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FOR THE RECORD

JDS

ASARCO

Exploration Department
Southwestern United States Division

James D. Sell
Manager

August 16, 1990

Mr. Frank H. Crerie
Chairman
Coronado Resources, Inc.
8065 N. 85th Way, Suite B-100
Scottsdale, Arizona 85258

Iron King CRD No. 1
Yavapai County, AZ

Dear Mr. Crerie:

Your letter and report by Mr. Pape have been received and I thank you for keeping us advised on the progress of your interesting program.

I note that the last assay was within the sulfide zone. I presume the hole was lost at this point and the full width of the zone is unknown.

Sincerely,

James D. Sell

James D. Sell

JDS:mek

cc: W.L. Kurtz

ASARCO Incorporated P. O. Box 5747 Tucson, Az 85703-0747
1150 North 7th Avenue (602) 792-3010

FOR THE RECORD

CORONADO RESOURCES INC. (CRD-V)

2000 foot level on the south extension of the mine

JDS

FILE
Iron King
Yavapai Co., AZ

CORONADO RESOURCES, INC.

PRESS RELEASE

ASARCO Incorporated
MAY 24 1990
SW Exploration

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.

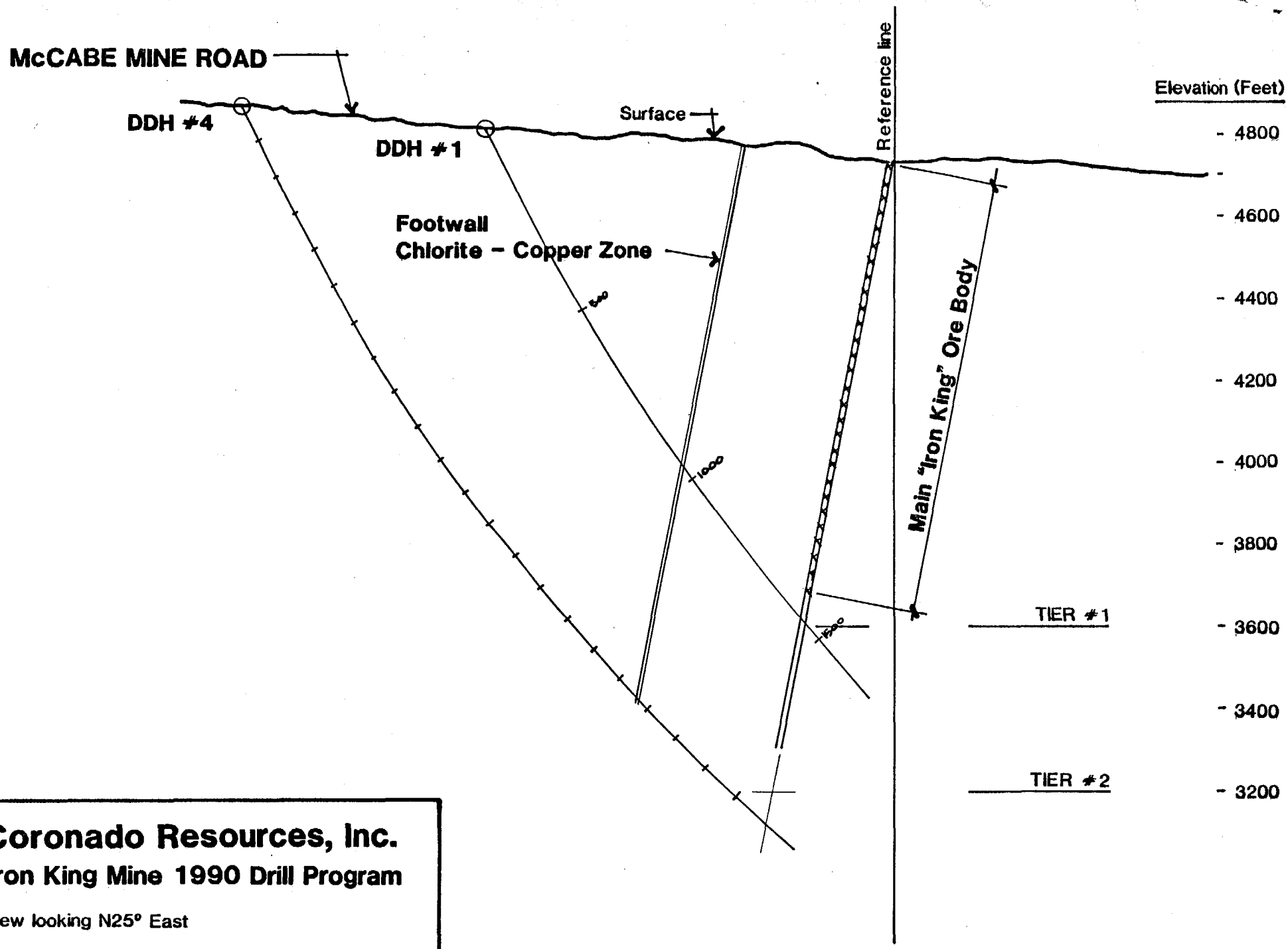
As previously announced, the Iron King Mine is a high-grade volcanogenic massive sulfide deposit that was mined continuously from 1906 to 1969 producing six million tons of ore averaging 0.22 oz/ton gold, 4.7 oz/ton silver, 3.0% lead, 9.0% zinc and 0.33% copper. In total, 693,454 ounces of gold, 20,626,000 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



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'

WHL

File

Iron King Yavapai Co., AZ

CORONADO RESOURCES INC.

ASARCO Incorporated

JAN 10 1990

SW Exploration

G. WARNOCK
PRESIDENT

January 9, 1990

To the shareholders of Coronado Resources Inc.:

1989 was, relative to the past several years, a pleasurable period for the mining industry. Gold prices firmed nicely and base metals soared. Several mines were reopened--and many companies turned the corner to achieve profitability. Regrettably, Coronado did not attend the party. We were busy cleaning up after the last one.

I'm referring, of course, to the less than enviable position we found ourselves when the Canadian investment banking firm, who had agreed to the "Flow Through" financing, was unable to fulfill the commitment to us when the financial market crashed in October, 1987. So, for the first three quarters of 1989, we had to focus our energies almost exclusively on the task of paying down debt. Although paying bills isn't as glamorous as sending them, I can report the task was performed well and without the use of BandAids. Today, we are essentially debt free and our cash position, albeit modest, is the best it's been in years.

Encouraging, too, were the successes of the fourth quarter. Ostensibly, the greatest of these achievements was the acquisition of Arizona's famed "Iron King Mine." However, the way that we financed the acquisition of the mine may well prove to be as valuable, if not more valuable, than the mine itself. I say this because it was done in concert with funding provided entirely by The Met Investment Corp. The Met is a polished group of sophisticated investors ranging from New York to Hong Kong who have made substantial investments in mining properties over the past few years. The Met and its stockholders have acquired over two million shares of Coronado, and we are pleased to have such a savvy group with us. The power and direction that this group brings to Coronado is difficult to over-emphasize. However, suffice it to say, they are our second most important strategic alliance. The first, of course, is our stockholders, as it is you who are the legal owners of this company.

8065 N. 85TH WAY • SUITE B-100 • SCOTTSDALE, ARIZONA 85258 • (602) 483-8002 • FAX (602) 483-8004

The net effect of what Coronado accomplished during this period is that your stock has quadrupled from where it was selling only a few months ago.

Several of you have expressed an interest in receiving both more frequent and less technical information in our shareholder reports. Beginning with this one, we will endeavor to explain our investments also in lay terms rather than merely describe them in geological terms. Also, you may now expect to receive these reports on a regular basis. Now, getting back to the Iron King. This is truly a world class property. In fact, it is the second largest known massive sulfide deposit in the United States. For over 62 years, the Iron King mining camp yielded six million tons of high grade precious and base metals (almost 700,000 ounces of gold alone) before prices necessitated its closure in 1968 with most produced in the last 25 years. (See production figures attached.) At that time, gold was $35/oz, silver was $1.12/oz and lead and zinc were $0.12/oz and $0.07/oz respectively. Today, metal prices and mining techniques are sufficiently improved so as to make the Iron King economically attractive once again--especially when you consider that massive sulfide-volcanogenic deposits* of this type are most commonly formed in clusters of two or three or more. In other words, there is a very high likelihood that another Iron King deposit as big--if not bigger--than the one previously mined exists on the same property--but has never even been scratched! Granted, the concept of being the majority owner in a new Iron King almost sounds too good to be true. Typically, if something sounds too good to be true, it probably is. However, it is actually rather simple to validate the odds of such an orebody existing which thereby substantiates the probability of our finding it. Worldwide there are numerous Precambrian mineral structures like the Iron King that sport this "cluster" characteristic--Noranda, Kidd Creek, Flin Flon, Jerome and Rio Tinto to name a few.

Obviously, finding the deposit and financing the deposit are two different things. But, because the economic possibilities of the property are obvious and because base and metal prices are strong, we have already been approached by several major mining companies interested in a joint venture on the Iron King with

---

*A "Massive sulfide-volcanogenic deposit" is one formed from the natural metal content of a volcano erupting under seawater, with those metals settling out into thinly layered, very fine-grained minerals composed of the metals and sulfur called "sulfides." They are termed "massive" because more than 50% of the resulting deposit may be relatively pure sulfide minerals with the valuable metal in them.

Coronado. While we are considering these proposals, monies provided by The Met are already banked and sufficient to allow Coronado to commence the first stage of the project ourselves.

We are also actively reviewing a number of situations with a view to acquiring one or more of them. Of particular interest, however, is the fact that our acquisition targets will be directed to the natural resources--not exclusively precious metals. We believe that by participating in new and different spheres of commerce, the cash flow problems that have embarrassed mining companies in the past can be greatly assuaged--if not entirely erased--by augmenting our mining interests with an ancillary revenue base. Therefore, we shall move purposefully and swiftly to turn this goal into an economic reality. Given the "Can Do" spirit that is the cache of the "New Coronado", we believe this goal to be realistic and entirely attainable.

In retrospect, the myriad of changes that Coronado has undergone in recent months has rendered the complexion of your company unrecognizable. I'm reminded of Dorothy when she said, "Toto, I have the feeling we are not in Kansas anymore." Indeed, Coronado doesn't stand in the same spot it used to occupy--even the headquarters have been moved to Scottsdale, Arizona to establish proximity and safeguard our crown jewel--The Iron King.

To sum it up, we are looking forward to the fulfillment of a New Year, a New Decade and a New Coronado. Thank you for your patience and support.

G. Warnock, President

This letter to the shareholders was prepared by G. Warnock, President of Coronado Resources Inc., who accepts sole responsibility for its contents. This letter has neither been approved nor disapproved by the Vancouver Stock Exchange.

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%

ASARCO

Southwestern Mining Department

December 4, 1989

MEMORANDUM

TO: T. E. Scartaccini

FROM: S. L. Lakosky

RE: McCabe Mine Tour

On November 29, 1989, Asarco personnel toured the McCabe Mine, located approximately 12 miles east southeast of Prescott, in Yavapai County, Arizona. In attendance were D. E. Crowell, J. D. Sell, J. L. Harasha and S. L. Lakosky of ASARCO Incorporated, G. Warnock and R. F. Pape (former employees of Stan West Mining Corp., which is the ex-owner of the McCabe Mine), and C. T. Yeh, Director of Elders Resources Finance Inc. (which is now the sole owner of the McCabe Mine).

After a three hour meeting in the McCabe office, D. E. Crowell toured the milling facilities with a McCabe mill employee, and the balance of the group toured the underground mine. Attached to this memo are reports by D. E. Crowell, J. D. Sell and J. L. Harasha.

