Iron King Mine were reported to be on the order of 120 gpm or less. In 1950, the Iron King was pumping 50 gpm. Present-day pumping at the McCabe-Gladstone Mine is at approximately 50 to 100 gpm.

The sealed Iron King number 7 and number 6 shafts, considered for possible renovation and use in access to a potential orebody, are reported to be in good shape. Timbering and guides are in place and are estimated by the former mine manager for

Shattuck Denn to be in good condition. The water level is estimated to be at a depth of approximately 1,800 feet, and drifts to the southwest are considered to be in generally good condition.

PROCESSING

The Iron King ores were processed by simple flotation to produce a zinc concentrate and a lead concentrate. The metal sulfides, variable in grain size, were ground to minus 275 mesh. Metallurgical recoveries, judging from the available records in the 1957-1967 period mentioned in the "Significance of Mining History" section of this report, averaged approximately:

Gold	60%
Silver	85%
Lead	90%
Zinc	85%
Copper	60%

Zinc concentrates during the last decade of operation contained an average of approximately 60% zinc; lead concentrates contained an average of approximately 35% lead. Concentration ratios were on the order of 8.2 to 1 for zinc concentrates and 14 to 1 for lead concentrates, with minor amounts of zinc and lead reporting in the opposite concentrates.

Gold, silver, and copper were contained in both concentrates, with the major amounts reporting in the lead concentrates. The distribution, based on 1957-1967 records, was approximately:

94% of the gold in lead concentrates
6% of the gold in zinc concentrates

96% of the silver in lead concentrates
4% of the silver in zinc concentrates

91% of the copper in lead concentrates
9% of the copper in zinc concentrates

Metallurgical characteristics of the ore at the Iron King Mine can be taken as an index to ore of a potentially discoverable ore body.

CONJECTURED INCOME PROJECTION AND CASH FLOW

A 225,000-ton per year operation is envisaged (750 tons per day, 300 days per year). Mine life will approximate 13 years, assuming in-situ mining extraction of 90% and dilution of 10%.

Mill heads (after dilution) and recoveries are assumed as follows:

	Mill Heads	Metallurgical Recovery, %
Gold	0.20 OPT	60
Silver	4.24 OPT	85
Lead	2.7 %	90 (in lead conc.)
Zinc	8.2 %	85 (in zinc conc.)
Copper	0.30 %	60

NOTE: OPT equals troy ounces per ton.

Gold, silver and copper are assumed to report to the lead and zinc concentrates as follows:

	Gold (%)	Silver (%)	Copper (%)
To lead concentrate	94	96	91
To zinc concentrate	6	4	9

Concentration ratios are taken to be:

For lead concentrate . . . . 14.0 to 1
For zinc concentrate . . . . 8.2 to 1

The projected concentrate quantities and grades based on the above parameters are as follows:

Lead concentrate -- 16,071 tons per year

containing:	1.579	OPT	gold
	48.437	OPT	silver
	34.02	%	lead
	5.74	%	zinc
	2.29	%	copper

Zinc concentrate -- 27,439 tons per year

containing:	0.059	OPT	gold
	1.182	OPT	silver
	57.15	%	lead
	1.11	%	zinc
	0.13	%	copper

Net smelter returns are calculated, as shown below, using the following metals prices:

Gold	$470.00 per ounce
Silver	$ 8.00 per ounce
Lead	$ 0.40 per ounce
Zinc	$ 0.40 per ounce
Copper	$ 0.80 per ounce

(Payments for cadmium values and deductions for impurities are considered to be minimal -- based on available records -- and are, therefore, not taken into account.)

