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CAMBIOR

DATE: June 20, 1996
TO: Jean Depatie, President, Cambiex Exploration
FROM: Michael M. Gustin

SUBJECT: Property: Gold Road Mine, Moss Project
Owner: Addwest Minerals, Inc.
Location: Mohave County, Arizona, USA

The following is an extremely brief summary of the valuation review of the Gold Road mine and Moss project undertaken June 18 and 19, 1996. The review was completed by R. Moore, G. Parkison, H. Harlan, J. Kelso and M. Gustin; the following comments and calculations represent contributions from the entire group.

GOLD ROAD MINE. The following is a list of critical factors used in the valuation. Many of these factors are based on best guesses and assumptions. Addwest has been given the benefit of the doubt in many cases for purposes of this valuation.

PROVEN MINEABLE RESERVES:	90,000 recoverable ounces at a recoverable grade of 0.3 oz/t gold.
RESERVES TO BE ADDED:	72,000 recoverable ounces down-dip; 90,000 ounces along strike to the east.
PRODUCTION:	36,000 ounces/year.
TOTAL COST:	$340/oz.
GOLD PRICE:	$400/oz.

Using these variables, the following can be calculated:

Method 1:

NET CASH FLOW:	$2.2 million/year
NPV_0	$15 million
NPV_5	$12 million
NPV_{10}	$10 million

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It should be noted that the Net Present Value figures give full value to ounces that not only do not exist today as Proven Reserves but are purely speculative as to their existence at all.

COMMENTS: This analysis makes several important assumptions, including: (1) the operation will achieve significant exploration success; (2) the operation will not experience significant down-time; (3) changes in operating costs and capital requirements over time will essentially balance out and be equal to February through June, 1996 costs; and (4) the salvage value of the mill and mine equipment will be approximately equal to closure/reclamation costs.

1. The exploration potential is excellent along strike to the east and good to moderate down-dip. There is no doubt that reserves can be increased; the absolute number of mineable ounces added is all that is in question. The scenario above (162,000 recoverable ounces are added) is definitely possible, but it must be emphasized that there is no data beyond (i) two exploration drill holes east of the present reserves that intersected mineralization in the vein, and (ii) the limits of the stoped and reserve areas of the mine are open to expansion. A potential of 100,000 ounces is probably a more realistic assumption at this time.

2. It is very likely that the operation will continue to suffer from the periodic shutdowns that have been occurring to-date, unless capital investments are made to the mill and certain operational changes are instituted concerning maintenance of equipment and repair of haulage routes.

3. Consult with H. Harlan for clarification.

4. The reclamation liability is a significant unknown variable. The principal concern relates to the possible presence of cyanide within the widespread historic tailings in the mine area. The existing tailings facility is built on top of some of these old tailings, and the best location for future tailings ponds (needed if the exploration success modeled above is realized) is again occupied by old tailings.

Method 2:

Valuation = [Proven Recoverable Ounces x $60] + [Potential Ounces x $10]

= $6.4 to 7 million (using 100,000 to 160,000 potential recoverable ounces)

Given the above parameters, a value in the range of $5 to 10 million is suggested.

MOSS MINE PROJECT. The Moss Mine property is an exploration project that contains a Geologically-Indicated Resource only. Drilling to-date has outlined low-grade stockwork mineralization in the hanging wall of a higher-grade silicified structure. The mineralization is reportedly oxidized, but the state of metallurgical data is inadequate to allow for the definition of reserves, even in the small area where concentrated drilling has occurred. The higher-grade material is neither of sufficient grade to support underground extraction nor extensive enough to provide significant feed to the Gold Road mill.

Using generous dimensions and grade, a geological resource of up to 5 million tons @ 0.04 oz/t may be present on the property. By utilizing a 70% recovery from a heap leach operation and by making the inaccurate assumption that all of the resource is potentially mineable, 140,000 ounces could be recovered from the resource. This analysis leads to the following valuation:

Moss Value = 140,000 Geological Ounces x $10

= $1.4 million

It is therefore reasonable to assign a value of $0 to 2 million to the Moss project.

Michael M. Gustin
Exploration Manager

CAMBIOR USA, INC.

MEMORANDUM

To: G. Veillette

From: Howard Harlan, Gary Parkison, Jody Kelso

Date: June 27, 1996

Subject: Gold Road Mine Evaluation

Introduction

On June 18, 1996, Gary Parkison, Jody Kelso, and Howard Harlan flew to Las Vegas where they met Jean Depatie, Michael Gustin, Randy Moore, and Kerry Smith (Midland Financial, Toronto) and drove to Addwest's Gold Road Mine near Kingman, Arizona. There the group met with Ron Short, General Manager; Terry Rice, Mill Superintendent; and Kelly Stolp, Safety Engineer; and toured the underground mine, CIP process plant, and surface facilities. That evening Jean Depatie and Kerry Smith returned to Las Vegas, and the rest of the group stayed in Laughlin, Nevada, and returned to the operation the next day where geologic information was reviewed with Alan Fournie on Gold Road and the Moss Mine (a nearby exploration/development target owned by Addwest), and process information and project operating and capital costs and monthly operating reports were obtained and reviewed. Potential exploration and development plans to extend the life of the Gold Road mine were discussed and costs estimated for those activities. On the return trip to Las Vegas, the Cambior group estimated the value of the Gold Road mine and the Moss Mine.

History

The Gold Road vein is an epithermal quartz-adularia-calcite-gold vein that has produced a recorded 612,000 ounces during sporadic operations from 1903 until closed by Executive Order L-208 in 1942. Addwest, a subsidiary of Addington Resources, acquired the property in 1992 and subsequently constructed a 500-short ton per day mill and drove a 12-foot by 13-foot decline primarily in the hanging wall in 1994 and has been mining and processing since about December 1994. Construction of the mine and mill was financed by a loan from N.M. Rothschild completed in July 1994 for $9.33 million. In December 1995, Charlie Williams obtained financial backing and purchased Addwest. Apparently Addington never considered the operation to have achieved commercial production and considered it in development until it was sold to Williams. A review of monthly reports on site revealed, although some months were missing reports, that J.W. Burgess was

General Manager from at least June to about October 1994, and Douglas Christopherson was Acting General Manager from about April to about November 1995. Mining was done by J.S. Redpath, a mining contractor, until December 1995. In January 1996, the present general manager, Ron Short, was hired and self-mining began with the mining method changed from long-hole stoping to shrinkage, resulting in much less dilution and an essential doubling of head grades to about what was forecast. A mining contractor (Griffith) is employed to augment self-mining efforts, but does a relatively small amount (20%) of the total mining. CWM was contracted to drive Alimak raises, but that contract terminated in April as the method was slow and expensive. Short has about 25 years of underground mining experience with much of it in small, narrow vein mines. Interplay observed with the staff and crew indicate that he is liked and respected and they go out of their way to give him credit for turning the operation around.

Addwest's balance sheet for December 31,1995 shows fixed assets at Gold Road of $4,959,117, and $6,533,000 for the whole company.

Mining Operation

The change to shrink stoping from long-hole stoping employed prior to January 1996 has been a very positive change for Gold Road as has putting the miners on a bonus system paid by square feet of advance as opposed to no bonus or to a bonus paid on a cubic foot basis. Dilution is fairly well under control and should continue to improve as the miners gain experience. Historically, dilution was reported at 25%, with mining by shrinkage stoping. Short stated that dilution is now also about 25%, whereas, with long-hole stoping, some of the stopes experienced 100 to 200% dilution. Minimum mining width is now 4 to 5 feet, with a general minimum of 6" dilution or overbreak on either side of the vein. Seven working faces are in progress in the operation currently, and Short calculates that five are necessary to maintain production levels at 12,000 tons per month or about 600 tons per day with a 5- to 6-day work week. The geology report for April described Block 2 West as very difficult to maintain a 4-foot stope width due to overbreak and peeling of both ribs, while Block 2 East experienced very clean and exact mining to a 4-foot width, with overbreak mainly in the hanging wall and rarely greater than 1 foot. Block 3 East was described as very difficult to follow and mine the narrow vein through the last 5 cuts, with stope widths of 5-5.5 feet (averaging 5.4 feet) and the vein 2.6-feet wide. No description was found in the other 1996 monthly reports.

An Alimak raise contractor was employed to drive stope raises early in the year and this effort was not considered a success as it was much slower than anticipated and expensive.

Based upon a brief review of chip sample grades taken from shrinkage stope muck, there is a good correspondence between estimated block grade (based on 1,942 chip samples) and stope grades. Grades within the stopes are generally quite consistent, with few noted below-cutoff-grade assays (<0.15 opt).

Dewatering is complete to the 500 level and continuing at the rate of 250 gpm or 200,000 gallons per day. Mine water meets drinking water standards and is disposed of by spraying it into the air to evaporate it.

Process Plant

The process plant is a 500-ton-per-day CIP plant that was constructed by Kilborn for approximately $6 million, and began operation in about December 1994. It is obvious that costs were the major constraint as no instrumentation was included, corners were cut to lower costs at the expense of operating efficiencies, and used equipment was installed wherever possible without adequate rebuilds as demonstrated by the failure of the jaw crusher pitman and shaft bearing in March, with the bearing failure attributed to the pounding caused by worn-out toggle seats and ends, and the rod mill pinon gear failure in May after about 16 and 17 months in operation, respectively. The ore is hard (Bond Index of about 18-20) and abrasive, and Cambior assumes that the choice of a rod mill/ball mill combination rather than a SAG mill was based on cost and availability of used equipment, rather than operating efficiency. The cyclones are installed in series rather than in a circular arrangement, resulting in poor efficiency. There are no installed spares, and there was no inventory of spare parts, which is slowly being rectified. An Addwest employee remarked that the plant appeared to have been built for a quick resale. Mill availability has been highly variable on a seven-day work schedule , and depends on the frequency and severity of major breakdowns. For instance, the mill was down 15 days in May for repair of the rod mill pinon gear and was available and operated 48%, it operated 71% and was available 98% in April, and the mill was available 67% and operated the same in March. The jaw crusher was down 21 days in March for the pitman and shaft bearing repairs and the mill operated by screening out the oversize. In February the mill operated 62% and was available 95%.

Grinding is done to 80% passing 325 mesh and recoveries of 94.5% of gold are achieved. Silver recovery has not been determined. Jaw life on the primary crusher is one year and 50% of the liner is left in the rod mill after 18 months of operation. Crushing is done in two stages, with primary crushing done in a 24" by 36" Traylor dual-toggle jaw crusher rated at 200 tph and secondary

crushing in a 4 1/4 foot Simons shorthead crusher rated at 100 tph. The ore contains about 3% moisture.

The processing facility is in the open-air with only the gold room enclosed in a building. Cyanide consumption is low at 0.3 pounds per ton of ore. Hydrogen peroxide is used to kill the cyanide prior to sending the tails to the storage pond.

Major cost centers for the mill are labor, power (reduced as of mid-June from about $0.077 to about $0.065 per kilowatt hour including demand charges), and consumables. Consumables cost $3.42 per ton of ore in May with rods and balls making up 45% of this cost, hydrogen peroxide and copper sulfate 26%, and cyanide and caustic 15%. Silver made up 35% of the dore in May. The following table shows the variation in consumables for February through May 1996.

Process Plant Consumables 1996				
Item	**February**	**March**	**April**	**May**
Consumables, $/t	$3.08	$3.07	$2.85	$3.42
Balls & Rods, %	48	48	49	45
Peroxide and copper sulfate, %	19	19	23	26
Cyanide and caustic, %	15	15	13	15

Safety

Safety is relatively good with 6 lost time accidents in 1995, the start-up year (5 were minor and 1 serious--broken facial bones), and 3 lost time accidents to date in 1996 (2 foreign bodies in eyes, 1 cut/broken finger).

Environmental

Gold Road has all permits necessary to operate. The closure plan was not seen, but information supplied to Cambior indicated that the reclamation bond is for $282,000 and long-term reclamation and remediation liabilties at December 31, 1995 totaled $1.4 million. Closure, according to Kelly Stolp, would entail capping and revegetating the tailings, tearing down the mill and probably covering the foundations, and sealing the mine openings. Because Addwest has constructed its tailings pond on an existing cyanide-bearing tailings pond, there may be a potential liability under possible future legislation which could cause Addwest to someday have to relocate the entire tails storage pond for permanent closure. This could cost upwards of $2,000,000 to $3,000,000, but final salvage should offset most, if not all, of this amount.

Manpower

Manpower is at 103, up slightly from 96 at the start of 1996.

Manpower as of May 31, 1996	
Area	**Number**
Administration	6
Mill	23
Diamond Drilling	2
Mine General	56
Mine Maintenance	11
Engineering & Geology	5
Total	103

Compensation

Ron Short has instituted a bonus system for miners based on square footage mined in the shrink stopes rather than cubic feet in order to minimize dilution. The rest of the work force (other than

Short and the mine crew) is on a monthly performance bonus system. The burden is estimated at 25%. The following table lists hourly wages, without burden or bonuses.

Hourly Wages, Without Burden (estimated at 25%) or Bonuses	
Category	**$/Hour**
Mine	
Miner I	16.00
Miner II	14.00
Equipment Operator I	13.50
Equipment Operator II	12.00
DDH Driller	15.00
Longhole Driller	14.00
DDH Helper	12.00
Toplander	10.00
Laborer	10.00
Maintenance	
Lead Mechanic & Electrician	17.00
Mechanic I	16.25
Mechanic II	14.00
Electrician	16.25
Oiler	13.00
Laborer	10.00
Welder	15.00
Mill	
Refinery Operator	15.50
Operator I	15.00

Operator II	13.00
Operator III	12.00
Laborer	10.00
Lab Technician	13.50
Lab Technician II	11.50
Crusher Operator I	14.00
Crusher Operator II	13.00
Warehouse	
Whse/Maintenance Planner	12.50
Custodian	9.50

Operating Costs

Meaningful operating costs began in February 1996 after the mining method was changed and are shown in the following table.

Gold Road Mine Site Direct Operating Costs 1996					
Item	**February**	**March**	**April**	**May**	**Year-to-date May**
Tons Milled	**8,359**	**10,110**	**11,024**	**8,118**	**37,611**
Head Grade OPT Au	**0.348**	**0.281**	**0.355**	**0.319**	**0.326**
Ounces Recovered	**2,760**	**2,719**	**3,748**	**2,990**	**11,670**
Total Costs ($)	937,218	1,159,564	930,199	857,523	3,884,504
Less Capital ($)	(183,619)	(273,760)	(138,912)	(71,740)	(668,031)
Total w/o Capital ($)	753,599	885,804	791,287	785,783	3,216,473
Mine Costs ($)	511,677	570,533	553,647	535,560	2,171,417
Mill Costs ($)	187,901	264,063	188,840	206,064	846,868
G&A Costs ($)	54,021	51,208	48,800	44,159	198,188
Mine Cost, $/Ton	61.21	56.43	50.22	65.97	57.73
Mill Cost, $/Ton	22.48	26.12	17.13	25.38	22.52
G&A Cost, $/Ton	6.46	5.06	4.43	5.44	5.27
Total Direct Cost, $/Ton	**90.15**	**87.62**	**71.78**	**96.80**	**85.52**
Mine Cost, $/Oz	185	210	148	179	186
Mill Cost, $/Oz	68	97	50	69	73
G&A Cost, $/Oz	20	19	13	15	17
Total Direct Cost, $/Oz	**273**	**326**	**211**	**263**	**276**

Decline advance to reach the 500 level was completed in May 1996. Costs averaged $144 per foot of advance for the 12-foot by 13-foot decline, according to Ron Short, and are included in the direct operating costs rather than as a capital item. This is approximately $167,616 or $4.46 per ton over

the 37,611 tons mined in February through May, and $14 per ounce over the 11,670 ounces recovered in this period. These costs could be deducted from the direct operating costs and added back to DD&A, but for simplicity they have been left as is for the table above.