Brief History

Stan West Mining Corporation (headquartered in Scottsdale, Arizona) began trading over the counter in 1981 and was listed on the NASDAQ under the symbol SWMC and on the Toronto Stock Exchange under the symbol SWM.

Stan West spent approximately $35 million to explore and develop the gold-silver McCabe Mine and 500 TPD CIP milling facility. Production began in September, 1988 and after 6 months of poor production, terminated at the end of February, 1989. The company reported a loss of $1.3 million in 1988, and after writing down $21 million, reported a $27.89 million loss for 1989.

Stan West was in default of approximately $8.5 million worth of loans from Australia based Elders Resource Finance Inc. In addition, another $4 million was owed to limited partners and another $2.1 million to suppliers.

In March and April, 1989, approximately 60 merger and joint venture candidates were contacted by Stan West and over 40 actually visited the mine.

After being unsuccessful in finding a merger or joint venture partner, Stan West transferred 100% of its ownership to their principal secured creditor, Elders Resource Finance Inc.

Stan West has already optioned its majority interest in the nearby Iron King (lead, zinc, gold and silver) mine to Coronado Resources.

At this time, Elders is attempting to sell the McCabe Mine and mill facility for approximately $8 million. According to Mr. Yeh, 10 companies have been contacted but only 5 companies including Asarco will be visiting the property.

General

During the last several weeks of production at the McCabe, Mr. George Warnock was hired as a consultant to identify problem areas and to implement changes. At the time, Mr. Warnock was president of Coronado Resources, Inc., and of Todilto Exploration and Development, and was experienced with small underground mining operations.

Mr. Warnock identified several major problem areas and suggested the following changes:

1) Replace the labor intensive scram and slusher mining method with a sub-level shrinkage method.

2) Replace the rail haulage system with rubber tired development ahead of rail where practical, and replace the haulageway drift chute pulling method with a footwall drift and drawpoint system.

3) As per a mill evaluation report filed by consultant S. Roberts in March, 1989, Mr. Warnock stated that simply following prudent milling practices should increase mill recovery to 85-90% vs the 50-76% recovery experienced during actual operation.

According to G. Warnock and R. Pape:

- Water consumption during operation was approximately 230 GPM, with 50-60 GPM coming from the underground workings and the balance from an old mining shaft in an area where McCabe has a long term lease.

- Electric power is purchased from APS for approximately 6.5¢/KW.

- The McCabe property includes no royalty payments but does include options on two patented claims, with one option at $12,000 per year with a $1.38 million buyout and the other option at $54,000 per year with a $148,000 buyout.

- The Groundwater Quality Permit is transferrable.

- Total manpower was as high as 212 during production, but Mr. Warnock has estimated the streamlined operation should operate at 104.

- Combined base metal content at 2-3% (mostly chalcopyrite and some chalcocite) resulted in NaCN consumption as high as 10 pounds/ton of ore.

<u>Ore Reserves</u>

As per Warnock's memo dated March 10, 1989, the consulting firm of Derry Michener Booth and Wahl (DMBW) calculated the mineable ore reserves to equal 347,000 tons at 0.305 opt Au with a cutoff grade of 0.10. However, Warnock explained in section 3.5 of his memo that DMBW did not properly account for dilution and that a grade of 0.250 opt Au should be used for the 347,000 ton reserve. Warnock explained that 70 - 80% of these reserves should shrink successfully. When asked about the 20 - 30% near the unstable Henrietta and East Fault Zones which is not likely to shrink, Warnock stated that a portion of this area might be successfully mined, and if not, other untested areas elsewhere will likely yield sufficient ore grade tonnages to make up for the loss.

Production Rate

Mr. Warnock stated in his March 10, 1989 memo that while the mill is certainly able to operate at 500 tons per day, the ore body configuration will not allow this scale of operation without massive development of yet to be defined ore reserves. Therefore, the McCabe property is being evaluated as a 300 TPD operation.

Additional Capital Investment

$2,500,000	Required to make the necessary changes in the mine and mill as per Warnock
$ 200,000	Estimated cost of installing a decant return system as suggested by D. E. Crowell to return cyanide and gold values to the system
$2,700,000	Total additional capital required prior to start-up

Operating Costs

The following costs are all based on a 300 ton per day, 9000 ton per month production rate:

$76.98/ton	Mine, mill, maintenance, G & A, including mine exploration and development as per G. Warnock's April 2, 1989 memo.
$5.55/ton	Estimated mine manpower adjustment from 71 to 85 as per J. L. Harasha.
$7.50/ton	Estimated mill operating cost adjustment as per D. E. Crowell.
$90.03	Total estimated operating cost/ton ore

$$\frac{\$90.03/\text{ton}}{(.25 \text{ opt Au})(.85 \text{ recovery as per D. E. Crowell})} =$$

$424 per ounce estimated operating cost

Conclusion

With a purchase price of $8 million, additional capital expenditures of $2.7 million to implement changes in both mine and mill, and with an estimated operating cost of $424 per ounce, the McCabe property shows virtually no promise of being an economic gold producer.

S. L. Lakosky

S. L. Lakosky
Mine Superintendent
Mission Unit

SLL/kh

ASARCO

Mineral Beneficiation Department
Tucson, Arizona

December 1, 1989

Mr. S. L. Lakosky
Mine Superintendent
MISSION UNIT

McCabe Property Visit
Milling Considerations

A description of the McCabe metallurgical flowsheet is attached. Comments regarding this flowsheet, past and predicted performance, and cost are as follows:

1. In general, this is a well designed and constructed gold mill and is easily capable of treating 500 tpd of McCabe ore. The grinding section is probably capable of treating 750-800 tpd, but this capacity would reduce leach time unacceptably and overload pumps and pipelines.

   This is Goldfield's old Ortiz gold plant and uses proven, if somewhat outdated, gold recovery technology.

2. The much publicized substandard performance of this mill in the past appears to be solely due to the operator's lack of knowledge regarding proper carbon-in-pulp gold cyanidation procedures. Comments by various consultants plus operations during the final few weeks under the direction of a knowledgeable CIP operator indicate that this plant is capable of achieving ±85% gold recovery on McCabe ore.

3. The most serious operating problem is crushing the wet sticky ore. If the mine can support a 500 tpd operation, it will be necessary to install a washing plant to address this problem. If only 300 tpd is treated, the crusher can probably get by; although, this will entail using more operating time and manpower than should be required. A washing plant should allow crushing on only one shift even at the 500 tpd rate.

   A preliminary cost estimate for a washing plant is given as $207,000. This is not included in the estimate for capital expenditures proposed by G. Warnock.

4. A gravity recovery circuit is definitely required to achieve good metallurgy with all ores, and the existing circuit will required some modification. Mr. Warnock's capital expenditure forecast allows $200,000 for these modifications which should be adequate.

5. The existing tailing dam appears to be well constructed and should hold another 200,000 tons or so, and the design includes provision for raising at least one more lift which should double or triple this capacity. The design incorporates only a single clay liner with french drains installed in the berm to reduce hydrostatic head. I believe the design assumed return of decant water to the mill to maintain a low pond at the dam and thereby minimize seepage. They have not installed a decant return system and, therefore, have built up a large pond behind the dam which causes a large flow through the drain system into the drainage collection pond which must be pumped back to the dam by an expensive rented portable diesel generator. The seepage problem could be resolved by returning decant water to the mill and maintaining a small decant pond to reduce the hydrostatic head. This will still require the portable generator or a power line run some 6,000 ft to the dam but would definitely be preferable to the present situation. This would also return cyanide and gold values to the leach circuit.

6. The milling costs are projected to be $16.50/ton at a milling rate of 500 tpd and assuming only 3.5 lb/ton sodium cyanide (or equivalent calcium cyanide) consumption. I suspect that this figure is optimistic in general and, in particular, I doubt that cyanide consumption can be reduced to this low level although it certainly can be reduced. A better figure to use would be a cyanide consumption of 5 lb/ton (assuming tailing decant return) and an overall milling cost of, say, $20.00/ton.

   If the mill will treat only 300 tpd, this cost will rise to $24.00/ton.

7. This one day visit allowed only a cursory review of this operation and there are many items requiring a more thorough look if we are seriously considering making an offer for this property.

D. E. Crowell

DEC:brw

Attachment

File - Misc. 2F

current

McCABE PROJECT

METALLURGICAL PROCESSING

The culmination of the mining operation is the deposition of ore on the surface. This initiates a sequence of events comprising the metallurgical operation, which results in the processing of one ton of ore to recover 10 grams of gold.

The ore is less than 12 inches in size. From the coarse pile a loader is used to charge a feed hopper. From the hopper ore is extracted with a pan feeder and conveyed to the jaw crusher, a Telesmith 25" x 36" unit set with a 3" closed side setting. The jaw crusher product discharges to the screen feed conveyor. A double deck Simplicity screen, 5' wide by 14' long, with a 1.5 inch top deck and 0.625 inch bottom deck removes material finer than 0.625 inches. Crusher product is conveyed to the fine ore stockpile. The material greater than 0.625 inch is subjected to another stage of size reduction in a 48 inch Telesmith cone crusher. The material exiting the cone crusher also reports to the screen feed conveyor. Thus all material must pass a 0.625 square mesh screen before leaving the crushing circuit. The fine ore pile has 1500 tons storage capabilities.

Ore is extracted from the fine ore pile with three 16" wide by 36" long Syntron vibrating feeders which discharge to the ball mill feed conveyor. Also, calcined crushed lime rock is added to the ball mill feed conveyor for alkalinity control. The materials report to the ball mill feed chute where process water is also added. The Marcy ball mill, a rotating cylinder 10' in diameter bv 14' long, contains a ball charge with a maximum 3" diameter ball. The ball mill discharge is pumped to Krebs hydracones or cyclones for material sizing. The cyclone overflow, the grinding circuit finished product, is 95 % less than 200 mesh or 74 micron in size. The remainder of the material is returned to the mill for additional size reduction. A gravity circuit consisting of a Duplex 26" x 26" mineral jig, 4' by 8' concentrating table, and pan filters is used to remove and recover coarse gold from the cyclone underflow with the remaining material returned to the mill.

Sulfide minerals can be extracted from the cyclone overflow with the utilization of four 100 cubic foot flotation cells. The sulfide concentrate is pumped to dewatering ponds for later reclamation and sale.

The cyclone overflow or flotation tailing flow to a 100 foot diameter Eimco dewatering thickener. The cyclone overflow contains 15% solids by weight, and the thickening step will increase the solids concentration to 50% by weight before becoming leach circuit feed slurry.

The leach circuit consists of five tanks, 24' in diameter and 26.5' high. The slurry is kept in suspension with 30 HP Prochem agitators. The initial tank is for preaeration, a requirement of complex sulfide ores. The oxidation of the sulfide surfaces reduces the cyanide requirement and reduces the quantity of sulfide minerals going into solution. The total retention time for the five tanks is 42.5 hours. To the second tank sodium cyanide is added. Previous testwork has indicated cyanide consumptions in the range of 6 pounds per ton. The method of cyanide addition, that is, single stage versus multiple stage, will be defined in the operating mode.

Leach circuit slurry exiting tank 5 contains 90% of the gold in solution. The slurry is passed over a Simplicity 3' x 6' screen for removal of any trash, and then enters the CIP circuit consisting of 5 tanks, 13.5' diameter by 17.0 feet high, and also agitated with Prochem agitators with 7.5 HP motors. These tanks have a retention time of approximately 10 hours, and contain 13 ton of carbon. With air lift pumps the carbon is advanced countercurrent to the pulp flow. Thus the No. 6 tank, the first slurry tank contains the carbon with the highest gold loading. The No. 10 tank, the last slurry tank, contains the reactivated carbon and is the last chance to recover soluble gold.