The calculation of the Net Smelter Returns for the lead concentrate is shown below:

Gold:	(1.579 oz - 0.2 oz) x 0.95 x ($470 - $5). . .	$ 609.17
Silver:	(48.437 oz - 1.0 oz) x 0.95 x ($8 0 $0.30) . .	$ 347.00
Lead:	(34.02 % - 1.5 %) x 20.00 x 0.95 x ($0.40 - 0.15)	$ 154.47
Copper:	No payment (less than 5%)	--
	TOTAL	$1,110.64
Less:	zinc penalty	0.00
	smelter base charge	100.00
Smelter value per ton of dry concentrate		$1,010.00
Less:	freight and handling	39.00
Net Smelter Return		$ 971.64

The calculation of the Net Smelter Returns for the zinc concentrate is shown below:

Zinc:	57.15% 20 x 0.85 x ($0.40 - 0.15)	$ 374.05
Cadmium:	No payment assumed	--
Silver:	No payment (less than 3 ounces)	
Gold:	(0.059 - 0.03) x 0.7 x ($470 - $5)	$ 9.44
	TOTAL	$ 383.49
Less:	smelter base charge ($160 with Zn at 38¢, ± $2 for each 1¢ above or below a price of 38¢).	164.00
Smelter value per ton of dry concentrate		$ 219.49
Less:	freight and handling	57.00
Net Smelter Return		$ 162.49

CONJECTURED GROSS ANNUAL INCOME

Lead Concentrates:	16,071 tpy x 971.64	$15,615,226
Zinc Concentrates:	27,439 tpy x 162.49	$ 4,458,563
Gross Annual Income		$20,073,789

OPERATING COSTS

A range of $57 to $62 per ton of ore is indicated for the total cost of mining, milling and administration based on a production rate of 750 tons per day. This cost range has been developed in a factored cost estimate related to comparable underground mining operations and expected labor costs and productivity. BDR, without having undertaken a detailed operating cost estimate, accepts for purposes of conjecture, an average operating cost of $60 per ton of ore.

CAPITAL COSTS

Behre Dolbear-Riverside, without having undertaken its own capital cost estimates, accepts for purposes of conjecture, two possible conditions for the target orebody:

1. Development of an orebody in the north area from the Iron King number 6 and number 7 shafts and level workings.
2. Development of an orebody in the south area, with new shaft access.

Under the first condition a capital cost of $25 million would be envisioned, broken out as follows:

Mill	$11,000,000
Shaft renovation and underground development	$10,000,000
Surface buildings and equipment (including mining)	$ 4,000,000
TOTAL	$25,000,000

Under the second condition, a capital cost on the order of $30 million would be envisioned.

PRO FORMA CONJECTURED CASH FLOW

Under the first condition of capital costs, the conjectured cash flow in the early years of production is roughly projected as follows (this cash flow assumes that in the 2 to 3 previous years $25 million was spent on a mill, shaft renovation, surface buildings and equipment):

TABLE 2

CONJECTURED OPERATING CASH FLOW FIRST FIVE YEARS OF PRODUCTION

(In thousands of 1987 Dollars)

Year of Production:	1	2	3	4	5
Gross income	14,502(1)	20,074	20,074	20,074	20,074
Operating Costs	13,500	13,500	13,500	13,500	13,500
Depreciation(2)	1,500	1,500	1,500	1,500	1,500
Expensed development(3)	-0-	5,012	4,988	--	--
Taxable income before depletion	-0-	-0-	86	5,074	5,074
Depletion(4)	--	--	43	2,537	2,537
State & Federal income taxes(5)	-0-	-0-	22	1,269	1,269
After tax income	-0-	-0-	22	1,269	1,269
Conjectured Operating Cash Flow	552	6,574	6,553	5,306	5,306

(1) 70% operating rate assumed for initial year of production.
(2) 10-year, straight line assumed on mill, surface buildings, and mining equipment.
(3) $10 million initial underground development.
(4) Allowable percentage depletion is approximately $15 per t on milled, or $3,385,000 (225,000 x $15.04). This is limited, however, to a maximum of 50% of the taxable income before depletion.
(5) 50% effective rate assumed.

Note that the above projection does not include an allowance for the costs of ongoing exploration or capital replacements. Also, no allowance has been made for royalties of any kind. Stan West represents that there are, at present, no net smelter return royalties to be paid on the property.

It appears, based on the conjectural cash flow projections, that a payout of five to six years is anticipated for either of the capital cost conditions (1 or 2, above).