Decline Footage By Month and Year-to-Date 1996	
Period	**Footage**
February	431
March	334
April	260
May	139
Totai (decline at 500 level)	1,164

Full costs were approximated during the site visit by using cost estimates from the mine site, then adjusted subsequently in the Cambior Denver office for this report with depreciable assets, and reserve tons and ounces for depreciation supplied by Addwest's Arvada office. Mr. Bill Buchan of Addwest's Arvada office gave the following information:

Gold Road depreciable assets 12/31/95	$4,959,117
Recoverable gold ounces	106,750
Mineable tons of ore	524,000
Head grade, opt	0.233
Recoverable grade, opt	0.204

Since the head grade of 0.287 for the period January through April 1996 is reasonably close to the deposit average at 0.233, severance taxes should be more-or-less representative on a per-ton and a per-ounce basis, as should royalties and property taxes. Considering this as constant will do for a first-pass appraisal. Full costs can then be approximated as shown in the following table.

Direct Operating Costs and Full Costs on Per Ton and Per Ounce Basis. Direct Costs and New Capital are for period February-May 1996 and Royalties, Severance and Property Taxes, Insurance are January-April 1996		
Item	**$ Per Ton of Ore**	**$ Per Equivalent Gold Ounce**
Direct Operating Costs	**85.52**	**276**
Less Adjustment for Decline @ $144 per foot	(4.46)	(14)
Adjusted Direct Operating Costs	**81.06**	**262**
Other Costs:		
Royalties	3.12	13
Severance taxes, insurance, property taxes	3.86	16
Depletion, Depreciation, & Amortization	9.46	46
New Capital Jan-May 1996	1.27	6
Decline Jan-May 1996	0.32	2
Full Costs	**99.09**	**345**

Valuation

The following valuation considers exploring vein material by driving production levels and raises in the vein versus driving exploration drifts, crosscuts, and drilling. Ron Short favors the former method as it accomplishes the development work and the project cannot afford the exploration costs.

Current Reserves

On January 1, 1996, reserves stood at 106,750 mineable recoverable ounces. From January through May, 1996, 13,189 ounces were produced with an additional 3,000 estimated for June. This would leave approximately 90,561 ounces to be produced over the remaining 2.5 years of life at 36,000

ounces per year from the existing stopes above the 500 level and from identified reserves below these stopes to the 900 level.

Based on assays in existing stopes to the 500 level and development completed prior to 1942 in the same area but on the 700 and 900 levels, Ron Short believes there is good opportunity to mine 240,000 tons at recovered grades of 0.3 opt gold from these areas, providing 72,000 ounces of gold over a two-year life. These ounces are counted as part of the current reserves on the books of Addwest. Costs to develop these reserves are estimated by Short as follows:

12' x 13' decline 1500' to 700 level @ $200 per foot	=	$300,000
1000' on-vein development (slab-out old drift)	=	$170,000
12' x 13' decline 1,500' to 900 level @ $220 per foot	=	$330,000
2500' drifting on-vein development @ $250 per foot	=	$625,000
Subtotal w/ ~20% contingency, say	=	$1,750,000
One mine truck @ $200,000 for 700 level and one for 900 level	=	$400,000
Total	=	$2,150,000

This is $8.96 per ton of developed ore or $30 per recovered ounce. These capital additions would result in an increase to the DD&A for the current reserves of $4.10 per ton ($2,150,000/524,000 tons) or $20 per ounce ($2,150,000/106,750 ounces). Haulage costs are currently about $6.00 per ton of ore and would probably increase to about $10.00 per ton of ore due to the increased distance. Based on current costs and future DD&A, the following can be predicted:

	$/ton	$/oz
Direct operating costs	81	262
Increase haulage	4	13
Royalties	3	13
Severance, ins, prop tax	4	16
DD&A	14	66
Full costs	106	370

The margin to be expected for these ounces at $400 gold is $30 per ounce.

Area East of Current Workings

Ron Short believes there is potential for a 500,000-ton block of vein material east of the current workings as demonstrated by two mineralized drill hole intersections in this direction. Historically, 60-70% percent of the vein strike length has contained ore-grade mineralization. Using 60%, 300,000 tons would be ore grade; assuming further that the recovered grade is 0.3 opt, would result in 90,000 recovered ounces over a 2.5 year period. Development of this block is estimated by Short to cost as follows:

600' drift on-vein on 100 level @$200 per foot	=	$200,000
1000' drift on-vein on 350 level @$200 per foot	=	$200,000
1000' drift on-vein on 500 level @$200 per foot	=	$200,000
1000' drift on-vein on 700 level @$200 per foot	=	$200,000
1500' vent shaft	=	$1,000,000
Total, with contingency	=	$2,000,000

This is $6.67 per ton of ore or $22 per recovered ounce. As mentioned previously, haulage costs are currently about $6.00 per ton of ore and would probably increase to about $10.00 per ton of ore due to the increased distance. As this resource is new ounces, the initial capital investment would have been paid off by the initial reserve and only the incremental capital to develop the new ounces will be depreciated against those new ounces. Based on current costs and future DD&A, the following can be predicted:

	$/ton	$/oz
Direct operating costs	81	262
Increased haulage	4	13
Royalties	4	13
Severance, ins, prop tax	5	16
DD&A	9	22
Full costs	103	326

The margin to be expected for these ounces at $400 gold is $74 per ounce.

Deep Ore Below the 900 Level (Below Current Reserves)

It can be speculated that the reserves may extend below those currently defined. It may be assumed that an additional 240,000 tons at recovered grades of 0.3 opt gold will be located to provide 72,000 ounces of gold over a two-year life by declining to the 1000 and 1100 levels and developing on the vein as previously discussed. Costs could be as estimated for developing the current reserves to the 900 level, or $2,150,000. These capital additions would result in an increase to the DD&A for the current reserves of $4.10 per ton ($2,150,000/524,000 tons) or $20 per ounce ($2,150,000/106,750 ounces). As discussed previously haulage costs are currently about $6.00 per ton of ore and would probably increase to about $10.00 per ton of ore to haul ore from the 700 and 900 levels due to the increased distance, and by a further $4.00 per ton to haul from the 1000 and 1100 levels. Based on current costs and future DD&A, the following can be predicted:

	$/ton	$/oz
Direct operating costs	81	262
Increase haulage	8	26
Royalties	3	13
Severance, ins, prop tax	4	16
DD&A	14	66
Full costs	110	383

The margin to be expected for these ounces at $400 gold is $17 per ounce.

Production Schedule and Cash Flow Evaluation

A production schedule was designed, in a rough fashion, estimating that production will remain at 36,000 ounces per year.

	1996	1997	1998	1999	2000	2001	2002	2003	Totals
Current ore (ozs x 1,000)	18	36	36						90
East ore (ozs x 1,000)				36	36	18			90
Deep ore (below current stopes & reserves) (ozs x 1,000)						18	36	18	72
Margin ($/oz)	30	30	30	74	74	45.50	17	17	
Pretax Revenue ($ x 1,000)	540	1,080	1,080	2,664	2,664	1,638	612	306	10,584

Mid-period discounting was performed on the pretax cash flow stream with the following net present value results:

PV_0	$10.6 million
PV_3	$9.6 million
PV_5	$9.1 million
PV_7	$8.6 million
PV_{10}	$7.9 million

The consensus of the Cambior group was that this is a generous treatment based largely on speculative reserves and rough cost estimates. This evaluation, then, represents the uppermost values that should be assigned to Gold Road.

Per Ounce Valuation

On a value per ounce basis, the following was determined (with values rounded to the nearest million dollars):

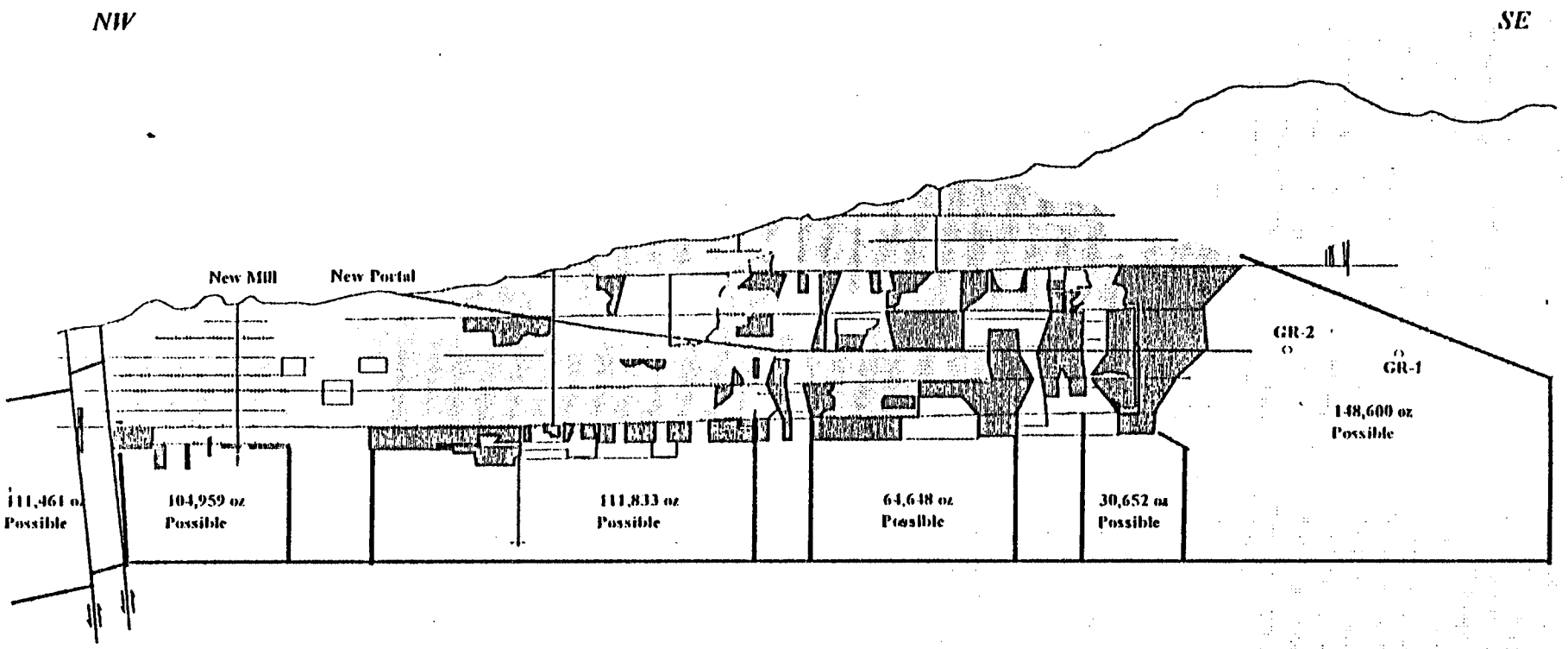
Mineable reserve 90,000 ounces @ about $70 per ounce value in the ground	= $6,000,000
Speculative reserve 162,000 ounces @ about $10 per ounce value in the ground	= $2,000,000
Total valuation	= $8,000,000

This evaluation corroborates the PV_0 results in the cash flow evaluation.

cc: Jean Boissonnault
Pierre Chenard
Jean Depatie
Michael Gustin
Randy Moore

ADDWEST MINERALS, INC.

Gold Road Mine Potential



KEY

- Proven/Probable
- Possible
- Inferred/possible
- Stoped

Other Possible Ore

Internal	43,470
Parallel Structures	117,243
External	115,000

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Applying the apparent factors to adjust the estim:
remaining tonnage and recoverable ounces of gol

TABLE A-4
ORE RESERVES
MINABLE, FULLY DILUTED

	TONS	GRADE/oz Au/st		OUNCES	
			Recoverable		Recoverable
Proven	76,000	0.247	0.215	18,785	16,311
Probable	448,000	0.230	0.202	103,320	90,439
Total	524,000	0.233	0.204	122,105	106,750

TABLE A-5
GOLD ROAD REMAINING RESERVES
FULLY DILUTED, RECOVERABLE
February 1, 1996

Block	Tons	Raw Grade oz Au/st	Adjusted Grade	Ounces Recoverable
Above 350 level				
1	38,000	0.265	0.225	8,550
2	23,000	0.344	0.259	5,957
3	29,000	0.235	0.208	6,032
4	11,000	0.524	0.266	2,926

ADDWEST MINERALS, INC.

GOLD ROAD MINE

1996 Actual Mine and Mill Production

	January	February	March	April	May	June	July	August	September	October	November	December	Total	Total Starting w/ Feb.
Tons Milled (Dry)	9,774	8,359	10,110	11,024	8,118								47,385	37,611
Au Poured	1,353.04	1,912.73	3,141.21	3558.27	2989.87								12,955.12	11,602.08
Au Ounces Recovered	1,518.54	2,759.71	2,718.60	3748.13	2443.62								13,188.60	11,670.06
Au Recovery	93.6%	94.9%	95.8%	95.8%	94.4%	ERR	ERR	ERR	ERR	ERR	ERR	ERR	95.1%	95.3%
Au in Tails	103.96	148.13	119.47	165.36	146.12								683.04	579.08
Au Contained	1,622.50	2,907.84	2,838.07	3913.52	2589.74								13,871.67	12249.17
Au / Ton of Ore	0.166	0.348	0.281	0.355	0.319	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.293	0.326
Tons Mined (Dry)														
Addwest	9,774	7,719	9,622	9,758	6,796	0	0	0	0	0	0	0	43,669	33,895
Contactor	0	640	488	1,266	1,322								3,716	3,716
Au per Ton														
Addwest	0.166	0.366	0.289	0.381	0.332	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.302	0.341
Contractor	0	0.131	0.125	0.158	0.254								0.183	0.183
Au Ounces														
Addwest	1,622.50	2,824.00	2,777.07	3,713.49	2,253.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13,191.01	11568.512
Contractor	0.00	83.84	61.00	200.03	335.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	680.66	680.656
Costs - Material														
500 G&A	$7,230	$27,218	$22,746	$21,915	$13,748								$92,857	$85,627
510 Mine General	$83,070	$89,932	$102,138	$102,250	$68,482								$445,872	$362,802
511 Eng. & Geo.	$687	$663	$589	$264	$728								$2,931	$2,244
512 Drill, Support, & Expl.	$73,191	$62,561	$69,533	$88,868	$52,172								$346,325	$273,134
513 Vehicle Maint.	$20,405	$34,953	$60,769	$46,269	$20,847								$183,243	$162,838
516 Mine Maint.	$28,359	$42,955	$25,048	$31,744	$21,176								$149,282	$120,923
													$0	$0
520 Gen. Mill	$8,525	$11,215	$14,893	$8,191	$5,366								$48,190	$39,665
521 Crushing	$1,278	$5,901	$40,326	$2,756	$1,391								$51,652	$50,374
522 Grinding	$13,034	$7,732	$11,748	$11,377	$32,053								$75,944	$62,910
523 Leach	$2,430	$11,866	$16,884	$9,983	$5,767								$46,930	$44,500
524 Tailings	$5,945	$134	$11,622	$5,059	$11,855								$34,615	$28,670
525 Refinery	$421	$3,323	$1,988	$1,671	$1,174								$8,577	$8,156
526 Lab.	$3,522	$382	$1,624	$2,436	$4,688								$12,652	$9,130
527 Electrical	$31,430	$50,174	$49,880	$50,409	$34,402								$216,375	$184,945
528 Mill Maint.	$3,013	$6,621	$9,846	$7,605	$3,752								$30,837	$27,824
Total Material Cost	$282,540	$355,630	$439,634	$390,797	$277,681	$0	$0	$0	$0	$0	$0	$0	$1,746,282	$1,463,742
000 Capital	$8,719	$98,973	$81,787	$26,156	$71,740								$287,375	$278,656
CWM	$15,100	$84,646	$191,973	$112,756	$0								$404,475	$389,375
Griffith	$8,500	$0	$30,976	$28,106	$58,645								$126,227	$117,727
530 DDH	$0	$0	$0	$2,789	$9,548								$12,337	$12,337
Total Misc.	$32,319	$183,619	$304,736	$169,807	$139,933	$0	$0	$0	$0	$0	$0	$0	$830,414	$798,095
Costs - Labor														
500 G&A	$26,453	$26,803	$28,162	$26,805	$30,411								$139,014	$112,561
510 Supervision	$14,375	$15,450	$16,890	$21,250	$24,040								$92,005	$77,630
510 Mine General	$196,371	$212,812	$202,491	$177,185	$211,864								$1,000,723	$804,352
511 Eng. & Geo.	$14,865	$18,198	$21,978	$19,823	$22,982								$97,846	$82,981
513 & 516 Mine Maint.	$18,527	$29,420	$34,938	$30,516	$39,803								$153,294	$134,767
516 Supervision	$4,583	$4,733	$5,183	$4,583	$5,183								$24,265	$19,682
													$0	$0
520 Supervision	$12,000	$14,554	$15,994	$14,383	$11,707								$68,638	$56,638
520 Mill General	$41,340	$38,510	$37,725	$33,300	$43,283								$194,158	$152,818
521 Crushing	$10,128	$10,154	$12,673	$9,184	$11,259								$53,398	$43,270
526 Lab.	$10,609	$10,471	$12,915	$9,713	$9,744								$53,452	$42,843
528 Mill Maint. & Elect.	$21,867	$16,864	$25,945	$22,773	$29,543								$116,992	$95,125
	$371,118	$397,969	$415,194	$369,595	$439,909	$0	$0	$0	$0	$0	$0	$0	$1,993,785	$1,622,667
Total Costs	$685,977	$937,218	$1,159,564	$930,199	$857,523	$0	$0	$0	$0	$0	$0	$0	$4,570,481	$3,884,504