The slurry removed by airlift from tank 6 contains loaded carbon and is sent to the gold recovery building. The slurry is passed over a 3' x 6' Simplicity screen which recovers the loaded carbon, and the slurry is returned to tank 6. While on the screen the loaded carbon is washed and then educted to the desorption column. Stripped or barren electrolyte from the electroplating section is heated to near boiling, passed through the desorption column, and then to the electrowinning cell. Using a stainless steel anode and steel wool cathode, an electrical current is passed from the cathode to the anode using the sodium ion as the means of transport in the liquid phase. The gold plates to the steel wool which is systematically removed from the cell and subjected to pyrometallurgical techniques to recover the precious metals in a dore button, which is subsequently sold.

At the completion of desorption or carbon stripping, the carbon is educted to the regeneration kiln. The kiln is fired at 1100 degrees F to restore absorption power to the carbon by destroying adherent organics or inorganics. Carbon exiting the kiln is water quenched to prevent burning. The quenched carbon is educted to the acid treatment area. After soaking with nitric acid, the carbon is water washed, screened to remove fines created during handling, and then returned to the CIP circuit.

Slurry exiting the CIP circuit after a final screening is pumped to the tailings disposal area through 6000 feet of

pipe. The tailings containment basin contains a natural liner of clay, which is predominant in the area.

The main design objective for the tailings retention facility is the prevention of water quality degradation. The site selected is the uppermost section of a wash, which permitted full containment of all non-diverted surface runoff. Diverted runoff water quality was not to be impaired either.

The movement of groundwater within the local hydrogeologic system is largely controlled by the intensity of open fractures and joints within the essentially impervious rock mass. Any appreciable movement of groundwater can be expected to occur within the shallow, weathered rock profile.

To combat groundwater degradation, lines of defense were incorporated into the design and are listed as follows:

1. To obtain permits, a liner of some magnitude was required in the impoundment area. Selected clayey materials, onsite within the impoundment area, and with compaction provide this liner. Vertical seepage from the storage is minimized if not eliminated.

2. To reduce the hydraulic head or force necessary for the migration of seepage away from the impoundment, an underdrain system was installed. An interconnected system of lateral drains unite with the main drain which passes beneath the dam to a collection basin. The drains contain sized material for filtering the effluent and retaining the solids. The effluent passing through the filter zones flows to the collection pond. This pond is lined with a synthetic PVC liner. Also incorporated into its design is a leak detection system. Collection pond effluent is returned to the main containment, where evaporation controls the liquid content.

3. To monitor for seepage, pumpback wells are placed east or downstream from the collection pond. These wells fully penetrate the moderately permeable shallow rock profile of the drainage bottom, and will intercept any possible minor seepage. Effluent pumped from these wells will be placed in the collection pond. By pumping these wells a cone of depression or low pressure zone is developed. By maintaining a low pressure zone, preferential migration of seepage to this zone is encouraged.

Additional seepage control techniques or contingency measures are available if required. To control seepage that is above expectation, additional pumpback wells can be installed. Reinforcement of the depression zone occurs.

Seepage migrating through identifiable geologic structures or high permeable zones can be stopped by placing a grout

section or curtain in the solution path. Pumpback wells are installed upstream to remove the accumulation of solution created by the grout dam.

Four additional monitor wells are installed around the perimeter of the impoundment area. These wells penetrate the groundwater at least seventy feet. The wells have been sampled prior to production to establish base case data. These wells are sampled monthly during production, the samples submitted to a Phoenix laboratory for analysis, and a copy of the results forwarded directly to the State Department of Environmental Quality, Water Division.

The next two months will be an extremely busy but fruitful period. All efforts will culminate in an operating and producing gold mine.

ASARCO

Southwestern Exploration Division

November 30, 1989

S.L. Lakosky

McCabe Mine
Yavapai County, AZ

During the visit of 11-29-89 to the McCabe Mine, Yavapai County, Arizona, with you, Jim Harasha, and Don Crowell, the following impressions were gleaned:

1. The vein matter containing the gold value is very thin, ranging from several inches to perhaps as much as 2½ feet.

2. A quartz-sericite alteration selvage occurs on both walls of the vein matter. This may also range from six inches to 3 feet.

3. The stope workings naturally break to the outside of the quartz-sericite alteration and thus the natural break may range from a foot to 8 feet, and must be taken into consideration when calculating the "width of ore" in the headings, stopes, or by drill hole.

4. Extensive drifting and diamond drilling, as well as sampling control in drifts, raises, and stopes, must be part of the program to confirm stope availability.

5. The limit to the stopes and ore shoot runs appear to be strongly controlled (terminated) by change of strike and dip of the vein system both in strike and down plunge of the main mineralized zones.

   This is not to say that several such zones will not be found along strike, but as shown by the present stopes -- a waste zone is found between the present stopes and "ore reserve" information cannot be extrapolated along the full length of the structure, as they have apparently done in several cases.

6. The 350,000 ton "reserve" at 0.30 opt gold will need to be fully investigated based on the above thoughts to have some confirmation.

7. If mining, milling, and "geology" exploration costs per ton of ore cannot be lowered sufficiently to cover the value of gold times the recovered ounces per ton, then its a tough scene.

James D. Sell

James D. Sell

JDS:mek

cc: W.L. Kurtz

ASARCO

MISSION UNIT

December 1, 1989

TO: S. L. Lakosky

FROM: James L. Harasha

RE: McCabe Mine Visit

The McCabe Mine near Humbolt, Arizona was visited on November 29, 1989, by S. L. Lakosky, J. D. Sell, D. E. Crowell, and myself for the purpose of evaluation for possible purchase and/or investment.

A tour of the underground mine was made after a three (3) hour discussion with the mine representatives. The 14' diameter, 1,450' depth shaft services the mine with an over/under cage/skip in balance with another skip. The skips are of 4 ton capacity. The cage is very small (about 4' x 6") for a 14' shaft. The shaft is upcast ventilation. The ore hoisting facilities of this shaft should easily handle 500 tons per day of ore plus the movement of men and materials.

The mine has 4 main haulage levels at 835', 1050', 1250' and 1450' depth. General housekeeping is poor. The rail haulage tracks are very sloppy with mud and water. The drainage ditches are mostly filled with muck. We were informed that the mine makes about 50-60 gpm of water. The manway ladders to the stopes and scram/slusher drift were difficult and hazardous to travel. The mine has not been in production since March, 1989.

The present scram/slusher mining method is very labor intensive with low productivity. I thought the archaic manually operated loading chutes went out of use with the invention of compressed air, but this is the method used for loading cars at this mine. The writer agrees with George Warnock's memo contained in the Stan West Recapitalization Program, that shrinkage stoping and load haul dump equipment will improve the mine's productivity, but the possibility of the sticky muck could cause problems drawing broken ore from the shrinkage stopes. The stopes will be a maximum of 4' wide and a maximum of 200'

high. Shrinkage stoping permits only the draw of expanded material until the stope is completed to the next level up. If this muck isn't kept moving it will probably bridge across the 4' wide stopes. The writer estimates stoping could reasonably produce 10 tons per stope per shift. To achieve 350 tons per day on a 3 shift per day, 5 days per week schedule, 12 stopes would be required. This number of available stopes seems reasonable unless the sticky muck is a severe problem and stopes become muck bound. Twelve (12) stopes x 12 tons per stope x 3 shifts per day = 432 tons per day. Twelve (12) tons can be produced from a volume of 4' x 6' x 6'.

With reference to Table 6-1 of the Stan West Recapitalization Program (300 tons to mill [430]), the writer believes the 71-mine manpower should be increased to 85 for 430 tons per day from the mine and a 5 day per week schedule. The increase in manpower will increase the labor costs by about $50,000 in the Table 6-1. With all other cost estimates remaining the same except with a 15% contingency add on, the cost per ton increased from $73.28 to about $90.65. This estimated mining cost with 0.25 oz. of recoverable gold, the break-even point is at $363 gold.

The ventilation requirements for diesel load haul dump equipment has not been studied. The upcast main hoisting shaft should meet the requirements but the intake air passages through old abandoned workings is not known. An emergency second escapeway is required and has not yet been developed. This shaft will provide additional incoming fresh air

This mining property is very grade and gold price sensitive as noted in the mine report. Optimum productivity will also be very essential for a favorable financial outcome. Personnel experienced in narrow vein mining will also be necessary. I don't think my estimate of a total of 85 people for the mine is too many.

J. L. Harasha
Mining Engineer

JL/lb

ASARCO

Southwestern Exploration Division

JDS

November 30, 1989

S.L. Lakosky

McCabe Mine
Yavapai County, AZ

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James D. Sell

James D. Sell

JDS:mek

cc: W.L. Kurtz

McCabe Mine
Yavapai Co., AZ

M E M O R A N D U M

DATE: March 7, 1989

TO: G. Warnock

FROM: R. F. Pape

SUBJECT: McCABE MINE ORE RESERVES, DEVELOPMENT DRIFTING AND DIAMOND DRILLING

OBJECTIVE

At your request the following items have been addressed in this report.

1. Current ore reserves at the McCabe Mine on the Purple, Red and Blue Veins

2. Impact that SWMC has made on these reserves

3. Development required to access the remainder of the DMB&W mining reserves

4. Development necessary to develop future reserves at the rate of 175,000 tpy

5. Amount of diamond drilling required to define new reserves and to provide "ore shoot" delineation in areas of moderate to poor geologic control

SUMMARY

To date SWMC has extracted 32,000 tons of ore from stope inception from the Purple, Red and Blue veins at a grade of 0.230 ounces per ton gold from twenty-one stopes averaging 149.5 feet in strike length developed on the four production levels of the McCabe-Gladstone Mine (see Table I). These "pulled tons", not broken tons, represent approximately 9% of the DMB&W 362,000 ton mine reserve at a $\geq$ 0.100 gold cutoff.

Tables II and III summarize reserves contained in the Red, Purple, and Blue veins that are comparable to the same reserve blocks tabulated by DMB&W. "In place" mining reserves on these three zones totals 252,000 tons at a grade of 0.330 opt gold.

The above "in-place tons" include 71,600 tons @ 0.335 not presently accessed. In order to complete access of the above "in place" tons, 1055 feet of 8'x 8' drift and 1080 feet of raise development is required.

At a production rate of 175,000 tpy the current in place reserves will be depleted in 1.4 years. To date, it has been demonstrated at the McCabe Mine that each foot of development drifting on structure will yield 30 tons of ore reserves. To replace 175,000 tons per year will therefore require 5800 feet of development per year, or 22.5 feet per day (5 day week). This schedule requires four development headings on a single shift basis or a similar combination of single and double shift headings to average 22.5/day.

The above discussion does not include mining reserves tabulated by DMB&W for the Gold, Green, Orange, and Flesh veins totaling 97,000 tons at a grade of 0.240. This would bring the total remaining in-place reserves to 349,000 tons at a grade of 0.305 opt gold. Development required to access these additional 97,000 tons is summarized in Table V.

Underground diamond drilling at McCabe has two goals:

1. To extend known ore shoots and to define general ore outlines within known ore boundaries.

2. To define ore horizons that are poorly understood at this time and to find <u>new</u> ore bearing structures.

Historically, 5 tons of ore per foot of diamond drilling has been shown to be reasonable at McCabe. An underground diamond drill program of 15,000 feet per year is viewed as the minimum footage to carry out the above goals.

Table II and III: Explanation

The data tabulated in Tables II and III was grouped to compare the DMB&W mining reserves with the present stope limits. This takes into account areas where mining reserves were credited but no "ore grade" material was encountered in the drift and areas where drifting has established reserves beyond the DMB&W mining reserve limits.