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Figure 3

IRON KING SYNDICATE					
GEOLOGIC MAP IRON KING NORTH AREA YAVAPAI CO. ARIZONA					
Scale	Date	Field Work	Drawn By	Location	Plate
1" = 200'	JAN. 83	R. PAPE	L. BARKER	PRESCOTT VALLEY S. POLAND JUNCTION	
JEROME MINING CORPORATION					

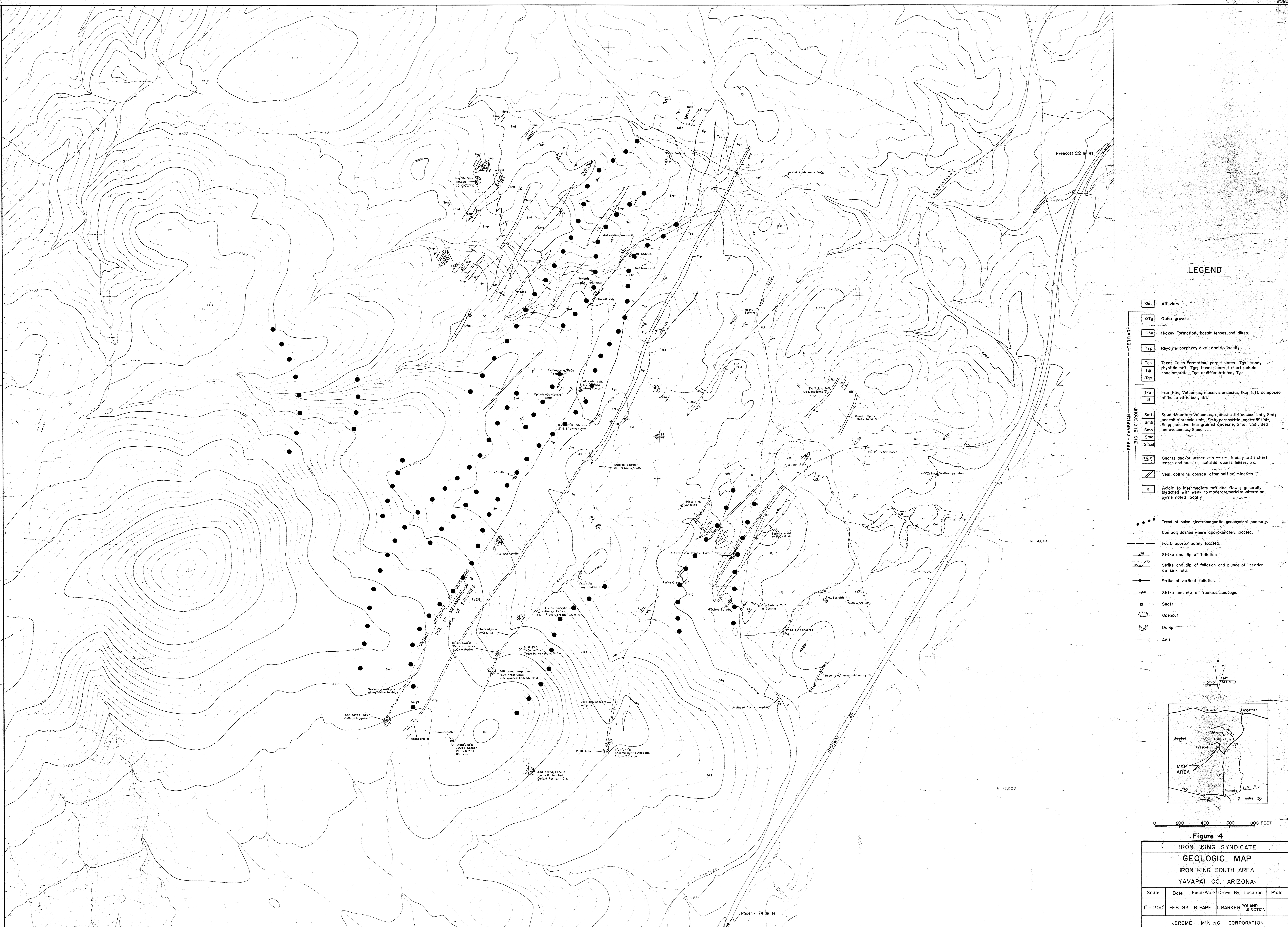

Figure 4

IRON KING SYNDICATE

GEOLOGIC MAP

IRON KING SOUTH AREA

YAVAPAI CO. ARIZONA

Scale	Date	Field Work	Drawn By	Location	Plate
1" = 200'	FEB. 83	R. PAPE	L. BARKER	POLAND JUNCTION	

JEROME MINING CORPORATION

Stan West Mining Corp.