Gold Road - 500 - Admin

Minerals, Inc.
Statement
(Unaudited)
For the Period Ending April 30, 1996

Tones Mined	12,000.00	44,833.00
Ounces Produced	3,754.61	10,682.30

April 96

Project: General Administrative - Gold Road Mine

Cost Center: Gold Road - Administration -500-

	Current Month			Year To-Date		
	Current Month	$ per Ton Mined	$ per Ounce Produced	Year To-Date	$ per Ton Mined	$ per Ounce Produced
Salary	$ 23,937.19	$ 1.99	$ 6.38	$ 109,173.80	$ 2.44	$ 10.22
Benefits	6,500.97	0.54	1.73	27,327.47	0.61	2.56
Total Salary and Benefits	30,438.16	2.54	8.11	136,501.27	3.04	12.78
DIRECT - CONTROLLABLE						
Vehicle Repairs & Maintenance	-	-	-	620.05	0.01	0.06
Facility Repairs & Maintenance	-	-	-	1,763.25	0.04	0.17
Engineering & Geology	-	-	-	6.23	0.00	0.00
Testing & Analysis	5,672.05	0.47	1.51	25,067.14	0.56	2.35
Dues & Subscriptions & Fees	148.81	0.01	0.04	490.06	0.01	0.05
Recording / Filing Fees	1,517.50	0.13	0.40	4,001.50	0.09	0.37
Penalties / Fines	-	-	-	(450.56)	(0.01)	(0.04)
Office Supplies	2,103.52	0.18	0.56	5,955.60	0.13	0.56
Postage & Shipping	1,354.14	0.11	0.36	4,413.06	0.10	0.41
Materials & Supplies	327.56	0.03	0.09	973.46	0.02	0.09
Travel & Lodging	1,217.14	0.10	0.32	8,980.91	0.20	0.84
Sales Expenses	894.67	0.07	0.24	2,907.25	0.06	0.27
Sales Expense - Refining	1,993.04	0.17	0.53	5,508.27	0.12	0.52
Permits	-	-	-	20.00	0.00	0.00
Telephone / Fax	3,403.07	0.28	0.91	7,608.28	0.17	0.71
Utilities / Power	-	-	-	418.69	0.01	0.04
Finance Costs	-	-	-	7,898.30	0.18	0.74
Fees - Gold Advance	1,769.19	0.15	0.47	2,861.95	0.06	0.27
Charitable Contributions	-	-	-	200.00	0.00	0.02
Site Preparation & Maintenance	1,982.69	0.17	0.53	6,585.69	0.15	0.61
Repairs & Maintenance	102.40	0.01	0.03	102.40	0.00	0.01
Rental Expenses - Office	661.26	0.06	0.18	3,294.77	0.07	0.31
Equipment Rental - Outside	(1,526.38)	(0.13)	(0.41)	(622.75)	(0.01)	(0.06)
Vehicle Rent - Outside	1,400.54	0.12	0.37	4,601.16	0.10	0.43
Lubrication	1,604.71	0.13	0.43	3,545.09	0.08	0.33
Professional Services	-	-	-	2,305.00	0.05	0.22
Safety & Training Supplies	737.34	0.06	0.20	1,526.14	0.03	0.14
Taxes & Licenses	228.15	0.02	0.06	228.15	0.01	0.02
Equipment Relocation	-	-	-	1,474.99	0.03	0.14
Small Tools & Supplies	-	-	-	151.96	0.00	0.01
Miscellaneous Expenses	-	-	-	14.99	0.00	0.00
	56,029.56	4.67	14.92	238,932.30	5.33	22.37
NONCONTROLLABLE						
Depreciation Expense	56,300.33	4.69	14.99	371,947.79	8.30	34.82
Insurance	7,047.08	0.59	1.88	56,807.60	1.27	5.32
Royalties - Canpower	3,981.48	0.33	1.06	5,738.93	0.13	0.54
Royalties - Amwest	28,116.46	2.34	7.49	76,519.06	1.71	7.16
Royalties - Parfet	20,900.38	1.74	5.57	57,440.92	1.28	5.38
Severance Taxes	35,065.86	2.92	9.34	76,056.56	1.70	7.12
Property Taxes	10,000.00	0.83	2.66	40,000.00	0.89	3.74
Interest - Outside	871.32	0.07	0.23	9,527.40	0.21	0.89
	-	-	-	-	-	-
	$ 162,282.91	$ 13.52	$ 43.22	$ 694,038.26	$ 15.48	$ 64.97
Reserve For Startup	-	-	-	-	-	-
Total Expenses - Administration	$ 218,312.47	$ 18.19	$ 58.15	$ 932,970.56	$ 20.81	$ 87.34

AddWest Minerals, Inc. 6:21:45 PM

Accounts List

Account	Description	12/31/95 Balances	Audit Adjustments from F-4, F-5 and F-6 Dr	Cr	Adjusted 12/29/95	Level Totals	AA 12/29/95	Difference	Adjusted Ending Balance	Sales Transaction Dr	Cr	New Balance
01-000-1600-511-0-00C-000	Water Development	$ 77,452.81			$ 77,452.81				$ 77,452.81		$ 63,948.65	$ 13,504.16
01-000-1630-500-0-00C-000	Mill Development	$ 1,278,659.19			$ 1,278,659.19				$ 1,278,659.19		$ 1,055,720.56	$ 222,938.63
01-000-1630-510-0-00C-000	Mill Contract	$ 4,931,934.78			$ 4,931,934.78				$ 4,931,934.78		$ 4,072,034.99	$ 1,859,317.56
01-000-1630-511-0-00C-000	Mill Contract - Used Equipment	$ 621,975.92			$ 621,975.92				$ 621,975.92		$ 513,532.28	$ 108,443.64
01-000-1630-512-0-000-000	Tailings	$ 1,054,206.53			$ 1,054,206.53				$ 1,054,206.53		$ 870,402.00	$ 183,804.53
01-000-1630-513-0-00C-000	Civil Works	$ 41,421.86			$ 41,421.86				$ 41,421.86		$ 34,199.82	$ 7,222.04
01-000-1670-500-0-000-000	Mill Development - Inventory	$ 75,561.66			$ 75,561.66				$ 75,561.66		$ 62,387.22	$ 13,174.44
01-C00-1690-000-0-000-000	Miscellaneous Equipment	$ 85,366.83			$ 85,366.83				$ 85,366.83		$ 70,482.83	$ 14,884.00
01-000-1690-100-0-000-000	Startup Costs											
01-000-1690-101-0-000-000	Startup - Alaska Golden Zone	$ 899,138.20			$ 899,138.20				$ 899,138.20		$ 742,370.36	$ 156,767.84
01-000-1690-115-0-000-000	Startup - Gold Road - Admin.	$ 5,647,492.94	$ 3,375,044.00	$ 3,782,211.00	$ 5,240,325.94				$ 5,240,325.94		$ 4,326,657.09	$ -
01-000-1690-120-0-000-000	Startup - Moss Property	$ 116,110.49	$ 150,000.00	$ -	$ 266,110.49				$ 216,713.21		$ 178,315.95	$ 46,397.28
01-000-1690-125-0-000-000	Startup - Wind Mountain	$ 1,831,150.86			$ 1,831,150.86				$ 1,831,150.86		$ 1,346,754.10	$ 284,396.76
01-000-1690-500-0-000-000	Miscellaneous Equipment - Gold Road	$ 36,485.00			$ 36,485.00	$ 27,106,891.30	$ 27,107,455.00	$ 573.70	$ 36,485.00		$ 30,123.71	$ 6,361.29
01-000-1690-535-0-000-000	Accum Depr. - Mine Equipment - Drill											
01-000-1691-000-0-000-000	Deposit - Sale Of Assets	$ -			$ -							
01-000-1691-450-0-000-000	Accum. Depr. - Furniture & Fixture	$ (23,220.54)		$ 1,272,190.00	$ (1,295,410.54)				$ (1,295,410.54)	$ 1,295,410.54		$ -
01-000-1691-452-0-000-000	Accum. Depr. - Office Equipment	$ (5,527.77)			$ (5,527.77)				$ (5,527.77)	$ 5,527.77		$ -
01-000-1691-454-0-000-000	Accum. Depr. - Data Processing Equipment	$ (43,617.44)			$ (43,617.44)				$ (43,617.44)	$ 43,617.44		$ -
01-000-1691-504-0-000-000	Accum. Depr. - Trucks & Automobiles	$ (3,818.17)			$ (3,818.17)				$ (3,818.17)	$ 3,818.17		$ -
01-000-1691-530-0-000-000	Accum. Depr. - Mine Development											
01-000-1691-545-0-000-000	Accum. Depr. - Compressor - Gold Road	$ (32,263.53)			$ (32,263.53)				$ (32,263.53)	$ 32,263.53		$ -
01-000-1691-552-0-000-000	Accum. Depr. - Mobile Home Gold Road	$ (12,133.34)			$ (12,133.34)				$ (12,133.34)	$ 12,133.34		$ -
01-000-1691-554-0-001-000	Accum. Depr. - Trucks & Auto	$ (28,984.64)			$ (28,984.64)				$ (28,984.64)	$ 28,984.64		$ -
01-000-1691-690-0-000-000	Accum. Depr. - Miscellaneous Equipment	$ (66,333.28)			$ (66,333.28)	$ (1,480,089.71)	$ (1,480,090.00)	$ (0.29)	$ (66,333.28)	$ 66,333.28		$ -
01-000-1692-403-0-010-000	Accum. Depr. - Lab Warehouse											
01-000-1692-406-0-000-000	Accum. Depr. - Building & Improvements											
01-000-1692-450-0-000-000	Accum. Depr. - Furniture & Fixtures Gold Road											
01-000-1692-454-0-010-000	Data Processing Equipment - Gold Road											
01-000-1692-460-0-010-000	Lab Equipment - Gold Road											
01-000-1692-502-0-000-000	Mobile Home - Gold Road											
01-000-1692-504-0-000-000	Accum. Depr. - Trucks & Automobiles Gold Road											
01-000-1692-511-0-000-000	Accum. Depr. - Mobile Equip. Trucks Gold Road											
01-000-1692-512-0-000-000	Accum. Depr. - Mobile Equip. Drills Gold Road											
01-000-1692-513-0-000-000	Accum. Depr. - Mobile Equip. Loaders - Gold Road											
01-000-1692-530-0-000-000	Accum. Depr. - Mine Development											
01-000-1692-535-0-000-000	Accum. Depr. - Mine Equipment Gold Road											
01-000-1692-537-0-000-000	Accum. Depr. - St. Equip. - Compressors Gold Road											
01-000-1692-545-0-000-000	Accum. Depr. - Ventilation - Gold Road											
01-000-1692-711-0-000-000	Accum. Depr. - St. Equip. - Electrical Gold Road											
01-000-1692-712-0-000-000	Accum. Depr. - Miscellaneous											
01-000-1700-000-0-000-000	Mineral Reserves											
01-000-1702-000-0-000-000	Accumulated Amortization											
01-000-1810-000-0-000-000	Other Assets											
01-000-1815-001-0-C00-000	Suspense											
	TOTAL ——————→	$ 28,842,594.66			$ 27,175,995.66	$ 27,175,995.66	$ 27,175,995.66		$ 27,175,995.66			$ 6,533,503.98

GA $ 4,959,116.53

Sum of GOLD ROAD Fixed Assets 12/31/95

The Company records mine development costs applicable to the development of new mines. Such costs are amortized on a units-of-production method over the estimated proven and probable reserves.

Advance Royalty Payments

The Company is required, under certain royalty lease agreements, to make minimum royalty payments regardless of the level of activity being performed on the leased property. These minimum payments range from an aggregate of $10,000 to $15,000 per year until 2020. These royalty payments are cancelable at the Company's discretion, but the lease agreements would terminate at the same time. These minimum payments are recoverable once mining begins on the leased property. The Company capitalizes these minimum royalty payments and will amortize them over the units produced once mining activities begin or expense them when the Company has ceased mining or has made a decision not to mine on such property.

Reclamation

Certain standards for mine reclamation have been established by various agencies which affect the operations of AMI. Costs to perform reclamation activities are estimated based primarily upon environmental and regulatory requirements and are accrued and charged to expense over the expected life of the mine using the units-of-production method.

At December 31, 1995, the Company has accrued $1,400,000 in long-term reclamation and remediation liabilities. In conjunction with the Company's mining permits, AMI has procured reclamation bonds in the amount of approximately $282,000 at December 31, 1995.

Exploration Costs

The Company incurs expenditures related to exploration. To the extent these exploration costs relate to the development of mine sites, the costs are capitalized as deferred mine development. All exploration expenses not related to the development of mine sites are expensed.

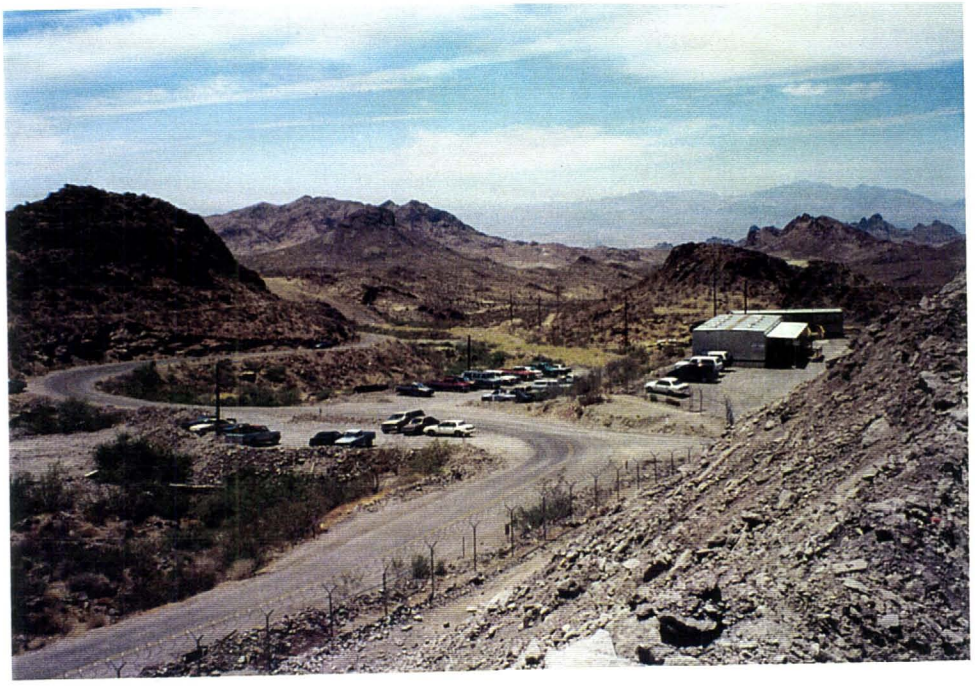
Income Taxes

Income taxes are accounted for in accordance with Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes" ("SFAS No. 109"). SFAS No. 109 requires recognition of deferred income tax assets and liabilities for the expected future income tax consequences, based on enacted tax laws, of temporary differences between the financial reporting and tax bases of assets, liabilities and carryforwards. Deferred tax assets are recognized for the expected future effects of all deductible temporary differences, loss carryforwards and tax credit carryforwards. Deferred tax assets are then reduced, if deemed necessary, by a valuation allowance for the amount of any tax benefits which, more likely than not based on current circumstances, are not expected to be realized.