All widths were taken at four feet and no accounting was made for dilution beyond four feet. All stope limits on the levels were determined at a $\geq$ 0.100 opt gold cutoff. Tonnages were calculated between levels where there was grade on the above level. If the above level was not in ore, then the block was taken half-way to the above level. No tonnage was calculated below the 1450 level with the exception of a 20 foot sub-sill below the 1450 level.

No calculation was made on development necessary to complete the 21 stopes currently underway. The proposed development addresses those ore blocks that are outside of the present stopes construction.

All ore blocks were calculated using the present knowledge of ore shoot rake and areas were determined by planimetric methods on 1"=200' longitudinal maps.

Grade on remaining reserves was determined by weighting the recovered tons and grade with the remaining tons times the mine reserve grade. This is felt to be a reasonable approach in view of the fact that only 9% of the reserves have been extracted and a high percentage of tons to date have come from stope preparation.

Red Vein

The Red Vein contains the greatest tonnage of mining reserves not yet accessed of all the veins. The remaining 54,000 tons of unaccessed reserves are carried at a grade of 0.389 opt gold. Future development should place emphasis on these blocks, A,D, & E Red Vein.

SWMC has increased tonnage on the Red Vein by 31% from 81,440 to 106,600 tons. (see Figure I)

Overall ground conditions on the Red Vein are fair. Stope walls in 833-8N and portions of 833-10N sloughed badly in the vicinity of the East Fault. Much of the wall rock in these stopes exhibits heavy iron oxide alteration which may be due to the close proximity to the old McCabe levels which were flooded and then dewatered twice in recent years.

Block A on the Red Vein can be developed using part of the old McCabe 800 level and driving FW run-around with draw points.

Access to block D presents somewhat of a problem in that only 70 feet of the Red Vein is drifted on and it appears that the East Fault truncates the majority of the Red Vein above the 1250 Level (see Figure I). It is suggested that Block D be accessed by driving an 8'x 8' southwest from the Red Drift on 1250 a distance of 130'. Drilling in this area indicates that the East Fault and the Red Vein have a slight separation.

Blue Vein

Only Block B on the Blue Vein remains unaccessed. This block contains 4700 tons of low grade ore, 0.132 opt gold, and does not represent a high priority for development.

SWMC drove over 200' of 8'x 8' drift on the Blue Vein south of the Sooner Shaft of which only 130' ran 0.120 opt gold over a calculated four feet.

Purple Vein

Actual mining reserves on the Purple Vein have decreased by 4% from the DMB&W reserves of 152,000 tons to 146,300 tons. This decrease is primarily due to block C. (see Figure III) There may still be reserves in this area, but a detailed diamond drill program is required to test the HW of the Purple Vein drift.

By extending 1450 Level Purple Vein north 250 feet, Block L can be accessed and the level can be used to diamond drill the Blue and Red Zones. Block L is the down rake extension of Stope 8N-1250 and has an excellent potential to double in size if the ore extends all the way to the 1450 Level.

Stopes 2S and 0+00 have been tapered upward to reflect the narrower ore on the 833 Level. (see Figure III) This may reflect a pinching out of this zone.

Mine Development

As stated in the summary, the mine requires a minimum development of 22.5 feet per day to develop "new" reserves. Tables IV & V summarize the development required to access current mine reserves. This total, 2655 feet, is in addition to the 22.5 feet per day. Timing on the 2655 feet is critical as it can not be spread over one year but should be completed in six months. This brings the total development per day up to 42 feet/day for the first six months.

Priority on drift development to access current reserves should be given to the 1250 Red Vein Block D and the 1050 Green Vein Blocks A_1, A_2, and B. Together these four blocks contain 50,500 tons @ a grade of 0.394 opt gold. The only downside to this is the poor showing to date of the 1250 Level Gladstone drift. Diamond drilling is in progress to ascertain the presence of parallel or sub-paralled veins in the FW/HW of the haulage drift. Continuation of this drift is essential to prove-up new reserves beyond Block B and down dip of the new ore shoot (see Figure IV).

Diamond Drilling

The planned 15,000 feet of diamond drilling for the next year should be broken down as follows:

1. Delineate current ore reserve blocks to control ore/waste boundaries and to expand internal reserves within known ore shoot.

2. To find new ore outside of the present ore shoots.

To accomplish item No.1 it is suggested that the Pack Sack Drill be kept on a full time basis drilling FW/HW holes up to 100' in length on a systematic basis at spacings along the drift of 100-150'. This will enable SWMC to constantly test the FW and HW's for parallel and sub-parallel structures. Estimated cost per foot for the Pack Sack machine is $7-9. Total footage from one shift per day, five days per week should average 140 feet per week or 7280 feet per year.

Finding new reserves requires 1) a larger diamond drill and 2) drill stations off the vein. It is suggested that SWMC consider the purchase of a CP-65 or similar column mounted air drill capable of drilling up to 300-350' holes of N-sized core. Such a machine should be capable of drilling 25-30 feet per shift, including moves, set-up time and allowing for down time. This would yield a minimum of 6500 to 7800 feet per year on a one shift per day, five day per week basis. Cost per foot on this machine would be $20-22 per foot if contracted or $9-12 per foot if SWMC owned and operated the machine.

This diamond drill program is the minimum necessary to add new reserves and define existing reserves within the known ore boundaries. At 5 tons of ore per foot drilled, this drilling program is capable of defining 32,000 to 39,000 tons of new ore annually.

03/07/89

TABLE I

STATUS: I=INACTIVE, A=ACTIVE

STOPE PRODUCTION

LEVEL	VEIN	STOPE	STATUS	ACTUAL TONS TO DATE	ACTUAL GRADE AU	MINING RESERVE TONS	MINING RESERVE GRADE
833	P	2S	I	75	0.040	NO RESERVES	
	P	5N	I	1108	0.062		
	R	8N	A	3700	0.210	0	
	R	10N	A	3586	0.278	22831	.398
1050	P/H	3S		421	0.122		
	P	2S	A	1473	0.225	7742	.345
	P	0+00	A	2001	0.450	12335	.501
	P	2N	I	774	0.120	4860	.328
	R	5N					
	R	6N	A	3103	0.485	19382	.492
	R	8N	A	713	0.264	NO RESERVES	
	P	7N	I	440	0.161		
1250	G	8S	A	821	0.188		
	P	2S	A	4234	0.119	2943	.428
	P	2N	I	1392	0.168	6512	.440
	P	5N	A	1940	0.219	16495	.356
	P	8N	A	2343	0.201	9476	.289
1450	B	1S		1569	0.103	4480	.435
	B	1N		615	0.178	2995	.237
	B	2N		847	0.187	5177	.273
	P	3N		496	0.155	NO RESERVES	
		TOTAL		31661	@0.230		

RESERVES

SOURCE OF DATA FROM CAR MUCK SAMPLES

RED VEIN TABLE II

LEVEL STOPE	MINE Mthd	MINE RES DMB-W TONS	GRADE	ACTUAL RESERVES TONS	GRADE	TONS TO DATE EXTRACTED TONS	GRADE	REMAINING RESERVES IN PLACE TONS	GRADE	REMARKS
700 A	S*	12,200	0.474	15,700	0.474	0	0	15,700	0.474	Block A, not yet accessed
833 B	S/SL	10,630	0.311	18,200	0.311	6,630	0.248	11,600	0.289	Includes stopes 8 + 10 North
1050 C	S/M	20,200	0.476	34,300	0.476	3,240	0.439	31,000	0.472	Includes stopes 5,6 + 8N
1250 D	S*	22,480	0.438	22,480	0.438	0	0	22,480	0.438	Block D not yet acessed
1450 E	S*	15,930	0.237	15,930	0.237	0	0	15,930	0.237	Block E not yet accessed
TOTAL		81,440	0.397	106,600	0.404	9,870	0.311	96,710	0.404	
REMAINING RESERVES @ 70% (TO ALLOW FOR PILLARS & WASTE)								67,700	0.404	

BLUE VEIN

LEVEL STOPE	MINE Mthd	MINE RES DMB-W TONS	GRADE	ACTUAL RESERVES TONS	GRADE	TONS TO DATE EXTRACTED TONS	GRADE	REMAINING RESERVES IN PLACE TONS	GRADE	REMARKS
1250 A	S*	4,458	0.299	4,458	0.180	0	0	4,458	+0.120	Accessed but not developed, 130' of drift
1450 B	S*	4,660	0.132	4,660	0.132	0	0	4,660	0.132	Not yet accessed
1450 C	S/M	11,380	0.237	11,380	0.237	1,462	0.183	9,918	0.230	1 & 2 North plus sub sill
1450 D	SL	8,345	0.337	8,345	0.337	1,569	0.103	6,776	0.293	1S south stope
TOTAL		28,843	0.259	28,843	0.259	3,031	0.142	25,812	0.210	
REMAINING RESERVES @ 70% (TO ALLOW FOR PILLARS & WASTE)								18,068	0.210	

+ = Grade based on drift assays

S = Shrink, S* = Proposed Shrink, SL = Sub Level, M = Modified Shrink

PURPLE VEIN

TABLE III

LEVEL	STOPE	MINE Mthd	MINE RES DHB-W TONS	MINE RES DHB-W GRADE	ACTUAL RESERVES TONS	ACTUAL RESERVES GRADE	TONS TO DATE EXTRACTED TONS	TONS TO DATE EXTRACTED GRADE	REMAINING RESERVES IN PLACE TONS	REMAINING RESERVES IN PLACE GRADE	REMARKS
833	A	N	10,630	0.311	5,500	0.311	1,108	0.062	4,400	0.261	5 North Stope
833	B	S*	3,200	0.361	3,200	0.311	0	0	3,200	0.311	Drift development complete, stope not prepped
1050	C	SL	13,500	0.348	7,400	0.348	440	0.161	7,000	0.335	7 NS E. Fault cuts ore in stope, needs drilling
1050	D	SL/S	19,200	0.425	16,000	0.425	2,775	0.358	13,200	0.413	Includes 0+00 + 2 N stopes, 0+00 (11,200T)2N (4800T)
1050	E	S/N	12,500	0.307	17,700	0.307	1,473	0.225	16,200	0.300	Stope 2S
1050	F		2,000	0.125	0	0	0	0	0	0	Included in stope 2S
1250	G	S*	2,000	0.125	2,000	0.125	0	0	2,000	0.125	Not included in stope 2S
1250	H	SL/S	14,500	0.226	12,800	0.226	4,234	0.119	8,600	0.191	Stope 2S
1250	I	S*	22,000	0.386	21,700	0.386	1,392	0.168	20,300	0.372	Stope 2N, minus Block @ 5-833
1250	J	N/SL	14,100	0.356	14,100	0.356	1,940	0.219	12,200	0.337	Stope 5N
1250	K	S	11,400	0.236	11,400	0.236	2,343	0.201	9,100	0.230	Stope 8N 3500 tons with no stope prep
1450	L	S*	7,800	0.226	7,800	0.226	0	0	7,800	0.226	Not accessed
1450	M	S*	8,100	0.346	*	*	496	0.155	11,000	0.338	*Areas M&N included in 5N stopes
1450	N	S*	8,100	0.405	11,500	0.405					
1450	O	S*	5,000	0.113	5,000	0.113	0		5,000	0.113	Drift dev complete, stope not prepped
1250	8S	S*	0	0	10,200	0.188	821	0.188	9,400	0.188	Stope 8S not in DHBW Reserves, Gold Vein
TOTAL			151,696	0.324	146,300	0.312	17,022	0.186	129,400	0.303	