6045 NORTH SCOTTSDALE ROAD, SUITE 101, SCOTTSDALE, ARIZONA 85253, 602/483-8000

REÇU le
13 OCT. 1988
Rép:...............

October 11, 1988

M. Jean Boissonnault
CAMBIOR INC
Vice-President Exploration
900 - 5th Avenue
C.P. 999
Val d'Or, Quebec
J9P 1B9

Re: Iron King Property, Big Bug District
Yavapai County, Arizona

Dear Jean,

I have requested our Toronto office to send you the latest report on the above property.

STANLEY HOLMES, Ph.D.
President

Stan West Mining Corp.

6045 N. SCOTTSDALE ROAD, SCOTTSDALE, ARIZONA, 85253 602/483-8000
8 KING STREET EAST, SUITE 1905A, TORONTO, CANADA M5C 1B5, 416/364-0424

as per!

With my best regards,

STAN WEST MINING CORPORATION

C. Dawson

Stanley W. Holmes

BEHRE DOLBEAR - RIVERSIDE, INC.

Minerals Industry Consultants

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November 5, 1987

Mr. Peter W. Holmes
Stan West Mining Corp.
7 King Street East, Suite 1001
Toronto, Ontario M5C 1A2
CANADA

Re: Addendum Report, Ore Potential of Iron King Area
BDR Project No. D-0021

Dear Mr. Holmes:

Behre Dolbear-Riverside, Inc. (BDR) is pleased to provide, in response to your recent request, this addendum to its updated 1987 report "The Ore Potential of the Iron King Project Area, Big Bug Mining District, Yavapai County, Arizona."

It is our opinion that the Iron King Project Area justifies the expenditures necessary to continue exploration toward the discovery of new orebodies.

The principal exploration target represents a significant massive sulfide body of zinc-lead mineralization with appreciable values in gold and silver and with associated copper values. The potential size of the exploration target can be quantified as having 3 million tons of ore with an in-place grade on the order of 0.22 ounces per ton gold, 4.7 ounces per ton silver, 3.0% lead, 9.0 % zinc, and 0.33% copper.

BDR's study of the local geology, historical data on the Iron King Mine, Stan West's documented exploration, and appropriate engineering-economy factors, provides for a discoverable orebody with mining potential of 225,000 tons of ore per year and a mine life of 13 years. A cash flow projection for the mining operation on an orebody of the indicated size and environment indicates a payout period of 5 to 6 years.

Taking a 13-year mine life, the conjectured cash flow, and the present value of mine production at a nominal 10% discount rate, the net present value of the mine would be on the order of $10 million under the condition of an indicated capital investment of $25 million.

Exploration expenditures to date on the Iron King Project by Stan West and on behalf of Stan West, are estimated to have been:

Land payments	$200,000
Drilling and associated geology	400,000
Surface geology and geochemistry	25,000
Geophysics	55,000
Total to date	$680,000

Appropriate expenditures for continued exploration to a point of discovery on the Iron King Project area would, in BDR's estimation, now emphasize subsurface exploration; it would amount to:

Land payments	$200,000
Drilling and supporting geology (diamond core and non-core, 30 holes at average $20,000 per hole)	600,000
Surface geology, geophysics, geochemistry	100,000
Total projected	$900,000

The total of past and projected expenditures, $1,580,000, for the discovery of an orebody with a potential net present value on the order of $10 million would be well warranted.

Very truly yours,

BEHRE DOLBEAR-RIVERSIDE, INC.

Rudi P. Fronk
Vice President

RPF/md

Enclosures