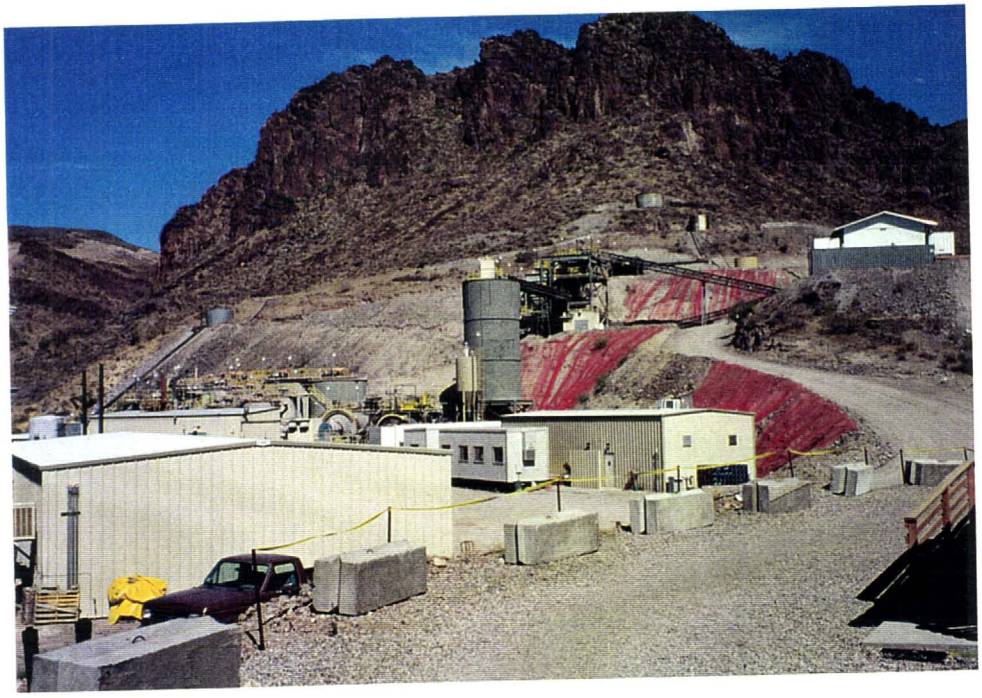
Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the

GOLD ROAD, AZ
JUNE 19[th]



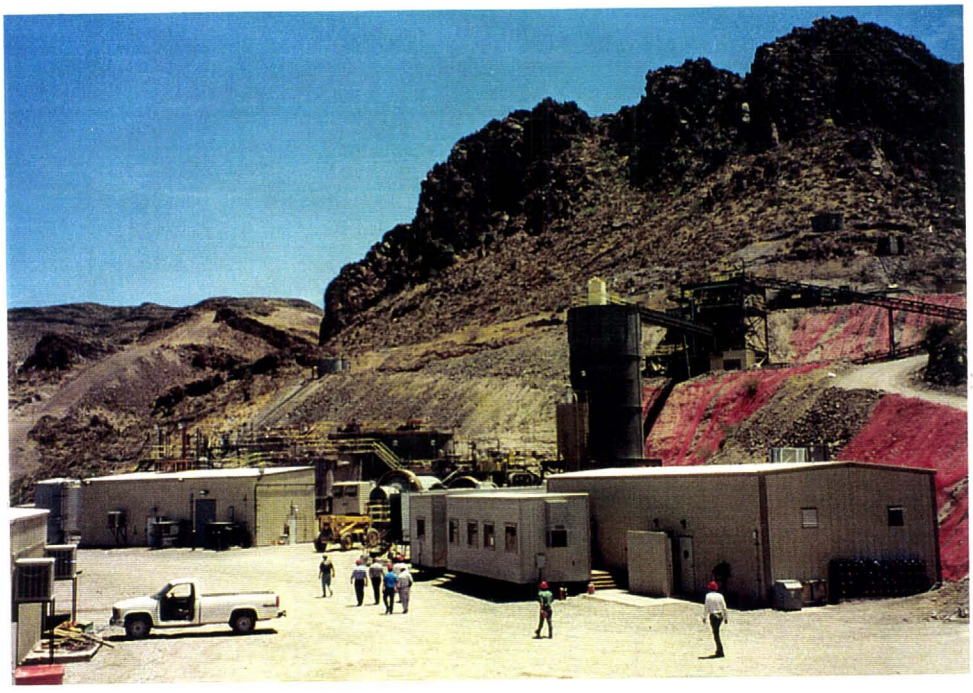
ACCESS ROAD
& OFFICES

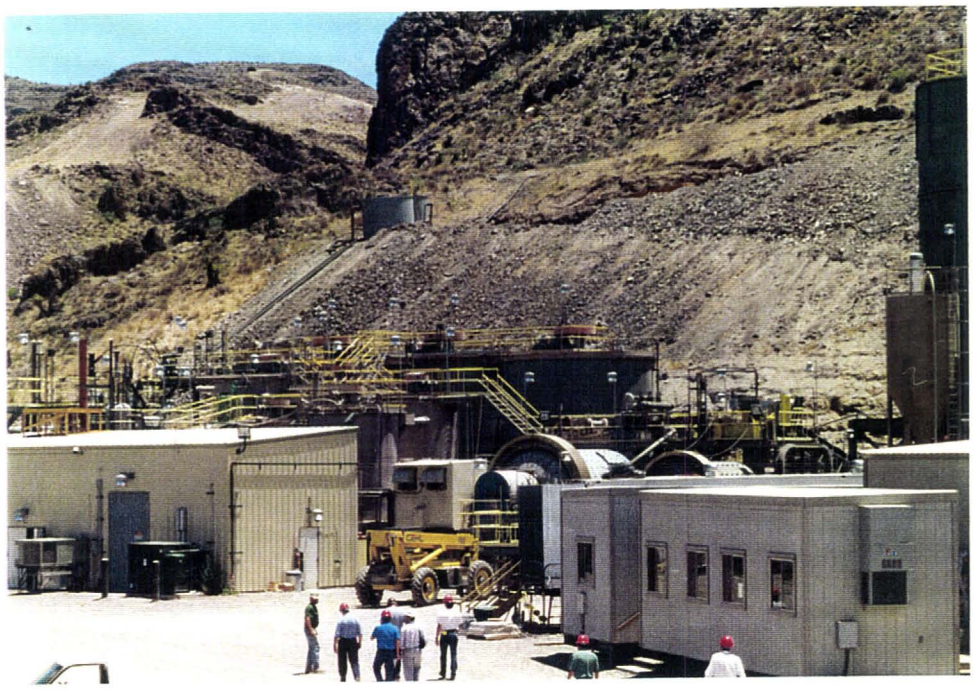


SITE
OVERVIEW

DRY

ASSAY &
MET LAB





SITE

500 TPD

CIP

PLANT

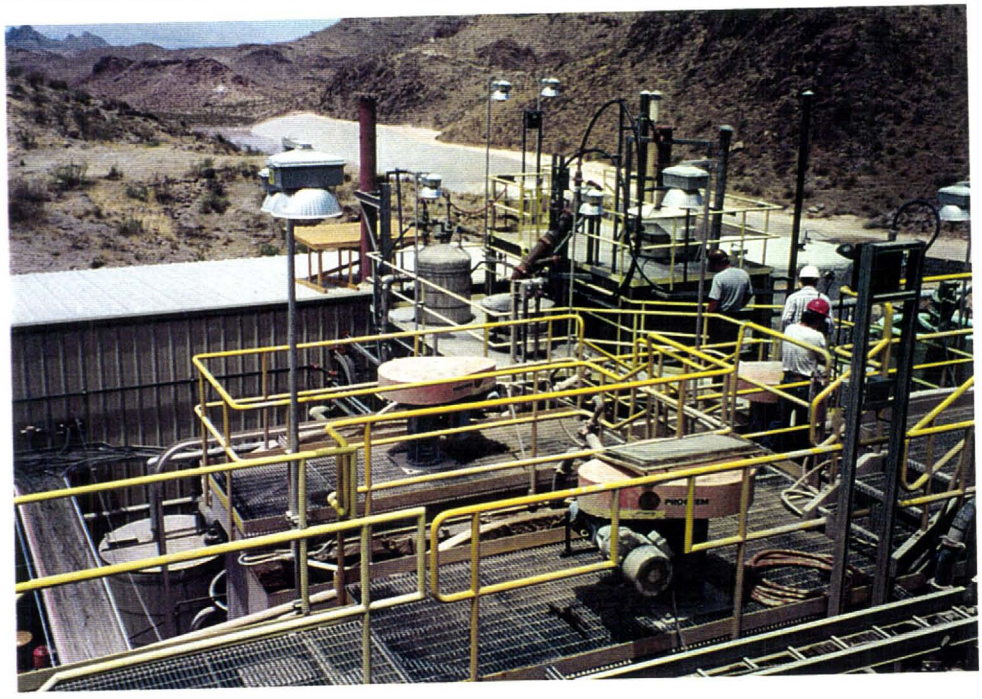
CRUSHING

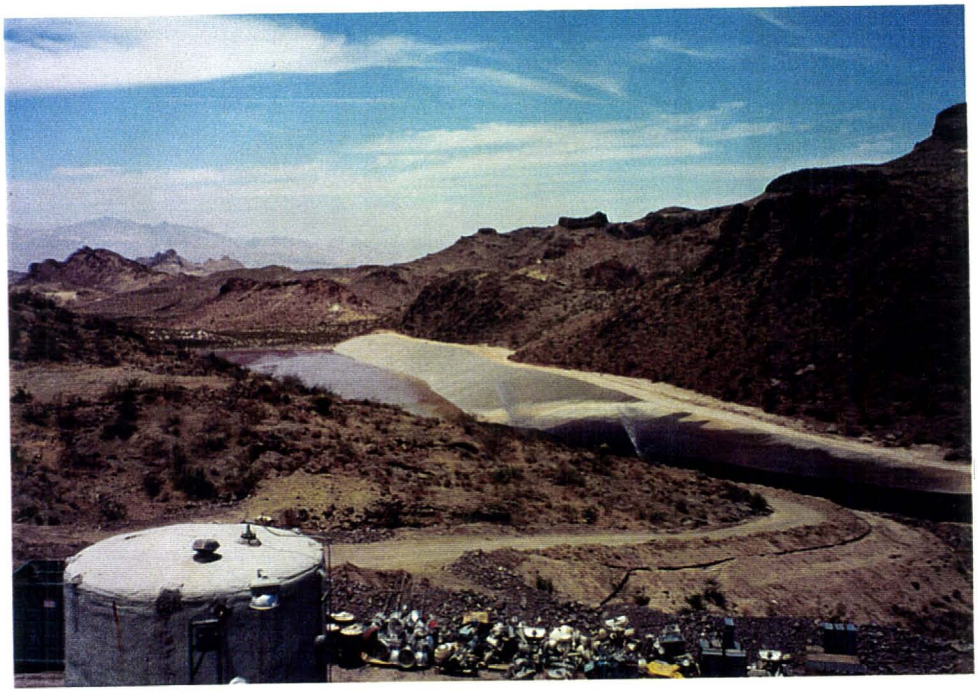
FINE
ORE BIN

ROD + BALL MILLS

LEACH

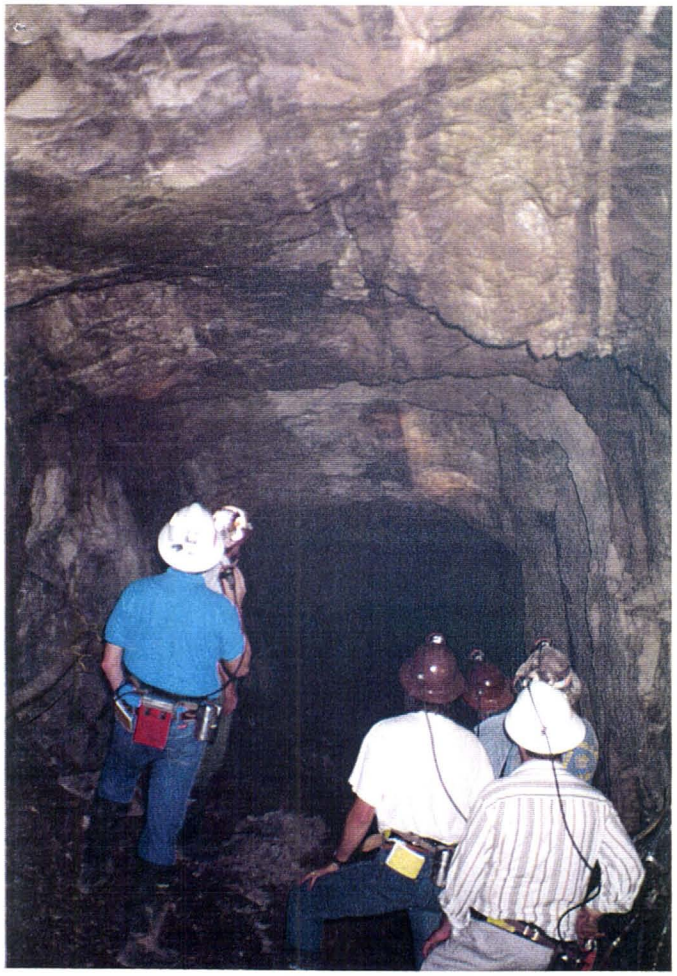
CARBON REGENERATION





TAILS POND

GOLD ROAD VEIN & STOPES



GOLD ROAD VEIN & STOPES

CAMBIOR USA, INC.

MEMORANDUM

To. Gerald Veillette

From Gary Parkison, Jody Kelso, Howard Harlan GP HH

Date June 27, 1996

Subject MOSS MINE EVALUATION

Post-it® Fax Note 7671	Date 6/28/96	# of pages ▶ 4
To Mike Austin & Randy Moore	From Cambior	
Co./Dept.	Co.	
Phone #	Phone #	
Fax #	Fax #	

Introduction

In conjunction with a site visit to the Gold Road Mine on behalf of an evaluation effort for Cambiex, Cambior personnel also visited the nearby Moss Mine. A report by Howard Harlan and others (June 27, 1996) describes the Gold Road Mine. This memo is a companion to the Gold Road report.

The Moss Mine is located about 6 miles northwest of the Gold Road Mine in rolling terrain with local prominent hills. It is accessed from the Gold Road Mine or the town of Oatman by about 8 miles of improved gravel and unimproved dirt roads.

Addwest has under lease twelve patented mining claims and has located an additional 120 unpatented mining claims on land administered by the BLM. Property acquisition and/or holding fees on the patented claims is approximately $150,000 per year along with a $150,000 annual work commitment. The patented claims carry a 3.5 to 4.5% N.S. R. royalty. Addwest is currently negotiating to acquire 4 additional key patented claims which contain a significant amount of the drill indicated resource quoted by Addwest.

History

The Moss Mine has seen intermittent minor production from underground mining operations with a total production of perhaps 12,000 ounces. In more recent years, the property has been leased by Billiton Minerals from 1989 thru 1992 who drilled numerous shallow air-track rotary holes. Billiton subleased the property to Magma Copper during 1991-1992 who performed some 10,200 feet of reverse circulation drilling. Magma and Billiton both dropped out of the property in 1992. Golconda Resources optioned the property in 1993 and performed some 3,000 feet of reverse circulation drilling before they failed to make property payments and dropped the property in late 1994.

Addwest made a deal on the patented claims and located the unpatented claims in early 1995. In early 1996, Addwest conducted a 30 hole reverse circulation drill program totaling 8,200 feet. They are planning a core drilling program in fall, 1996.

Geology and Mineralization

The area of the Moss mine is generally underlain by chlorotically altered Tertiary volcanic and intrusive rocks of intermediate composition. Mineralization is related to east-west trending, steeply south dipping veins, the most important of which is the Moss vein. The Moss vein can be traced on the surface for over 3,500 feet and is composed of a zone of up to 20 to 35 feet wide of quartz and calcite mineralization. Better grade (+0.05 ounces per ton gold) mineralization is typically associated with quartz veins with thicknesses up to 20 feet or more. Stockwork quartz veinlets are common in the hangingwall of the vein and often contain 80 to 100 feet thickness of 0.01 to 0.05 opt gold. The vein has distinct epithermal characteristics and is very low in sulfide content, with all known mineralization being oxidized.