I. REMAINING MINE RESERVES (IN PLACE) - TOTAL 251,922 TONS @ 0.329

II. SUMMARY OF REMAINING MINE RESERVES @ 70% (TO ALLOW FOR PILLARS & WASTE)

PURPLE	90,500	0.298
RED	67,700	0.404
BLUE	18,100	0.210
TOTAL	176,380	0.329

DEVELOPMENT SUMMARY

TABLE IV

MINING RESERVES NOT YET ACCESSED FOR STOPE PREPARATION

(Purple, Red, Blue Veins)

LEVEL	VEIN	STOPE	TONS GRADE	8 X 8 DRIFT ON VEIN	X-CUT	RAISES	REMARKS
700	RED	A	15700 0.474	400'		2 @ 90' = 180'	Can use 800 level of old McCabe or drive 400' of FW drift; use vertical raises
1250	RED	D	22480 0.438	130'		2 @ 250'= 500'	Drive raises along ore waste contacts
1450	RED	E	15930 0.237	165'		1 @ 200'= 200'	Raise @ ore-waste boundary, diamond drilling needed below East fault, below 1250-8, drill from Blue Vein
1450	PURPLE	L	7800 0.226	250'			Drilling in upper portion of block indicates low grade material This drift should be driven first, can be used later to drill
1450	PURPLE	O	5000 0.113	-		1 @ 200'	Red & Blue Veins
1450	BLUE	B	4660 0.132	110'			This area should be drilled from above Purple Vein drift first
TOTAL DEVELOPMENT			71570 TONS @ 0.335 OPT AU	1055'		1080'	

DEVELOPMENT SUMMARY

TABLE V

(Gold, Green, Orange, Flesh Veins)

LEVEL	VEIN	STOPE	TONS GRADE	8 X 8 DRIFT ON VEIN	X-CUT	RAISES	REMARKS
1050	Gold	A1,A2,B	28000 0.358	1000		2 @ 100' 1 @ 150'=350'	Drifting under Block B could double tons & ounces
1250	Gold	A2	13900 0.358	400			To access down dip extension of B Block
1050	Green	C	4400 0.188			2 @ 60' =120'	This area currently being worked on 1050 Level Stope 3 south 2 angled raises @ 60' each
1250	Green	D	12000 0.137			2 @ 200'=400'	Grade along the Henrietta is low. Drift development complete
1450	Green	E	6200 0.113	200'		2 @ 200'=400'	Current 1450 heading is close to Block E
TOTAL			64500 TONS @ 0.282 OPT AU	1600'		1270'	

DIRECT COST NECESSARY

TO ACCESS BLOCKS SUMMARIZED

IN TABLES IV & V

I. Purple Red & Blue Veins:

Drift Development = 1055 ft @ $128/ft = $135,040
This accesses 71,570 tons

II. Gold, Green, Orange & Flesh Veins:

Drift Development = 1600 ft @ $128/ft = $204,800
This accesses 64,500 tons

TOTAL DIRECT COSTS = $339,840

ADDENDUM TO RFP REPORT

EXPLORATION PROGRAM: CAPITAL COSTS

DRILLING EQUIPMENT

$2000	Pack Sack (JKS-25)
	SWMC owns a JKS-25 drill at this time. The only capital costs that should be considered relative to this machine would be an adequate inventory of spare parts to include drill rods and core barrel assemblies.
$8000	CP-65 (or equivalent)
$18000	500' Rods, core barrels, 1 dozen bits, miscellaneous equipment for CP-65.
$28000	TOTAL CAPITAL COSTS

EXPLORATION COSTS - DIRECT/MONTH

PACK SACK DRILL

1 Man 5 Days/Week @ 4.3 weeks/month @ $12/Hr = $ 2064/Month

CP-65

Same for Driller = $ 2064/Month

Helper @ 172 Hrs/Month x $8/Hr = $ 1376/Month

==========

DRILLING COSTS

Packsack (JKS-25)

600 Ft/Month @ $9/Ft = $ 5400/Month

CP-65

645 Ft/Month @ $12/Ft = $ 7740/Month

==========

TOTAL COST/MONTH	=$ 13140/Month
TOTAL COST/YEAR	=$157680
TOTAL COST/TON @ 175,000 TPY	=$ 0.90/Ton

BREAKDOWN OF JKS-25 COST/FT

Bit Life @ 80'/Bit		
Cost 125.50/Each	=	$1.60/Ft
Lifter Cases & Springs		
40' Each Total Cost 45.90/40'	=	$1.15/Ft
IEW Rods		
5' Rod Last 500' Cost per 5' Rod $95	=	$0.20/Ft
Miscellaneous Parts/Equip		
Motor Parts, Jackleg etc. Core Barrel Assembly Est @	=	$0.50
		=========
TOTAL MACHINE COSTS	=	$3.45/Ft
Core Boxes		
Ax Boxes @ 1.55 ea, box holds 10' of core	=	$0.16
Labor		
25'/Day @ $96/Day	=	$3.84/Ft
TOTAL COST/FT	=	$7.45

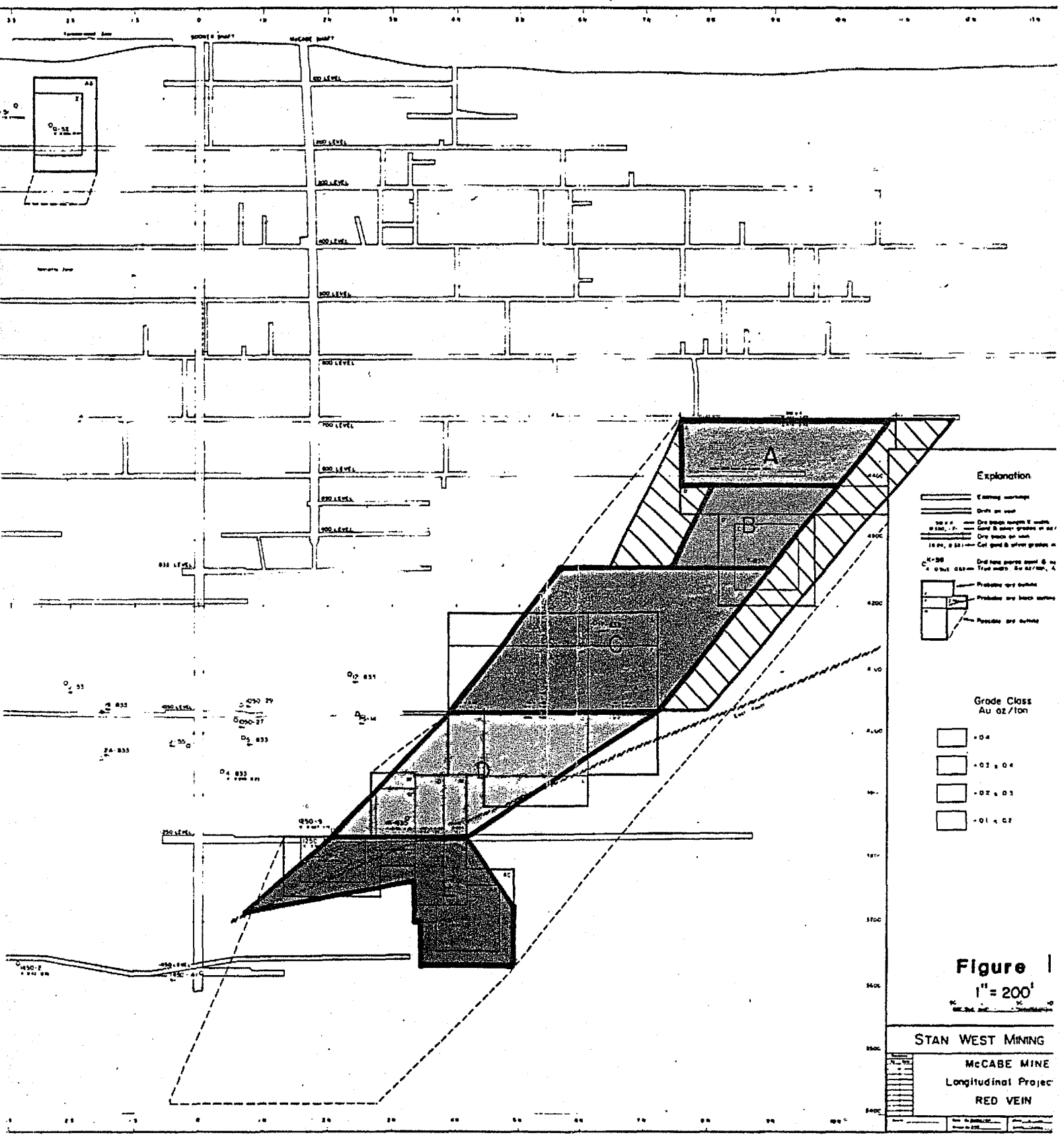
3/13/89

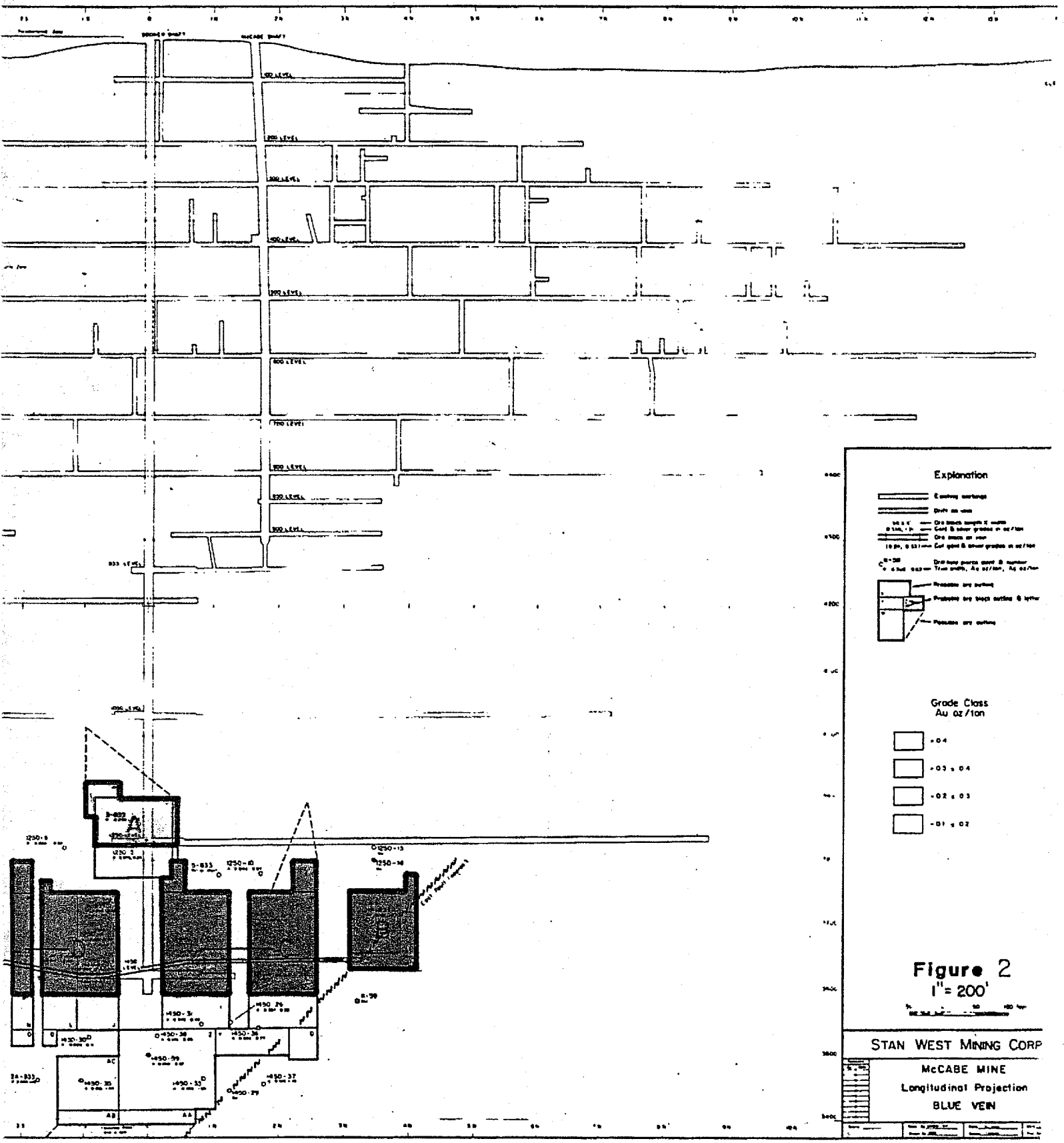
ADDENDUM TO
R. F. Pape Report
Dated 3/7/89

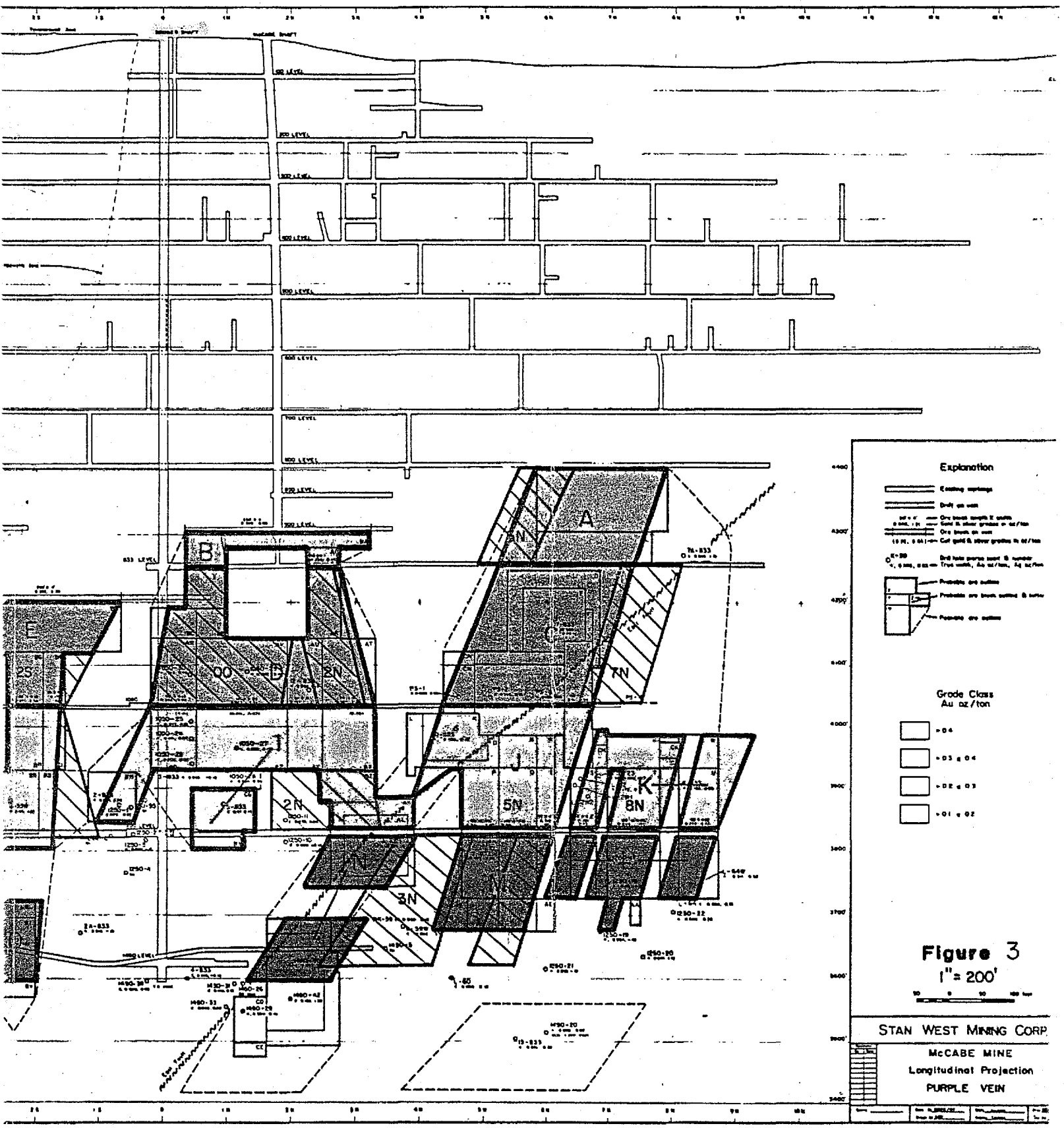
(1) Total "in-place" reserves on the Red, Purple, Blue, Gold, Green, Orange and Flesh Veins equals 348,900 tons at a grade of 0.304 opt gold.

(2) Remaining reserves minus 30% for waste and pillars on the above veins totals 244,200 tons. Leaving waste sections within each stope block should have the effect of grade enhancement. Assuming that the 30% left for pillars and waste sections averages 0.15 opt gold, the remaining 70% or 244,200 tons would have a grade of 0.370 opt gold.

(3) Using a dilution factor of 15%, the above 244,200 tons @ 0.370 opt gold would change to 280,800 tons @ 0.315 opt gold.


A
B
C
Explanation
Grade Class
Au oz/ton
Figure 1
1" = 200'
STAN WEST MINING
McCABE MINE
Longitudinal Projec
RED VEIN


Explanation
Grade Class
Au oz/ton
Figure 2
1" = 200'
STAN WEST MINING CORP
McCABE MINE
Longitudinal Projection
BLUE VEIN


Explanation
Grade Class
Au oz/ton
Figure 3
1" = 200'
STAN WEST MINING CORP.
McCABE MINE
Longitudinal Projection
PURPLE VEIN

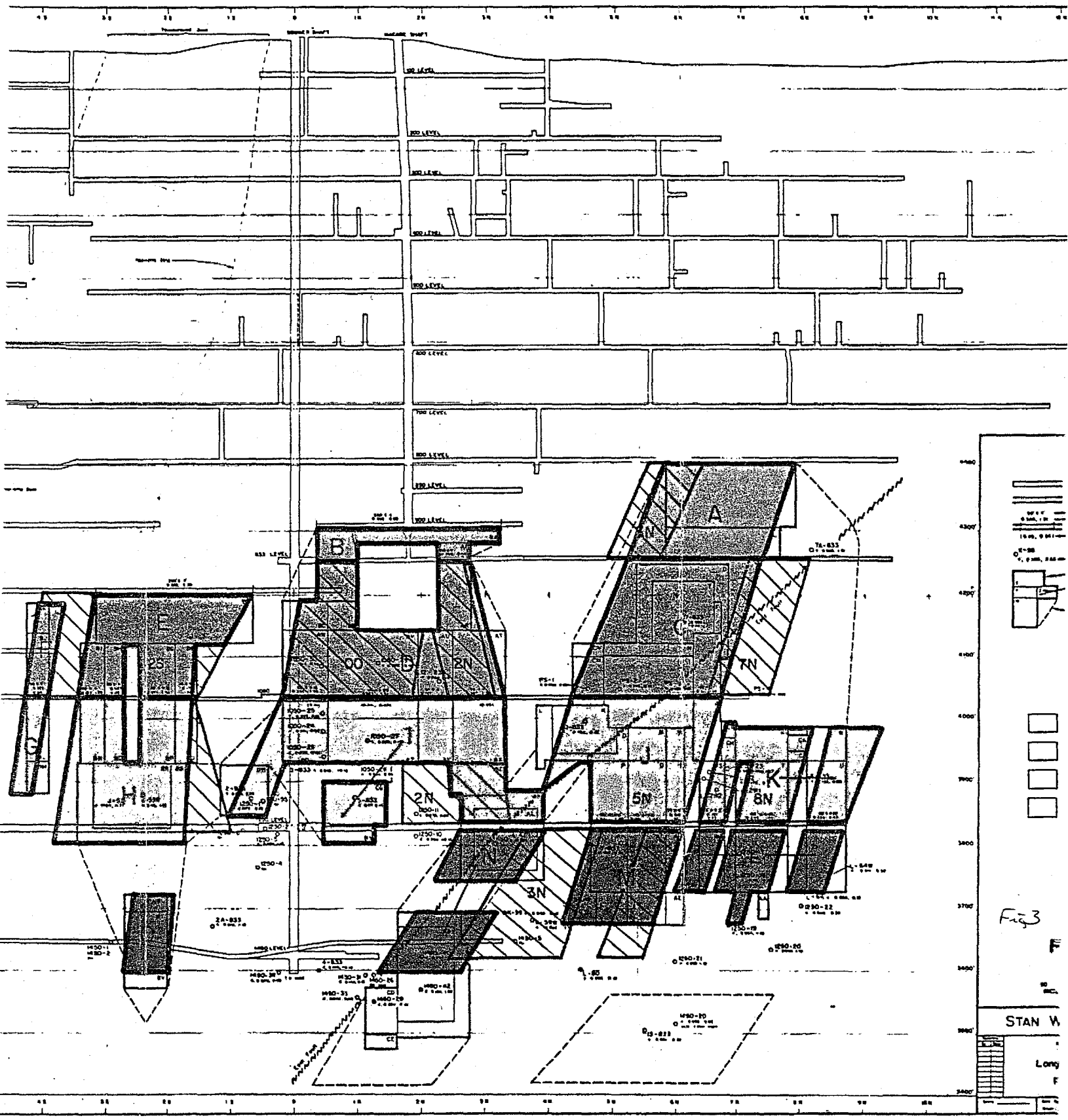

A
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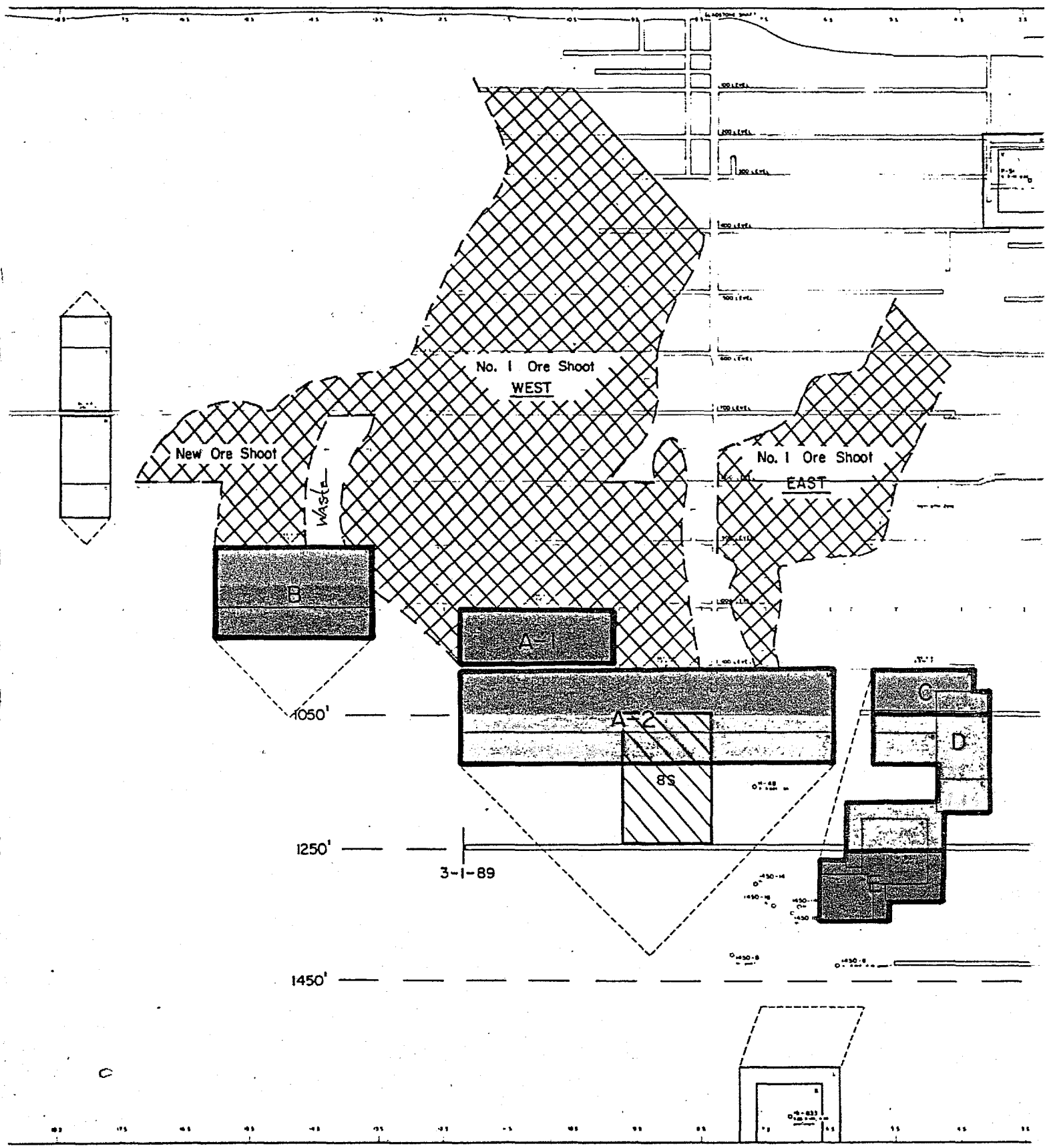
Fig 3
STAN W