Resources

Based on available drilling performed through Magma's tenure, Mintec, Inc. calculated a resource of some 7.4 million tons grading 0.038 opt gold containing 281,000 ounces. Based on this resource a preliminary open pit was estimated which contained 3.0 million tons grading 0.044 opt gold, containing 132,000 ounces gold, with a strip ratio of 2.0. Using the more recent Addwest drill results, a polygonal resource estimate using a very large (overly optimistic) 200' search radius provides a total of 8.8 million tons grading 0.037 opt gold (325,000 ounces). A resource of 10.0 million tons grading 0.037 opt gold is considered to be the upside potential for the Moss property, using a 0.010 opt cutoff grade. Assuming the same relationship between resource to open pit tonnage and grade as for the Mintec work would allow for 47% of the resource to fall within a possible open pit with a 2.0 strip ratio. (4.0 million tons at 0.044 opt gold containing 174,000 ounces).

The higher grade portion of the Moss vein is more resistant to weathering and hence holds up a ridge projecting some 100 feet above the surrounding topography. Assuming the zone is 1,000 feet long, 25 feet thick and some 100 feet downdip with relatively low stripping ratio, it would contain some 19,000 ounces gold.

Metallurgy

There has been very little concise metallurgical work performed on samples from the property. Most of the work performed to date has consisted of bottle roll cyanide leach tests performed on composited samples of rotary drill cuttings. Recoveries have ranged from 53% to 88%, after some 96 hours of leaching. However, no information was available regarding the particle size or cyanide consumption. Additional tests are currently in process using the 1996 Addwest drill cuttings. Based on the results to date and the visual characteristics of the ore, it is estimated that a relatively fine crush (1/4") will be required to attain approximately 70% gold recovery.

Economic Evaluation

Because of the relatively small size of the reserve base, mining and processing costs will be relatively expensive. Approximate unit costs are estimated as follows:

	Cost per ton	Cost per ton ore	Operating cost per recovered oz. (Assume 70% recovery)
Mining (Contracted)	$1.20	$3.60	$117.00
Processing(Contract crushing)	$4.50	$5.00	$162.00
G&A		$1.00	$ 32.00
Royalty (4%)		$ 0.49	$ 16.00
Severance And Property Taxes		$ 0.46	$ 15.00
		$10.55	$342.00

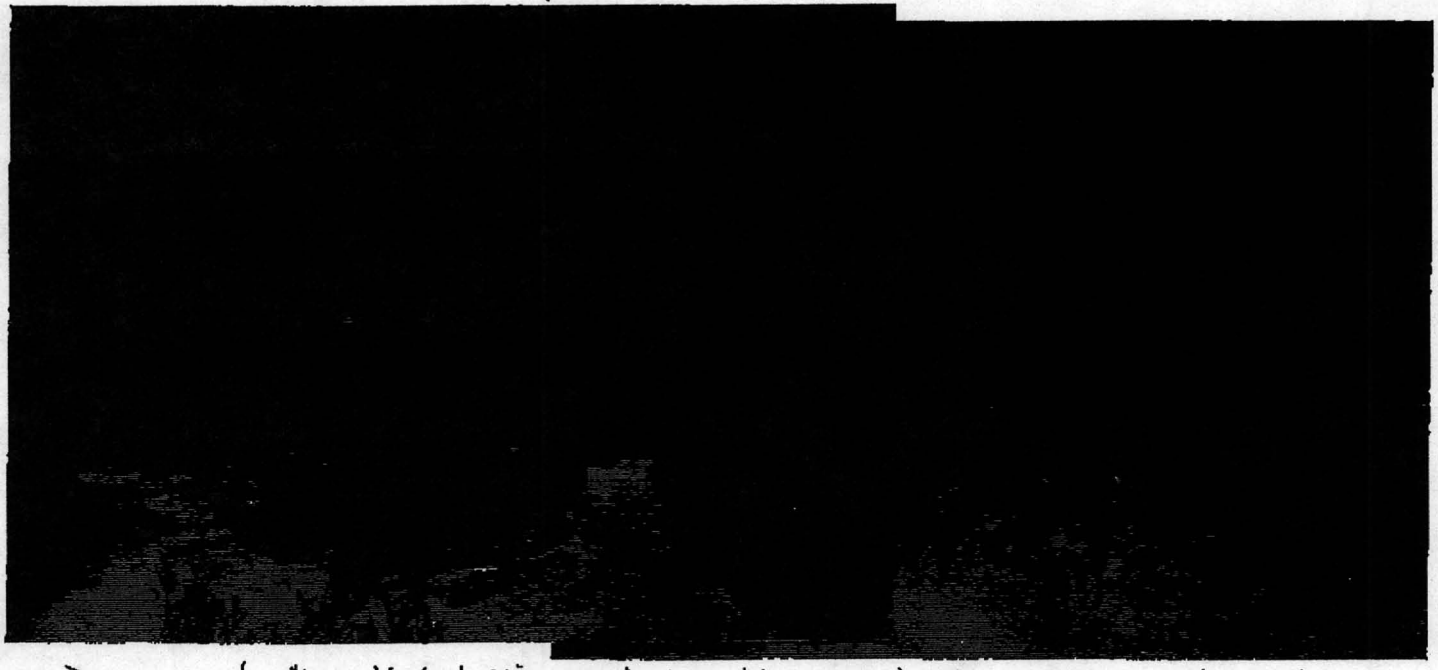
Gross revenue per ton, at 70% gold recovery, 0.044 ounce per ton grade, and $400 per ounce gold price would be $12.32. With direct operating costs of $10.55 per ton versus a revenue of $12.32, a gross margin of $1.77 per ton or $57 per ounce is estimated. With a total recovery of 123,000 ounces gold, a gross project operating margin of about $6.9 million is estimated over a five year operating period before capital recovery. Capital costs are estimated to be relatively inexpensive owing to contracted mining and crushing costs and shared carbon stripping and gold recovery with the Gold Road Mill. Capital costs, including development drilling, permitting, heap construction, etc., are estimated at $6.0 million. Spreading the capital costs over the recovered ounces results in an additional $49.00 per recovered ounce, raising the operating cost per ounce to $391,000 and lowering the operating margin to $9 per ounce at a $400 per ounce gold price..

These economics obviously place a very low value to the Moss Mine approximately $1.1 million, even given these rather optimistic assumptions regarding reserve base and capital and operating costs. As a possible alternative, mining of the higher grade portion of the Moss vein might be considered with shipping of the +0.10 opt gold material to the Gold Road Mill for processing. A gross margin for this material may be on the order of $4.80 per ton assuming 0.10 opt gold, 92% recovery, $22.00 per ton processing costs, $5.00 per ton haulage costs and $5.00 per ton mining and loading costs with approximately $190,000 tons of material mined, a gross margin of some $900,000 is estimated.

cc: Jean Depatie
Mike Gustin
Randy Moore
Pierre Chenard
Jean Boissonnault

Moss Shaft and Main Ridge held up by vein-stockwork zone to the south (right) of the vein in hangingwall

Higher Grade (±.10 opt) portion of vein



Panorama of Moss Vein looking north. Mineralization can be traced eastward to third hill

DATE:20/07/95 TIME: 12:51:21

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0.007	1.3

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AU	LENGTH
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0.039	2.3

HOLE-ID	LOCATION [EAST]
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AU	LENGTH
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0.063	1

4.4 @ .01%

HOLE-ID	LOCATION [EAST]
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AU	LENGTH
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HOLE-ID	LOCATION [EAST]
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AU	LENGTH
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0.369	3.5
0.033	1.5

8' @ 1.60 g/t

HOLE-ID	LOCATION [EAST]
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AU	LENGTH
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0.005	1.4

10.51 5100.9

AU	LENGTH
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0.028	0.7

10.511 5111.8

AU	LENGTH
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1.066	4.5
0.016	1.5

10.512 5121.7

AU	LENGTH
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0.997	5.1
0.44	1.2

6.3'e .89

10.513 5132.3

AU	LENGTH
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0.625	5.7
0.101	0.5

6.2'e .58

10.514 5141.1

AU	LENGTH
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10.522 5222.8

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3.4' @ .40

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0.005	1

8' @ .77

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0.037	2.8

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AU	LENGTH
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0.007	1

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AU	LENGTH
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AU	LENGTH
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5.9 @ 1.12

7001.078	4916.98

AU	LENGTH
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7001.088 4905.17

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0.02	5
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0.13	0.5
0.06	3.4
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0.01	5
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0.05	2.5
0.01	3
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0.08	3.7
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0.22	4 }
0.02	6
0.16	1.5
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0.03	4.3
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7001.09 4921.18

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c'e .23

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6.2' .26

7001.095 4945.29

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7001.096 4951.11

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0.01	0.8

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HOLE-ID	LOCATION [EAST]
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HOLE-ID	LOCATION [EAST]
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AU	LENGTH
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HOLE-ID	LOCATION [EAST]
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AU	LENGTH
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HOLE-ID	LOCATION [EAST]
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AU	LENGTH
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HOLE-ID	LOCATION [EAST]
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AU	LENGTH

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DATE:20/07/95 TIME: 18:10:45

AU LENGTH
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1000.374 4608.42

AU LENGTH
0.24 3.1

1000.375 4612.56

AU LENGTH
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1000.376 4617.36

AU LENGTH
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AU LENGTH
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AU LENGTH
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AU LENGTH
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AU LENGTH
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AU LENGTH
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AU	LENGTH
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DATE:20/07/95 TIME: 18:12:06

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AU LENGTH
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AU LENGTH
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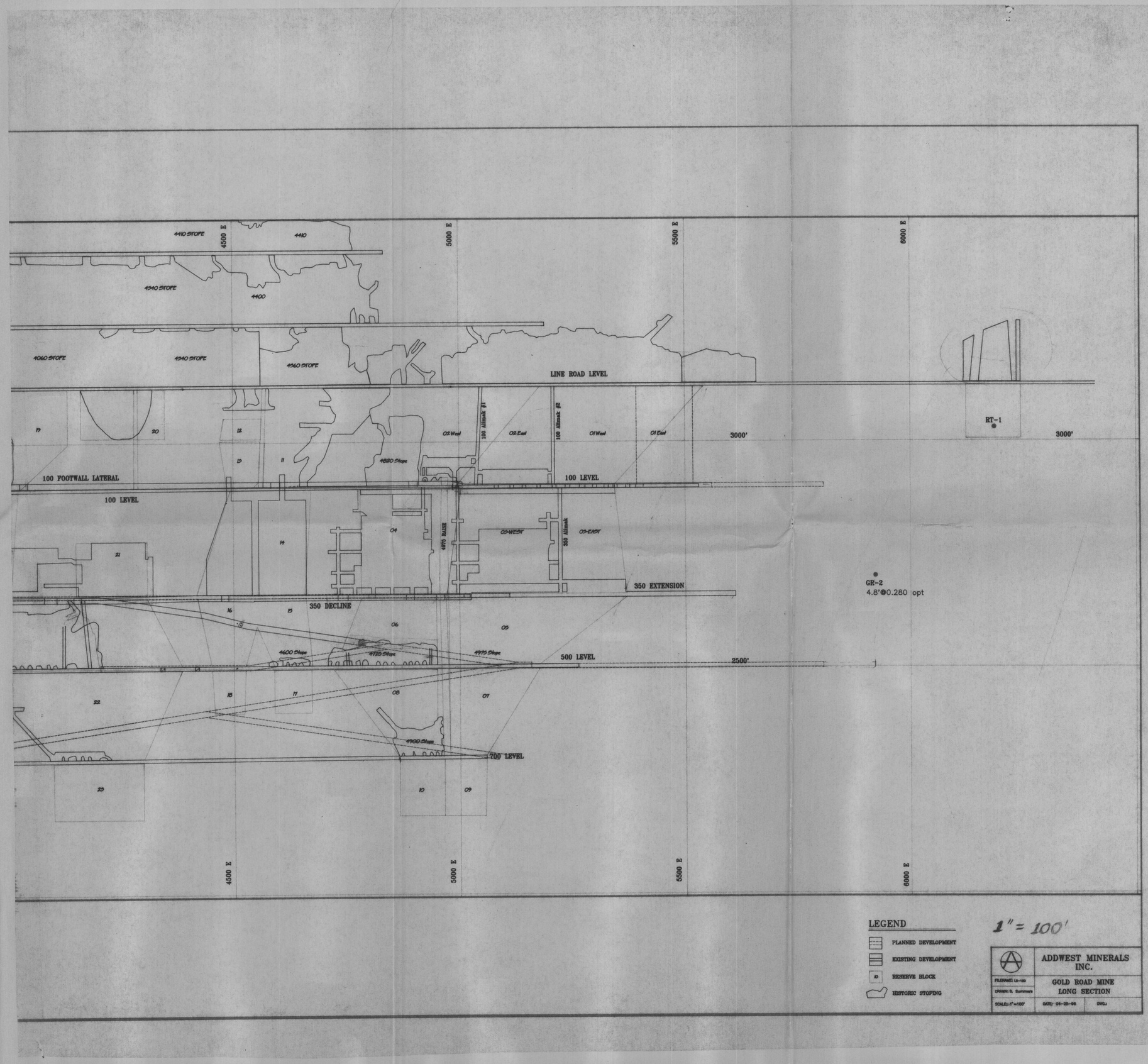
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4410
4500 E
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5500 E
6000 E
4340 STOPE
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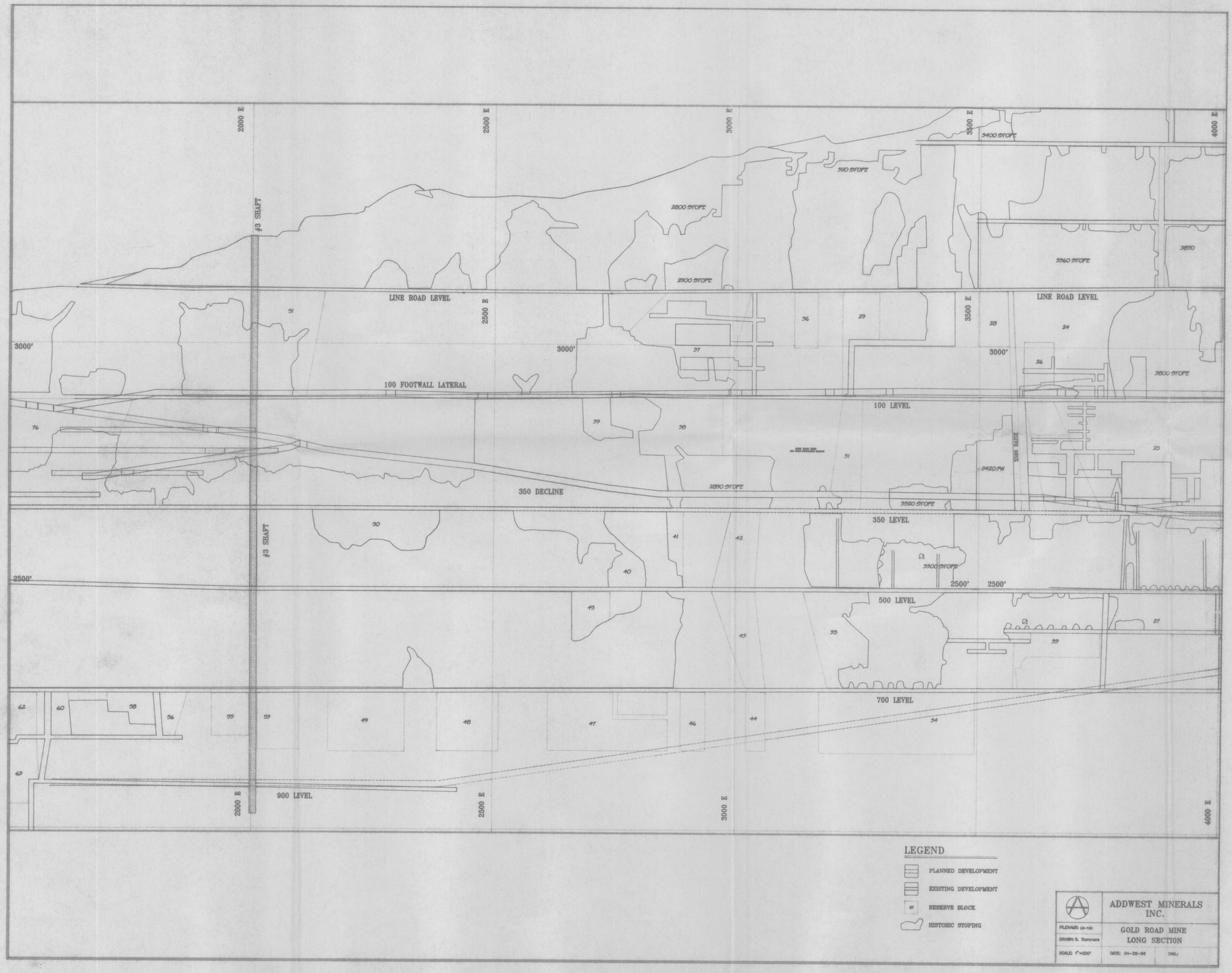
LINE ROAD LEVEL
19
20
12
13
11
02 West
100 Alimak #1
02 East
100 Alimak #2
01 West
01 East
3000'
RT-1
3000'
4620 Slope
100 FOOTWALL LATERAL
100 LEVEL
100 LEVEL
21
14
04
4975 RAISE
03-WEST
350 Alimak
03-EAST
350 EXTENSION
GR-2
4.8'@0.280 opt
350 DECLINE
16
15
06
05
4600 Slope
4725 Slope
4975 Slope
500 LEVEL
2500'
22
18
17
08
07
4900 Slope
700 LEVEL
23
10
09
4500 E
5000 E
5500 E
6000 E
LEGEND
PLANNED DEVELOPMENT
EXISTING DEVELOPMENT
RESERVE BLOCK
HISTORIC STOPING
1" = 100'
ADDWEST MINERALS INC.
FILENAME: LS-100
GOLD ROAD MINE
LONG SECTION
DRAWN: S. Summers
SCALE: 1"=100'
DATE: 04-25-98
DWG.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2500 E
3000 E
3500 E
4000 E
#3 SHAFT
3400 STOPE
3410 STOPE
2800 STOPE
2900 STOPE
3560 STOPE
3610
LINE ROAD LEVEL
LINE ROAD LEVEL
3000'
3000'
3000'
100 FOOTWALL LATERAL
100 LEVEL
3600 STOPE
3420 FW
3500 RAISE
350 DECLINE
2890 STOPE
3520 STOPE
#3 SHAFT
350 LEVEL
3500 STOPE
2500'
2500'
2500'
500 LEVEL
700 LEVEL
900 LEVEL
2000 E
2500 E
3000 E
4000 E
LEGEND
PLANNED DEVELOPMENT
EXISTING DEVELOPMENT
RESERVE BLOCK
HISTORIC STOPING
ADDWEST MINERALS INC.
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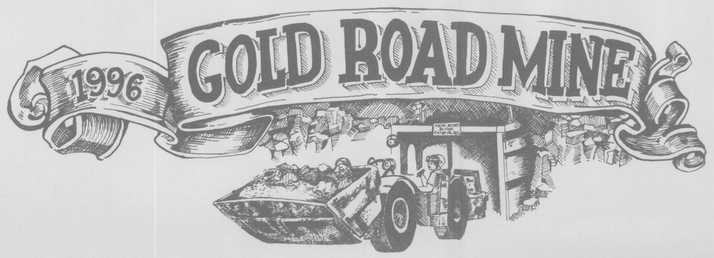
LONG SECTION
DRAWN: S. Summers
SCALE: 1"=200'
DATE: 04-25-98
DWG:

1996 GOLD ROAD MINE



S. 52-15 E. 1490

S. 48-50 E. 1482

S. 48-50 E. 1472

S. 39-09 E. 1043.9

S. 47.4 GE. 1267.8

900 LV.

700 LV.

500 LV.

350 LV.

300 LV.

100 LV.

#1 SHAFT

#2 SHAFT

#3 SHAFT

LINE ROAD TUNNEL

700 LEVEL

300 A LV.

150 A LV.

S. 40-15 W. 600

S. 40-15 W. 1490

N. 52-15 W. 1490

N. 48-50 E. 1482

N. 48-50 W. 1472

N. 39-09 W. 1043.9

N. 52.4 W. 1267.8

N. 52.4 W. 1268.5

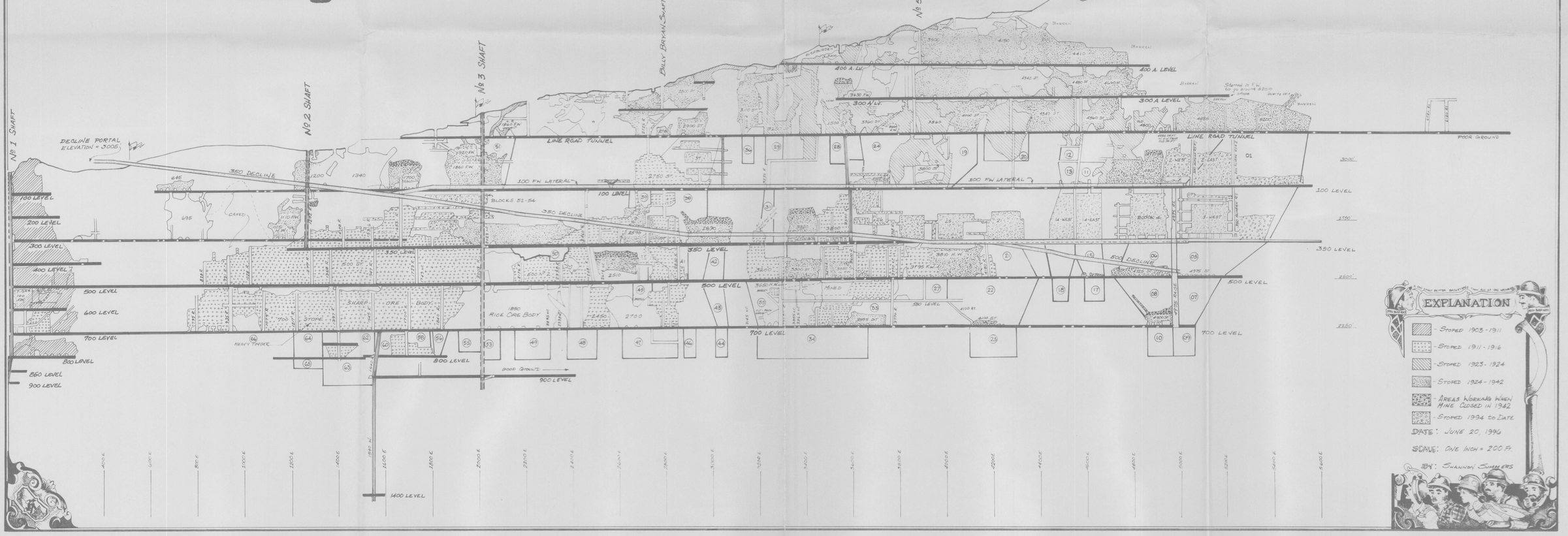
LINE ROAD 1699A

BILLY BRYAN 1699A

RAIL ROAD 2440

LAST CHANCE

RED TOP



ADDWEST MINERALS, INC.

GOLD ROAD MINE

1996 Actual Mine and Mill Production

	January	February	March	April	May	June	July	August	September	October	November	December	Total	Total Starting w/ Feb.
Tons Milled (Dry)	9,774	8,359	10,110	11,024	8,118								47,385	37,611
Au Poured	1,353.04	1,912.73	3,141.21	3558.27	2989.87								12,955.12	11,602.08
Au Ounces Recovered	1,518.54	2,759.71	2,718.60	3748.13	2443.62								13,188.60	11,670.06
Au Recovery	93.6%	94.9%	95.8%	95.8%	94.4%	ERR	ERR	ERR	ERR	ERR	ERR	ERR	95.1%	95.3%
Au In Tails	103.96	148.13	119.47	165.36	146.12								683.04	579.08
Au Contained	1,622.50	2,907.84	2,838.07	3913.52	2589.74								13,871.67	12249.17
Au / Ton of Ore	0.166	0.348	0.281	0.355	0.319	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.293	0.326
Tons Mined (Dry)														
Addwest	9,774	7,719	9,622	9,758	6,796	0	0	0	0	0	0	0	43,669	33,895
Contactor	0	640	488	1,266	1,322								3,716	3,716
Au per Ton														
Addwest	0.166	0.366	0.289	0.381	0.332	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.302	0.341
Contractor	0	0.131	0.125	0.158	0.254								0.183	0.183
Au Ounces														
Addwest	1,622.50	2,824.00	2,777.07	3,713.49	2,253.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13,191.01	11568.512
Contractor	0.00	83.84	61.00	200.03	335.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	680.66	680.656
Costs - Material														
500 G&A	$7,230	$27,218	$22,746	$21,915	$13,748								$92,857	$85,627
510 Mine General	$83,070	$89,932	$102,138	$102,250	$68,482								$445,872	$362,802
511 Eng. & Geo.	$687	$663	$589	$264	$728								$2,931	$2,244
512 Drill, Support, & Expl.	$73,191	$62,561	$69,533	$88,868	$52,172								$346,325	$273,134
513 Vehicle Maint.	$20,405	$34,953	$60,769	$46,269	$20,847								$183,243	$162,838
516 Mine Maint.	$28,359	$42,955	$25,048	$31,744	$21,176								$149,282	$120,923
													$0	$0
520 Gen. Mill	$8,525	$11,215	$14,893	$8,191	$5,366								$48,190	$39,665
521 Crushing	$1,278	$5,901	$40,326	$2,756	$1,391								$51,652	$50,374
522 Grinding	$13,034	$7,732	$11,748	$11,377	$32,053								$75,944	$62,910
523 Leach	$2,430	$11,866	$16,884	$9,983	$5,767								$46,930	$44,500
524 Tailings	$5,945	$134	$11,622	$5,059	$11,855								$34,615	$28,670
525 Refinery	$421	$3,323	$1,988	$1,671	$1,174								$8,577	$8,156
526 Lab.	$3,522	$382	$1,624	$2,436	$4,688								$12,652	$9,130
527 Electrical	$31,430	$50,174	$49,880	$50,409	$34,482								$216,375	$184,945
528 Mill Maint.	$3,013	$6,621	$9,846	$7,605	$3,752								$30,837	$27,824
Total Material Cost	$282,540	$355,630	$439,634	$390,797	$277,681	$0	$0	$0	$0	$0	$0	$0	$1,746,282	$1,463,742
000 Capital	$8,719	$98,973	$81,787	$26,156	$71,740								$287,375	$278,656
CWM	$15,100	$84,646	$191,973	$112,756	$0								$404,475	$389,375
Griffith	$8,500	$0	$30,976	$28,106	$58,645								$126,227	$117,727
530 DDH	$0	$0	$0	$2,789	$9,548								$12,337	$12,337
Total Misc.	$32,319	$183,619	$304,736	$169,807	$139,933	$0	$0	$0	$0	$0	$0	$0	$830,414	$798,095
Costs - Labor														
500 G&A	$26,453	$26,803	$28,462	$26,885	$30,411								$139,014	$112,561
510 Supervision	$14,375	$15,450	$16,890	$21,250	$24,040								$92,005	$77,630
510 Mine General	$196,371	$212,812	$202,491	$177,185	$211,864								$1,000,723	$804,352
511 Eng. & Geo.	$14,865	$18,198	$21,978	$19,823	$22,982								$97,846	$82,981
513 & 516 Mine Maint.	$18,527	$29,420	$34,938	$30,516	$39,893								$153,294	$134,767
516 Supervision	$4,583	$4,733	$5,183	$4,583	$5,183								$24,265	$19,682
													$0	$0
520 Supervision	$12,000	$14,554	$15,994	$14,383	$11,707								$68,638	$56,638
520 Mill General	$41,340	$38,510	$37,725	$33,300	$43,283								$194,158	$152,818
521 Crushing	$10,128	$10,154	$12,673	$9,184	$11,259								$53,398	$43,270
526 Lab.	$10,609	$10,471	$12,915	$9,713	$9,744								$53,452	$42,843
528 Mill Maint. & Elect.	$21,867	$16,864	$25,945	$22,773	$29,543								$116,992	$95,125
	$371,118	$397,969	$415,194	$369,595	$439,909	$0	$0	$0	$0	$0	$0	$0	$1,993,785	$1,622,667
Total Costs	$685,977	$937,218	$1,159,564	$930,199	$857,523	$0	$0	$0	$0	$0	$0	$0	$4,570,481	$3,884,504

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Total Costs	$685,977	$937,218	$1,159,564	$930,199	$857,523	$0	$0	$0	$0	$0	$0	$0	$4,570,481	$3,884,504

GOLD ROAD

LAND: 7-10-1996 payment due → $350,000 to Amvest Expl Co

PERMITTING: NECESSARY PERMITS

VIOLATIONS OR NOTICE OF VIOLATIONS

WATER → DISCHARGE

DILUTION:
- Historic widths of stopes: 6.3' vein width 4.7' ⇒ 24.6% dilution @ .027 oz/t
- USSRM recog. dilution problem, but w/ conv. shrinkage stoping could not stop it.
  ↳ using hand-held 6' holes

WATER
- Level of flooded workings
- pumping success/ "0" DISCHARGE??

EXPL:
PRE- or POST- OKE TILTING IN DISTRICT

LIKE RD TUNNEL → ore in above Kid Top Sill?

Why did production terminate w. of #1 shaft? Fit?

VALUATION: Behre Dolbear, 1993: NPV of $4.7 to 10 million, @ 10%, $40 gold

Joe Wojeck
CO. G.M - Denver
303-986-2420

Watts, Griffis and McOuat
Consulting Geologists and Engineers

September 5, 1995

M. Jean Depatie
President
Cambiex Exploration Inc.
800 Rene Levesque Blvd. West
Montreal, Quebec
H3B 1X9

BY FACSIMILE: 514-878-4608

Dear Jean:

Here is a thumbnail sketch of the Gold Road project which is available in the U.S. Cambiex may be interested. ARIZONA

- The Gold Road Vein is an epithermal quartz-adularia-gold vein.
- The mine produced over 600,000 oz. gold from 1903-1942.
- The mine was closed by Executive Order L-208 in 1942. At that time, the owner claimed proved and probable ore reserves of 456,000 st grading 0.325 oz. Au/st. (grade may be suspect).
- Owner acquired the main property plus four claims along the strike eastward. There is a promissory note for $350,000 due July 1996 and a 3.5% gross royalty due the previous owners.
- Owner constructed a new 500 stpd CIP mill on site and drove a decline in the hangingwall and has been mining since January 1995.
- Owner has a $9.3 million gold loan from Rothschild guaranteed by its parent company.
- Owner has not been able to realize the expected grade in the mill feed and has been operating at a loss.
- In June, another junior paid $350,000 for an option to purchase the mine shares, cash and loan assumption, totalling $22 million.
- The junior has now declined to proceed. We do not know why.

.../2

- Last week, a minority stockholder's group of the Owner, forced the resignation of the Chairman and his brother, a director.

- The mine has two drill holes eastward along strike that intersected vein material at mineable grade and width 500 ft and 10,000 ft from the 1942 face.

- The mine may be available for $5 million. The new people say they intend to proceed with the "...prompt, but prudent sale...".

- A prudent buyer would verify and develop reserves during an option period. The verification would include sampling, drifting, cross-cutting and drilling and could cost $1 million.

If you are interested, WGM can provide an introduction and more detailed technical information. WGM would like to be rewarded for this introduction, should you proceed, and an attractive fee schedule for work to be done on the project would be one way to do this.