Green's Gold Vein

Fig 4

JDS

CORONADO RESOURCES INC.

G. WARNOCK
PRESIDENT

November 6, 1989

Mr. J. D. Sell, Manager
ASARCO
1150 North 7th Avenue
P.O. Box 5747
Tucson, Arizona 85703

ASARCO Incorporated
NOV 7 1989
SW Exploration

Dear Mr. Sell:

Per our telephone call, I am enclosing two reports on the Iron King Project owned by Coronado. The first, by Richard Pape for Coronado, is a well documented, detailed geological/exploration report aimed at your exploration professionals.

The second report by Richard Pape and Stan Holmes, done early in the year for Stan West Mining, is a more economically oriented report. Between the two, they tell the complete story on the Iron King Project--even though there is some repetition between them. Please note in the Stan West report the appendix "Projected Net Smelter Return." Based on overall metal recovery in the historic orebody and today's metal prices and smelter terms, at only 750 tons per day the property could produce $27,000,000 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.

8065 N. 85TH WAY • SUITE B-100 • SCOTTSDALE, ARIZONA 85258 • (602) 483-8002 • FAX (602) 483-8004

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 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 companies known to specialize in lead zinc massive sulfide volcanogenic deposits.

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 also will require a $100,000 U.S. front payment followed by like annual payments as long as the new joint venturer continues up to--but not past--the $3.5 million property expenditures.

Both myself and Richard Pape 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.

Sincerely,

George F. Warnock

GFW/sem

Enclosures

ASARCO Incorporated
NOV 8 1989
SW Exploration

NEWS RELEASE

October 10, 1989

CORONADO RESOURCES INC. (CRD-V) and STAN WEST MINING CORP. (SWMC) jointly announced today that Coronado has signed a Letter of Intent to acquire control of Stan West's Iron King Mine in Yavapai County, Arizona near Prescott.

The Iron King Mine is a high-grade volcanogenic massive sulfide deposit that was mined continuously from 1906 to 1968 producing 6 million tons of ore. The mine closed in 1968 when gold, silver, and base metal prices were very low. 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.

Coronado has committed to a first-year expenditure of $500,000 firm, followed by an additional $3,000,000 in stages, if justified, to earn 80% of the property and is the operator. Coronado is seeking private placements to finance the program.

Dated Scottsdale, Arizona this 10th day of October, 1989.

G. Warnock, President

This News Release was prepared by G. Warnock, 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.

ASARCO Incorporated
NOV 8 1989
SW Exploration

CORONADO RESOURCES INC.

PRESS RELEASE

Scottsdale, Arizona, October 19, 1989 - Coronado Resources Inc. (CRD-V) announced today that it has completed a private placement subject to the Vancouver Stock Exchange and British Columbia Securities Commission approvals for financing the first stage exploration on its newly acquired Iron King Arizona property.

The company will place 1,000,000 shares at $0.15 and each share will carry 500,000 "A" warrants and 500,000 "B" warrants. The "A" warrants must be exercised within 90 days from the record date at $0.30 per share and the "B" warrants are good for 180 days at $0.40 per share. If all warrants are exercised, the company will receive $500,000--its first stage commitment on the Iron King property.

No commissions are being paid. The market price of the shares at the close on October 18, 1989 was $0.15.

As previously announced, the Iron King Mine is a high grade volcanogenic massive sulfide deposit that was mined continuously from 1906 to 1968 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. This production, at current metal prices, would be worth over a billion dollars. The mine closed in 1968 when 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.

Coronado has committed to a firm first year expenditure of $500,000 Cdn, followed by an additional $3,000,000 Cdn in stages, if justified, to earn 80% in the property and is the operator.

Dated Scottsdale, Arizona this 19th day of October, 1989.

G. Warnock, President

This News Release was prepared by G. Warnock, 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.

LETTER OF INTENT

LEASE AND OPTION TO PURCHASE

B E T W E E N:

CORONADO RESOURCES INC.
a corporation formed under the laws
of the Province of British Columbia, Canada
(hereinafter called "CRD")

of the one part

- and -

STAN WEST MINING CORP.
a corporation formed under the laws
of the State of Delaware, USA
(hereinafter called "SWMC")

1. In consideration of the sum of US$10.00 (Ten Dollars, United States currency) now paid by CRD to SWMC, the receipt and sufficiency whereof is hereby acknowledged by SWMC, and further in consideration of the covenants and agreements by CRD hereinafter contained, SWMC hereby grants to CRD an irrevocable option, exercisable as hereinafter provided, to acquire 80% of its interests of whatsoever nature in the patented and unpatented mineral claims in the Big Bug Mining District, in the State of Arizona, known as the "Iron King Property", as described in the Schedule hereto (hereinafter called the "Claims").

2. During the currency of this agreement, and until such time as it is either terminated in accordance with the terms hereof, CRD or its assignee shall make all option payments due to third parties in respect of the Claims.

3. In order to maintain the option hereby granted in good standing, CRD or its assignee shall make the following expenditures by way of exploration expenses on the Claims, namely:

   (a) during the period to 30th September 1990, the sum of $500,000.00 Cdn; and

   (b) during the period from 1st October 1990 to 30th March 1993, the further sum of $3,000,000.00 Cdn

   provided that the total expenditure obligation on exploration expenses shall not exceed $3,500,000.00 Cdn during the period ended 30th March 1993.

4. CRD or its assignee shall be the manager and operator of all exploration programs on the Claims during the currency of this agreement.

5. After CRD or its assignee has completed expenditure of exploration expenses to a minimum of $3,500,000.00 Cdn as provided in clause 3 above, it shall have the right to exercise the option hereby granted by notice in writing given to SWMC at any time until 30th September 1993.

6. Upon exercise by CRD or its assignee of the option hereby granted the parties shall enter into a formal Purchase Agreement in respect of the Claims, in which CRD shall have an 80% interest and SWMC shall have a 20% interest. The formal Purchase Agreement shall be in such a form as is usual in such circumstances, with the terms being determined by counsel for the parties and, in the absence of agreement as to any such terms, as may be fixed by an independent third party acting as an arbitrator; provided that the formal Purchase Agreement will contain provisions in any event to the following effect:

   (a) that CRD or its assignee shall be the manager of the property, upon terms in accordance with standard industry practice;

   (b) the net profits interest of SWMC shall be 10% until all costs have been recovered by the other party (in accordance with standard industry accounting practices), and shall then be increased to a 20% net profits interest;

   (c) there shall be a provision declaring an "area of mutual interest" in land surrounding the Claims, which land shall, if acquired by either party, become subject to the Joint Venture Agreement; and

   (d) title to those of the Claims that are unpatented remain in the name of SWMC until the Purchase Agreement is completed at which time they shall forthwith be transferred into the name CRD or its assignee as it may direct, provided that such transfer shall not be registered until such time as the transferee has duly qualified to hold unpatented claims and incur exploration expenditures thereon in the State of Arizona.

7. Notice as necessary to the holder of those of the Claims that are patented shall be given by SWMC, so as to ensure that all interests of the Purchase Agreement in respect of the Claims are fully protected.

8. (a) Each party shall have the right to assign all or part of its respective interest in this Agreement to any other party without the prior consent of the other party.

   (b) Neither party shall be entitled to mortgage, charge or otherwise encumber its respective interest hereunder without the prior written consent of the other party, which consent may be withheld unless any proposed mortgages, chargee or encumbrancer enters into a direct written agreement with the other party undertaking to be bound by the terms of this agreement.

9. CRD or its assignee shall be entitled, at any time after the expenditure of $500,000 Cdn, during the currency of this agreement to give thirty days' notice in writing to SWMC of its intention to terminate this Agreement, and upon such notice being given this agreement shall thereafter be at an end and neither party shall be further obligated to the other under this agreement.

10. This Letter of Intent shall form a binding obligation between the parties hereto, but may be replaced by a more detailed option agreement, in form acceptable to the parties hereto, and SWMC hereby agrees and undertakes to instruct its counsel to forward a draft of such detailed option agreement within twenty-one days of the date of execution hereof, and CRD or its assignee hereby agrees to negotiate in good faith with counsel for SWMC to agree to the terms of such detailed option agreement, which, upon execution by the parties and exchange shall replace this Letter of Intent and become the governing agreement between the parties.

11. This agreement, and the detailed option agreement and the Purchase Agreement contemplated hereby shall be governed by the laws of the State of Arizona and applicable federal laws of the United States of America.

12. SWMC specifically represents and warrants to CRD, and understands that CRD or its assignee is relying on such representations and warranties in entering into this agreement, as follows:

   (a) that SWMC has good title to the Claims;

   (b) that the Claims are in good standing under applicable mining laws for a period of at least One Hundred and Twenty days from the date hereof;

   (c) that all Reports of annual assessment work and labour have been duly filed for the current year;

(d) that all the Claims and any interest in the underlying option agreement(s) in respect of those of the Claims that are patented are unencumbered in any way except in accordance with the terms of option agreements relative to the patented claims, full particulars of which have prior to the date hereof been provided by SWMC to CRD or its assignee;

(e) that all taxes and dues on the claims have been paid for the current calendar year;

(f) that SWMC has full right and title to enter into this agreement upon the terms as herein contained, and that the execution hereof and entering into the detailed option agreement and/or the Purchase Agreement as herein contemplated will not constitute a breach of any agreement or obligation by which it is bound; and

(g) that Frank H. Crerie, Chairman of the Board of SWMC, the signatory hereto, is a shareholder of CRD.

13. CRD or its assignee specifically represents and warrants to SWMC, and understands that SWMC is relying on such representations and warranties in entering into this agreement, as follows:

(a) that CRD has the financial and technical capabilities to perform its commitments hereunder;

(b) that CRD is a Corporation Incorporated in the Province of British Columbia and its shares trade on the Vancouver Stock Exchange;

(c) that CRD's President is George F. Warnock, the signatory hereto; and

(d) that CRD acknowledges that George F. Warnock was in the recent past the President and Director, and is a minor shareholder of STAN WEST MINING CORP.