Sincerely,

Ross D. Lawrence

RDL/sor

cc J.R. Wojcik
D.G. Wahl
J.F. McOuat

P.S. Ross!
I am interested and
W.G.M will be rewarded
if successful
Jean Depatie
13/09/95

FAXÉ

CAMBIOR

M E M O R A N D U M

Date: October 23, 1995

To: Elzéar Belzile - *Cambior, Val d'Or*
Randy Moore - *Cambior, Reno*
Joe Wojeik - *W.G.M., Denver*

From: Jean Depatie

Re: **Gold Road Mine, Mohave County, Arizona**
Property Visit - October 27 - 28, 1995

Since you have all been made aware that I will not be able to be with you for the property visit scheduled for October 27 - 28, I am appointing Elzear Belzile as the project leader and I think that you will probably be able to do a better job than if I was are there.

Mr. Belzile will therefore coordinate everything with you so that we find out exactly what's wrong with the mining operations at Gold Road and if we can do any better. More important to me is to estimate how long it will take (and at what cost) to have a profitable venture.

Good luck to you all!

Jean Depatie
President - Cambiex

P.S.:

- Elzear Belzile is to leave Val d'Or at 09:55 and arrive in Las Vegas at 18:03 on October 26 via American Airlines, flight #561. Return scheduled in the morning of October 29.
- Joe Wojeik will arrive in Las Vegas at 15:00 on the same day and will meet Elzear Belzile at the gate.
- We have made a reservation at Budget, Las Vegas airport, for an intermediate car.
- Randy Moore's definite schedule is not available yet. To coordinate with Elzear Belzile and Joe Wojeik. He is to fly back to Reno on October 28.
- Joe Wojeik to communicate to Elzear Belzile and Randy Moore the list of the principals at the mine site.
- Your client is Cambiex Exploration Inc., Montreal office.

CAMBIOR

To: Jean Depatie
From: Randy Moore
Date: November 1, 1995
Subject: Gold Road Mine, Mohave County, Arizona

A property visit and data review for the Gold Road Mine were conducted on October 27-28 with Elzear Belziel and Joe Wojeik. The mine is currently producing approximately 1,000 to 1,200 ounces a month at an operating cost of roughly $600/oz of Au. The 500 ton/day mill has yet to reach capacity and gold grades are half that of the reserve numbers. The feasibility report states proven and probable reserves of 486,000 tons @ 0.355 oz/t Au for a total of 172,600 ounces. Based on the mine performance to date, there may be 50,000 ounces which could be placed in a minable category at a grade of 0.2 to 0.25 oz/t Au.

The operation was poorly conceived from the start and should be considered only as an exploration target, not as an operating mine. The operators, Addwest Minerals, placed the property into production using only historic underground sample data from the 1930's and early 1940's. This sampling came from the 100, 350, 500 and 700 foot levels with no drilling data. If ore grades were found on two consecutive levels, all the material between was considered to be proven and probable, thus making projections of 200 to 250 feet between sample points. Addwest is now discovering that the grades, as well as thicknesses, are highly variable (as would be expected in an epithermal vein system) and that the production grades are much lower than the book values.

The mining is being done on minimum 7-foot widths with the average vein width being 5 feet. This gives a minimum of 40% dilution. Within the stopes currently being mined, the actual dilution appears to be as great as 100% in some cases. Viewing the historic records, the stope widths were between 4 to 5 feet with grades ranging from 0.25 to 0.4 oz/t Au. Production drift sampling by Addwest is returning values of 0.1 to 0.15 oz/t Au over 7 to 10 foot widths. These values correspond well to the production grades and to the historic grades if they are diluted over these widths.

The exploration potential of the Gold Road vein system is considered good to excellent. It is important to note however, that the potential is for similar type material to that which is currently being mined, or grades of 0.2 to 0.25 oz/t Au over narrow mine widths. These grades do not appear to be an attractive target for a Cambiex venture. If the decision is made to become involved in the property, it is recommended that all mining activities stop upon acquisition and that an extensive exploration program be initiated to develop proven reserves. This would require approximately 12 months to complete at a cost of roughly $2,000,000. Once this work is completed a new feasibility study would be necessary to determine the profitability of any potential operation. Should the feasibility study be positive an additional 6 to 12 months and several million dollars would be required for development work.

Cambior Exploration USA, Inc.

230 South Rock Blvd., Suite #23, Reno, Nevada 89502-2345, USA, Telephone 702-856-5189, Fax 702-856-4549

The Gold Road property holds no potential as a source of cash flow for Cambiex in the short term. It is an exploration property that is roughly 2 years and over $4,000,000 away from being a profitable operation. While there is additional exploration potential, the expectations are for an 0.2 to 0.25 oz/t, undiluted, underground gold grade over mining widths of 4 to 5 feet.

Randy Moore
Senior Geologist

JD

CAMBIOR INC.

RAPPORT D'ÉVALUATION
MINE GOLD ROAD
(Addwest Mineral inc.)
Comté Mohave, Arizona

Par :
Elzéar Belzile, géologue

Novembre 1995

TABLE DES MATIÈRES

page

1.0 RÉSUMÉ

- **Localisation** : - Comté Mohave, Arizona

- **Géologie** : - Roches volcaniques tertiaires à faible pendage vers l'est reposant sur le socle précambrien

  - Plusieurs failles normales de direction nord-ouest recoupent ces roches volcaniques

  - La veine **Gold Road** occupe une de ces failles

- **Géologie économique** : - Minéralisation aurifère

  - Veine de quartz-calcite de 5 pieds de large en général, avec pendage de 75°

  - La veine est connue sur plus de 6 000 pieds horizontalement et 1 000 pieds verticalement

- **Production antérieure** : - Découverte en 1902

  - Production de 1 691 433 tonnes @ une teneur de 0,362 oz/t représentant 611 865 onces

  - Cette production s'est échelonnée de 1902 à 1942

- **Production actuelle** : - Budgétée : 180 000 t/année @ 0,30 oz/t

  - Réelle (avec projection) : 126 000 t @ 0,13 oz/t (1995)

- **Explication de la différence** :
  - Tonnage : → développement mal planifié en fonction de la production attendue (en retard)
  - Teneur : → mauvaise utilisation de la méthode de minage
    → dilution

- **Méthode de minage** :
  - Longs-trous verticaux avec sous-niveaux
  - Longs-trous horizontaux avec monteries Alimak
  - Les trous sont alignés à l'oeil et ne sont pas arpentés

- **Réserves minières économiques** :
  - 316 493 tonnes courtes @ 0,190 oz/t
    pour un total de 60 094 onces in-situ
    (6 pieds de large + 30 % de dilution)
  - 55 887 onces disponibles après récupération (93 %)

- **Potentiel supplémentaire** :
  - Extension immédiate vers l'est
    (potentiel de 300 000 t @ 0,20 oz/t)
  - La veine est limitée par une faille à l'ouest
    Elle pourrait avoir été déplacée de l'autre côté
    (tonnage potentiel inconnu)
  - La veine est ouverte en profondeur
    (la présence de réserves en profondeur pourrait nécessiter le fonçage d'un puits cependant)
  - La possibilité de veines parallèles
    (tonnage potentiel inconnu)

- **Usine** :
  - Capacité de 500 tpj
  - Usine conventionnelle (type C.I.P.)
  - Récupération anticipée : 95 %
  - Récupération actuelle : 90 %
  - Parc à résidus conçu pour un peu plus de 1 M tonnes
  - La digue doit cependant être haussée l'an prochain

- **Coûts de production** :
  - Coûts actuels : 78 $ US/t
  - Coûts possibles à atteindre : 60 $/t

- **Prix de revient** :
  - Avec un coût de 60 $/t et une teneur récupérée (93 %) de 0,177 oz/t, le prix de revient serait de 340 $ US/once produite

Commentaires

Après une acquisition, la première chose à faire serait d'arrêter la production (mine et usine) pour permettre de développer de nouveaux chantiers dans le but de pouvoir maintenir une production de 500 tpj.

Parallèlement à ce développement, il faudrait forer l'extension Est de la veine pour permettre d'augmenter les réserves disponibles à court terme. Avec un résultat positif de ce forage, la mine pourrait produire entre 30 000 et 35 000 onces/année pendant quelques années. Si les résultats sont négatifs, on parle d'une production de 1½ an environ.

2.0 LOCALISATION ET ACCÈS

La propriété est localisée à environ 25 milles au sud-ouest de Kingman en Arizona dans le comté Mohave. La mine est accessible par une route pavée qui relie Kingman à Oatman.

La propriété comprend 18 claims et 4 sites d'usine patentés, de même que 93 claims et 6 sites d'usine non-patentés. Toute la superficie couvre 2 145 acres.

Toutes les réserves minières actuelles et toutes les constructions de la mine sont situées sur des claims patentés et ne sont donc pas à risque pour des royautés gouvernementales ou des augmentations de coûts suite à d'éventuelles modifications de la Loi sur les mines (1872).

La propriété est sujette à une royauté de 2 % de la part de la compagnie Amwest et à une royauté additionnelle de 1,5 % de Gold Road Top Mining Co., mais sur quelques claims seulement.

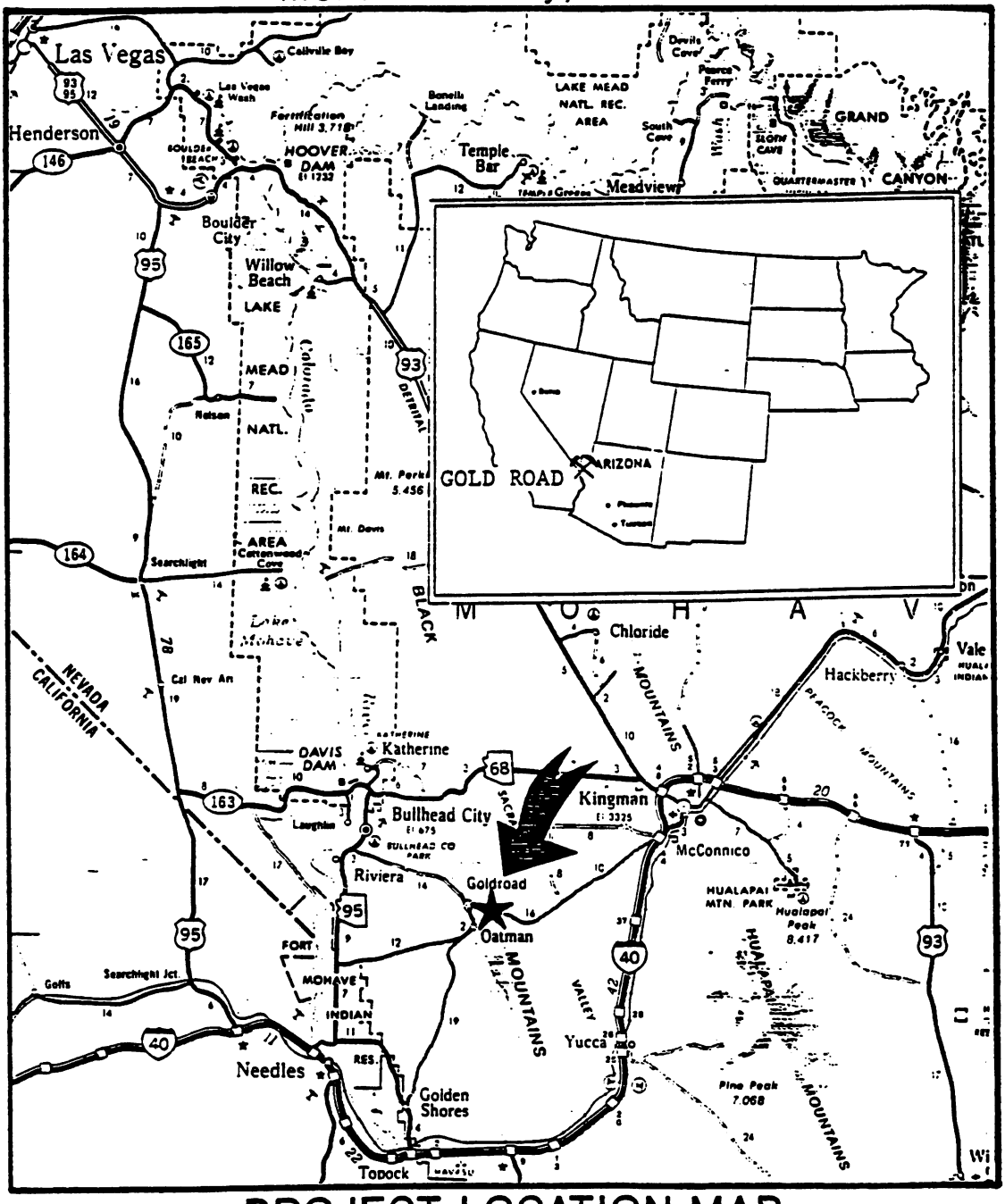
3.0 GÉOLOGIE

La mine **Gold Road** est localisée dans le district minier de Oatman. La géologie du district consiste en une série de roches volcaniques d'âge tertiaire à faible pendage vers l'est qui se superpose à des roches de base précambrienne. Des failles normales de direction nord-ouest sont le fait structural dominant du district. La veine **Gold Road** occupe d'ailleurs une de ces failles nord-ouest et pente fortement vers le nord-est. La structure traverse trois unités géologiques différentes qui sont en ordre ascendant, l'andésite de Oatman, la latite de **Gold Road** et les tufs de Sitgreave.

Addwest Minerals, Inc.

Gold Road Project

Mohave County, Arizona



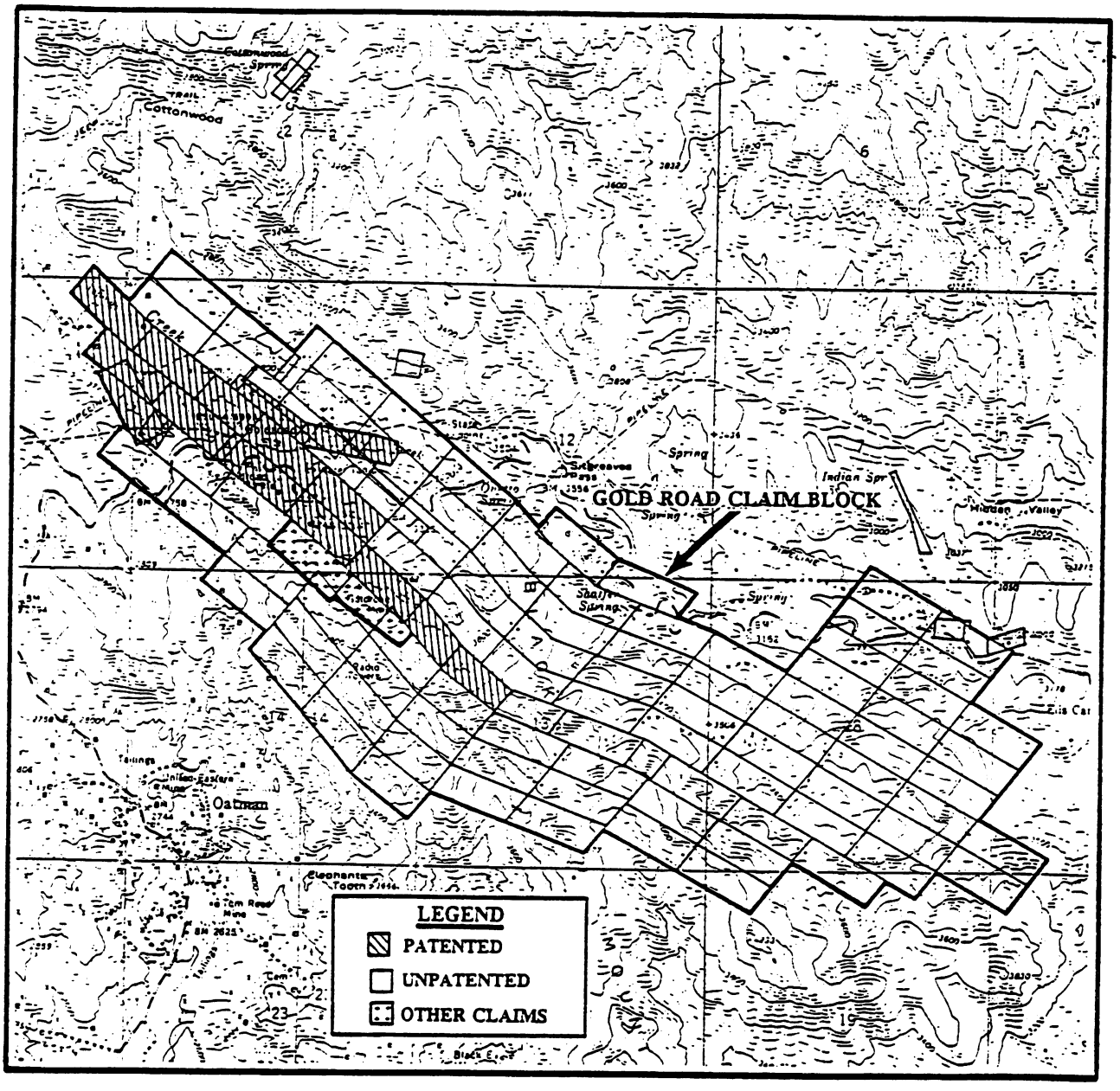
PROJECT LOCATION MAP

Figure 1.1

Addwest Minerals, Inc.