In witness whereof this Letter of Intent has been signed by the duly authorized representatives of the parties this 6 14 day of October 1989.

STAN WEST MINING CORP.

per: Frank H. Crerie
Chairman of the Board

CORONADO RESOURCES INC.

per: George F. Warnock
President

Low grade Reserve Total

	Ton-oz (%)
876,904 tons @ 0.041 oz Au =	35,953.064
" tons @ 0.80 oz Ag =	701,523.200
" tons @ 0.71 % Pb =	622,601.84
" tons @ 2.38 % Zn =	2,087,031.52
" tons @ 0.151 % Cu =	132,412.504

but best blocks in this are:

201,618 tons at 0.055 Au =	11,088.990
" " " 0.22 Ag =	245,973.960
" " " 1.31 Pb =	264,119.58
" " " 4.59 Zn =	925,426.62
" " " 0.15 % Cu =	30,242.7

Taking out best, leaves:

	ton-oz (%)
675,286 tons @ 0.037 oz Au =	24,864.074
675,286 " @ 0.67 oz Ag =	455,549.24
675,286 " @ 0.53 % Pb =	358,402.26
675,286 " @ 1.72 % Zn =	1,161,604.90
675,286 " @ 0.151 % Cu =	102,169.804

to file an action alleging

width, distribution of ORE?

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Southwestern Exploration Division

July 12, 1985

To: J. D. Sell

From: F. R. Koutz

McCabe Mine Area AIPG Tour
Yavapai County, AZ

On June 15 I attended the AIPG tour of the Gladstone-McCabe Mine area (Jerome Mining Co. - Stan West Corp.). Due to a truck breakdown, I missed the first 1½ hours of the tour which included a stop at the old Iron King Mine site with review of recent unsuccessful exploration work by Metallgesellschaft and a general geologic description of McCabe area geology by Richard Pape, the resident geologist, now with Santa Fe Minerals. Of the 30 people on the tour there were only 4 or 5 exploration geologists; most were engineering-planning/environmental geologists. Most of what was missed was of a general nature from the literature according to J. Loghry, J. Shearer and T. Eyde.

American Mine Services is now putting in the 1250 station of the new Sooner Shaft. Santa Fe expects to reach the 1450 level and do 700' of lateral work this summer with an expected go/no-go production decision to be made this September if reserves prove out. The vein should be hit in the shaft at the 1320' level and the shaft is ultimately to go to 1730' before actual production is started. Santa Fe did not mention what they actually consider the reserves -- average grade now but the cut off is .078 opt @ $325 Au. They expect production costs of $192/oz. which includes everything except property payments. Trip participants mentioned recent Stan West announced figures of 600,000T @ .36 opt Au and 2 opt Ag with 200,000T of .2-.3 Au. There is also some 400,000T of "Gob" ore: old stope fill and pillers which averages about 0.2 opt Au. Much of this is not easily minable and has metallurgical problems but will be the first ore milled.

Geology/sampling is plotted on 1" = 4' plans and it appears from these maps that the high-grade pay streak of quartz-sulfide-gold (colored red) averages only 1-2 feet in width although there are narrower quartz stringers in many parts of the rest of the vein structure. Carbonate (10-15%) and quartz-sericite (± Kaolinite) (85-90%) makes up the rest of the vein width. The average pay width is 5¼'. They have drifted and long-holed into both vein walls and in areas of the thickest quartz-sulfide pay streakes, at inflections from the average N60E strike and 70-80° SE dip more cymoid-related pay streaks are found in the hanging wall. At least one of these hanging wall zones will be mined even though it is 1/2 as thick as the thicker-than-average main strand at these positions. The hanging wall stringers usually have more barite than the main vein. Some stringers have also been found NW of the vein where the vein dip overturns to the NW.

There are 5 ore types in the mine based on sulfide and gangue mineralogy and texture which vary along strike and dip of the structure as the structure transgresses across different lithology at an acute angle. These were

not gone into in any detail but 2 of the high base-metal types include a thick cpy-asp-marcasite type and a granular Sl type. To the NE toward the Iron King, the amount of sulfide, silver, lead and black chlorite increase. The exact variations of mineralization/alteration with lithology/facies changes in the interbedded tuffaceous sediments, andesitic breccias and flow units were not elaborated on, but some very coarse breccias, including sulfide breccia clasts in the 1250 shaft station, were commented on.

The Henrietta is a N-S cross shear which has left-lateraly offset the McCabe Mine and the volcanic stratigraphy slightly. The SW face of drifting is only 60 feet from the Henrietta structure and they expect to confirm soon additional remobilized ore shoots in Henrietta structure and beyond in the McCabe structure which have been indicated by diamond drilling. The area of former major production is about 1 mile to the south along the Henrietta structure. Longyear is presently drilling an angle hole near the intersection and there are other holes being drilled on other exploration possibilities in the immediate area. Santa Fe also expects to find a north offset extension of Henrietta mineralization. Mr. Pape would not comment on the "new" geophysical anomaly to the NW except to say that there would be no ore under the tailings site. Apparently a number of companies--many Canadian--but also Hecla, Anaconda and Phelps Dodge, examined the Stan West properties before Santa Fe took up the option.

Jerome Mining has made a number of revisions in the volcanic stratigraphy structure of the Spud Mountain Volcanics in the mine area based on their drilling. Stan Holmes' son is doing his thesis on the area. One of his findings is that the "TKg" Granodiorite intrusive south and west of the McCabe Mine dated at 72 m.y. elsewhere is actually a 1.55-1.6 B.Y. granodiorite. This clears up a number of complicated relationships with other units-especially gabbros.

On the surface where not covered with scrub oak or dumps, the McCabe-Gladstone vein is very unimpressive with no gossan and only a little bleaching and quartz float for a few tens of feet away from the shear, although the volcanics show moderate amounts of goethite flooding after mafics on weathering. Development ore (.4-.5 opt Au) on the dump shows considerable siderite and white carbonate with white to gray quartz, pyrite and variable amounts (several percent) of chalcopyrite, sphalerite and arsenopyrite ±covellite. Apparently bismuth-rich sulfosalts are present and up to several oz. Ag are present in some of the ore as a sulfosalt in minor galena. Most of the gold is "Free" and coarse and 45-50% will be recovered by gravity-jigging. They plan to have an optional copper floatation circuit to save cyanide and plan some form of cyanide recycling/regeneration to save costs--especially environmental costs by keeping much of the cyanide out of the tails. The New Colloseum Mine in California will be required to use cyanide regeneration.

The second half of the tour was presented by Ralph Weeks, the President of the Arizona Section of AIPG, and a geologist with Sergent, Hauskins & Beckwith, a consulting geotechnical engineering group who is in charge of site selection and engineering geology assessments for Jerome Mining. S.H.&B. also recently did the planning for CoCa Mines Hog Heaven Mine in Montana. The mine-mill complex will need 38 permits to operate and must stay out of the Chino Valley (Water) Active Management Area about a mile to the north of the mine. Present plans are for the tailings to go into a 156 acre impoundment in the NW/4 Sec. 20, T13N, R1E, about 1 mile N of the mine-mill. A herringbone-shaped drainage network will be installed to enhance dewatering of the tails with emergency as well as monitor wells to pick up any downstream cyanide loss. They expect the dam to hold 15 years of tails at 500 TPD (e.g., reserves about 2¼ m.t.) up from the 11 years previously required. An initial low dam will hold 3 years' production until payback. The sand content of the tails is low and some sliming problems (lots of "Kaolin") are expected. Ultimate water retention in the tails is expected at 23%.

The mill will need about 125 gpm new make-up water. Production from the Sooner Shaft had decreased considerably several years ago and now has stabilized at a yearly average of 45 gpm. Only a few tens of gpm have been encountered in several wells drilled to a maximum of 2000', but diamond drill holes in the deeper parts of the mine are expected to provide up to several hundred gpm.

Overall the amount and quality of geological work on the property is impressive. I gathered that Santa Fe has and might be willing to tour a small group underground as a favor if it didn't interfer with development. However, Mr. Pape appears to be quite harried these days.

At the AIPG lunch/business meeting there was an interesting discussion of the status of technical registration/certification of geologists/geo-engineers. In Arizona most members of AIPG are environmental/engineering consultants or employees in the Phoenix area. Nationally the group is mainly petroleum geologists.

On June 16 I attempted to look over the Henrietta mine area which is not possible without the permission of the present Vancouver (Capilano Resources) leasers. The owner/resident manager of the claims John Christensen, a Canadian structural/mechanical engineer, now running a cafe' in Prescott Valley, was quite friendly and let me copy a number of reports on the property as well as various promotional data on other claims in the region. There is the usual salvaged mining/construction/milling equipment on the property and they "plan" to put together some kind of operation to mill the dumps/tails, etc. Only a small part of the old Henrietta underground is accessible. I suspect that they are waiting for McCabe to announce a production plan to raise the value of the claims. The area is worth examining, however, as the Henrietta was one of the largest producers in the district. Stan West was not able to deal with the former owner of this ground and controls the Henrietta structure in the immediate vicinity of the McCabe workings.

In other district news NorQuest of Arizona with an office in Mayer plans additional drilling at the Gladiator Mine north of Crown King where they have 90,000T of 0.63 opt Au and 4 opt Ag and additional tonnages of lower grade material and have filed an operating plan to build a mill later this year according to the USFS. Joy is presently drilling for U.S. Borax on the Haggerty property on the Pelican claims between the Gladiator and Lincoln mines.

F. R. Koutz

FRK:mek

Copy for Skidmore, Sell

New York, N.Y., February 9, 1989

TO: R. L. Brown

RECEIVED

FEB 13 1989

EXPLORATION DEPARTMENT

McCabe Mine
Arizona

An opportunity exists to invest in and assume management control of the McCabe gold mine near Prescott, Arizona. The mine came on stream in October 1988, rated at 525 tpd of 0.30 oz Au with 90% recovery. Production for the last 3 months of 1988 has delivered 300-350 tpd of 0.18-0.22 oz Au and the monthly mill recovery has not yet reached 80% Productivity in tons ore/man-shift shows a clear inverse relationship to ore grade. Probable reserves are 500,000 tons of 0.30 oz Au with at least 500,000 tons of additional possible ore.

No one in Asarco has been underground since the mine went on-stream. Messrs. Kurtz and Skidmore reviewed Tucson Office file data yesterday in addition to some of summary information sent to you by T.C. Osborne Mr. Kurtz believes the reserve is accurate and that potential for 1 million tons or more of similar grade material is good. Mr. Skidmore thinks that cut and fill might have been a better mining technique and is certain mill recoveries can be improved; he thinks a 2-day trip to the mine to examine every working and stope as well as the mill is required to determine whether the operation could be put in acceptable shape.

This might be a nice little operation to have particularly with the exploration potential. However, if recovered head grade were improved from 0.20 to 0.27 oz Au (90% recovery of 0.30 oz Au head) a 500 tpd operation would only return $6 million pre-tax profit/yr. (at $400/oz Au and $68/ton operating costs) and would require over 5 years for payback. The $9 million estimate by Elders for a 60% position in the deposit is equivalent to about $100/equity oz Au in the probable reserve. Current purchase costs for gold properties run from $77/oz for deposits in pre-production to $132/oz for deposits in production. Interestingly, McCabe which is somewhat between the two stages would cost an intermediate amount using the Elders estimate of business terms, suggesting the price is similar to what others are paying.

The important thing is to confirm reserves and inspect the property. Given the possibility that both the operation and business terms could be improved, Asarco should visit the McCabe immediately.

F. T. Graybeal

F. T. Graybeal

FTG:mc

cc: W. L. Kurtz