Gold Road Project

Mohave County, Arizona



GENERALIZED CLAIM LOCATION MAP

Figure 1.2

La veine elle-même présente une largeur d'environ 5 pieds mais peut atteindre jusqu'à 30 pieds par endroits. La veine a été minée ou identifiée sur plus de 6 000 pieds horizontalement et sur plus de 1 000 pieds le long du pendage. Elle est constituée principalement de quartz (jusqu'à 5 générations différentes) avec des concentrations locales de calcite. La minéralisation est aurifère mais contient également un montant équivalent d'argent. La présence de sulfures est très rare. L'or est donc libre et à grain très fin.

Les tests métallurgiques effectuées par I.C. Technologies indiquent une récupération potentielle de 95 % de l'or.

4.0 TRAVAUX ANTÉRIEURS

La mine **Gold Road** a été découverte en 1902 par The Gold Road Mining and Exploration Company qui l'a opérée jusqu'en 1911. De 1911 à 1928, la mine a été opérée alternativement par les compagnies USSRM et Lessies. Après une fermeture temporaire de 1928 à 1935, la compagnie USSRM a repris les activités suite à une augmentation du prix de l'or.

La production totale de la mine **Gold Road**, de 1902 à 1942, a été de 1 691 433 t @ une teneur de 0,362 oz/t représentant 611 865 onces d'or.

Depuis ce temps, très peu de travaux ont été effectués sur la propriété. L'évaluation de **Addwest** est donc basée entièrement sur les données disponibles de USSRM à la fermeture de la mine.

5.0 TRAVAUX ACTUELS

Même s'il s'agit d'une ancienne opération minière, il n'y a pas eu réhabilitation des anciens travaux (puits et galeries). **Addwest** a choisi de développer de nouveaux accès à la mine via une rampe de 11 pieds x 13 pieds avec une pente de 12 % dans le mur supérieur du gisement. Il y a cependant un travers-banc qui rejoint l'ancien puits #3 pour la ventilation.

Jusqu'à présent, la rampe a été foncée pour donner accès aux niveaux 100 et 350 de l'ancienne mine. Les chantiers actuels sont localisés principalement au niveau 350 alors que le niveau 100 n'est pas encore complètement développé.

Mise en production officiellement depuis février 1995, la mine est censée produire 500 tpj @ 0,30 oz/t mais depuis le début, cette production a plutôt été de 350 tpj @ 0,12 oz/t. La mine n'a jamais réussi à atteindre la production budgétée en raison d'un manque de planification dans le développement des chantiers. La mine est entrée en production trop tôt, c'est-à-dire sans qu'il y ait suffisamment de chantiers développés. Ils étaient donc en retard dans le développement dès le début et il n'y a jamais eu assez de chantiers en production pour fournir le tonnage prévu. Le manque d'argent dans la phase de préproduction semble être une des principales raisons pour hâter la mise en production, de même que les problèmes de planification.

Le contrôle des coûts sous terre semble avoir été laissé au contracteur J.S. Redphath avec les excès que cela comporte dont un contrôle de terrain hors de proportion et la localisation de la rampe à 100 pieds de la veine (pour garder la rampe droite) occasionnant des points de soutirage très longs.

6.0 MÉTHODE DE MINAGE

À la mine **Gold Road**, la méthode de minage par longs-trous a été retenue. Elle est utilisée de deux façons différentes, soit verticalement avec l'utilisation de sous-niveaux aux 50 pieds et horizontalement à partir de monteries Alimak espacées de 100 pieds.

En théorie, ces deux méthodes pourraient être applicables à la mine **Gold Road**. Cependant, elles demandent une très bonne connaissance de la localisation de la minéralisation pour l'élaboration des patrons de forage. De plus, la minéralisation doit être continue et les murs compétents pour empêcher une dilution excessive.

À **Gold Road**, on peut dire que la continuité de la minéralisation est assez bonne. Par contre, il n'y a aucun travail d'ingénierie effectué pour la localisation des trous de production. Le géologue et le mineur alignent ensemble les trous de façon visuelle d'après le pendage observé dans les sous-niveaux et monteries. Il n'y a pas de sections de forage produites et les trous ne sont pas arpentés. Comme il n'y a pas de sondages au diamant, les gens assument que la veine conserve la même orientation, ce qui n'est sûrement pas toujours le cas.

Le contrôle de la teneur devient donc très aléatoire, spécialement dans le cas des longs-trous horizontaux, car les monteries sont espacées de 100 pieds. Ces trous ont donc une longueur de 45 pieds environ sans que l'on sache où se situe la veine à cet endroit. Dans ces conditions, même sans dilution minière supplémentaire, on peut prévoir des teneurs beaucoup plus faibles que celles anticipées dans le calcul des réserves et c'est d'ailleurs ce qui arrive à la mine.

À **Gold Road**, la méthode idéale serait probablement par chambres-magasins car la veine est habituellement de largeur de moins de 5 pieds, ce qui permettrait de produire la meilleure teneur possible. Par contre, la main-d'oeuvre expérimentée dans ce type de minage serait très difficile à trouver.

La méthode longs-trous par sous-niveaux peut également être envisagée (avec une meilleure planification), sauf qu'il faut s'attendre à une dilution assez importante provenant de l'éponte supérieure car il y a injection de quartz dans ce mur. Ce quartz casserait probablement assez facilement, entraînant une largeur de minage de 7 à 8 pieds probablement.

Il est possible que 7 pieds soit réalisable mais si on veut être prudents, il faudrait faire les évaluations basées sur une largeur de 8 pieds environ (planification de 6 pieds + 30 % de dilution).

7.0 RÉCONCILIATION DES TENEURS

7.1 Usine vs échantillons en vrac *(muck)*

Depuis le début de l'année, la teneur a été de 0,12 oz/t à l'usine comparativement à une évaluation sous terre de 0,13 oz/t. La corrélation est donc très bonne surtout si l'on tient compte qu'ils ont usiné environ 15 200 tonnes d'anciens résidus à teneur faible. Si on ne tient pas compte des ces résidus, on peut dire que l'évaluation souterraine par échantillons en vrac se compare très bien avec l'usine.

7.2 Échantillons en vrac vs rainures

Les échantillons en vrac et les rainures ne représentent pas exactement le même matériel. Les rainures sont prises uniquement dans les développements (galeries, monteries, sous-niveaux) tandis que les échantillons en vrac représentent la totalité des chantiers. Il n'y a pas de statistiques séparées pour les échantillons en vrac des développements.

Cependant, les échantillons en rainures des développements devraient tout de même être représentatifs de l'ensemble du chantier. Par contre, à la mine **Gold Road**, la réconciliation se fait difficilement car la teneur des rainures est beaucoup plus élevée que la teneur des échantillons en vrac. La teneur des développements évaluée par le département de géologie (rainures) est de 0,21 oz/t alors que les chantiers montrent uniquement une valeur de 0,13 oz/t.

À **Gold Road**, je crois que la majeure partie de la différence est due à la méthode de minage utilisée. Comme expliqué précédemment, il n'y a pas un bon contrôle dans l'alignement des forages longs-trous. Il n'y a pas de doute que cela cause une imprécision dans la localisation des trous et à certains endroits, la veine peut être laissée dans le mur et on prend du stérile à la place. L'effet produit est évidemment une baisse de la teneur de façon généralisée. Il semble également d'après le tonnage sorti des chantiers, qu'il y a un peu plus de dilution minière que prévu.

7.3 Rainures *vs* réserves

La comparaison entre les rainures et les réserves se tient en général assez bien. Il semble toutefois que les chantiers estimés à haute teneur dans les réserves (> 0,30 oz/t) soient en réalité un peu plus bas d'après les rainures.

Dans leur dernière évaluation des réserves, **Addwest** a tenu compte de cette baisse de la teneur d'après les rainures et ajusté le calcul en conséquence. Il semble que ce dernier calcul soit réaliste pour des réserves géologiques.

8.0 RÉSERVES

8.1 Banque de données

À la fermeture de la mine en 1942, USSRM estimait qu'il restait un inventaire minéral de 456 000 tonnes @ 0,325 oz/t. La base de ce calcul consiste en plus de 5 000 échantillons en rainures pris dans les divers développements miniers (galeries et monteries) où la veine était exposée.

Addwesta digitalisé l'emplacement (coordonnées, élévation, analyse, largeur de l'échantillon et le type de roche hôte) de ces échantillons. Les consultants Watts, Griffis et McOuat (avril 1994) ont effectué une vérification de 10 % de la banque de données. Ils ont trouvé un taux d'erreur de 0,4 % dans la codification, ce qui est jugé acceptable. À partir de cette base de données, différents calculs de réserves ont été effectués par **Addwest** et par certains consultants.

Il est à noter qu'il n'y a pas de données de sondages au diamant disponibles dans la mine, tout le calcul est donc effectué à partir des rainures.

8.2 Calculs précédents

Les différents calculs effectués avant l'ouverture de la mine montrent un tonnage moyen d'environ 600 000 tonnes @ une teneur de 0,28 oz/t, pour un total de 168 000 onces d'or in-situ.

L'été dernier, **Addwest** a effectué une nouvelle évaluation en ajoutant les données provenant des travaux actuels (principalement les rainures). Ces nouvelles données les ont obligés à réviser leur calcul à la baisse, particulièrement au niveau de la teneur.

GOLD ROAD PROJECT 9/15/95

VARIOUS ORE RESERVE CALCULATIONS

BLOCK #	(UNCUT) ORIGINAL STUDY	(UNCUT) FEASABILITY (WSE)	(UNCUT) ORIGINAL STUDY	(UNCUT) FEASABILITY MINABLE (95%recov.)	High Grade Cut to 4 oz. (Except WG M cut to 5oz.) BEHRE TONS	BEHRE GRADE (OPT Au)	DOLBRE TONS	DOLBRE GRADE (OPT Au)	W GM TONS	W GM GRADE (OPT Au)	AMI To 7.0' TONS	AMI To 7.0' GRADE (OPT Au)	As Per Min Prod. & Dev. Sched of 8/24/95	
1	30,480	0.339	30,480	0.322	40,769	0.277	32,593	0.296	38,145	0.265	34,484	0.265		
2	19,430	0.430	19,430	0.409	24,210	0.350	21,690	0.625	23,015	0.344	17,371	0.250		
3	21,690	0.473	21,690	0.449	37,378	0.385	28,892	0.331	45,421	0.235	41,121	0.220		
4	16,390	1.204	16,390	1.144	20,422	0.972	19,831	0.815	21,654	0.524	18,900	0.250		
5	10,520	0.442	10,520	0.420	19,170	0.360	16,620	0.340	25,888	0.254	19,170	0.254		
6	6,960	0.354	6,960	0.336	8,672	0.289	13,337	0.274	15,174	0.227	8,672	0.227		
7	16,730	0.390	16,730	0.371	28,575	0.318	20,137	0.309	16,927	0.296	28,575	0.296		
8	9,940	0.322	9,940	0.306	12,385	0.264	16,431	0.256	18,168	0 208	12,385	0.208		
9	4,340	0.177	4,340	0.168	0	0.147	0	0.133	6,612	0.100	0	0.100		
10	4,500	0.154	0	0.146	0	0.129	0	0.136	6,775	0.117	0	0.117		
11	3,820	0.306	3,820	0.291	4,760	0.251	3,928	0.237	5,002	0.185	3,701	0.185		
12	2,150	0.203	2,150	0.193	3,420	0.179	1,587	0.181	2,222	0.145	5,417	0.145		
13	3,340	0.224	3,340	0.213	3,421	0.179	3,170	0.211	4,270	0.163	0	0.163		
14	17,220	0.292	17,220	0.277	21,469	0.240	22,063	0.273	25,700	0.236	13,742	0.236		
15	4,730	0.302	4,730	0.287	5,894	0.248	6,427	0.270	7,421	0.230	5,894	0.230		
16	6,230	0.287	6,230	0.273	7,763	0.236	7,713	0.280	8,214	0.233	7,763	0.233		
17	3,910	0.294	3,910	0.279	4,872	0.241	3,681	0.223	4,175	0.192	4,872	0.192		
18	2,410	0.262	2,410	0.249	3,003	0.216	0	0.241	3,540	0.206	3,100	0.206		
19	8,350	0.233	8,350	0.221	10,404	0.192	10,456	0.215	14,112	0.137	14,112	0.137		
20	2,410	0.825	2,410	0.784	3,003	0.667	3,098	0.545	4,038	0.423	2,019	0.423		
21	17,650	0.210	17,650	0.200	31,030	0.174	18,272	0.188	23,358	0.152	10,015	0.130		
22	24,440	0.219	24,440	0.208	30,452	0.181	27,881	0.202	29,772	0.158	30,452	0.158		
23	11,090	0.163	11,090	0.155	0	0.136	0	0.160	13,159	0.138	0	0.138		
24	11,200	0.157	11,200	0.149	13,955	0.131	12,432	0.189	13,939	0.152	10,567	0.152		
25	28,470	0.196	28,470	0.186	35,474	0.163	31,629	0.178	37,530	0.152	35,594	0.152		
26	10,980	0.158	10,980	0.150	13,681	0.132	0	0.116	15,651	0.127	15,651	0.127		
27	7,630	0.193	7,630	0.183	0	0.160	10,338	0.190	11,050	0.169	9,507	0.169		
28	2,390	0.180	2,390	0.171	0	0.150	2,388	0.252	3,335	0.194	3,335	0.194		
29	5,290	0.196	5,290	0.186	6,591	0.163	6,280	0.202	8,541	0.166	8,541	0.166		
30	3,900	0.192	0	0.182	4,859	0.159	4,705	0.203	4,959	0.176	4,959	0.176		
31	5,340	0.239	5,340	0.227	0	0.197	4,764	0.215	5,505	0.193	5,506	0.193		
32	2,900	0.208	0	0.196	3,613	0.171	0	0.210	4,073	0.181	0	0.181		
33	5,480	0.272	5,480	0.258	6,828	0.224	7,749	0.280	7,364	0.233	6,828	0.233		
34	24,500	0.214	24,500	0.203	12,211	0.177	30,825	0.201	33,671	0.174	30,304	0.174		
35	7,340	0.370	7,340	0.352	9,146	0.302	10,184	0.300	11,363	0.246	9,146	0.246		
36	2,390	0.115	0	0.109	0	0.098	0	0.112	2,923	0.087	0	0.087		
37	12,320	0.169	0	0.161	0	0.141	0	0.172	16,330	0.142	13,573	0.142		
38	6,640	0.223	6,640	0.212	8,273	0.184	8,656	0.216	9,977	0.188	9,977	0.188		
39	2,860	0.278	0	0.264	0		3,305	0.195	4,303	0.150	0	0.150		
40	2,270	0.112	0	0.106	0		0	0.131	3,037	0.114	0	0.114		
41	1,490	0.220	0	0.209	0		2,044	0.191	2,324	0.163	0	0.163		
42	4,300	0.193	0	0.183	0		5,373	0.228	6,149	0.190	0	0.190		
43	5,230	0.274	5,230	0.260	6,517	0.225	6,109	0.256	6,896	0.216	6,517	0.216		
44	1,430	0.390	2,860	0.371	713	0.318	1,972	0.222	2,607	0.172	2,607	0.172		
45	3,590	0.345	3,590	0.328	4,473	0.282	3,316	0.380	3,958	0.338	4,473	0.338		
46	2,860	0.183	2,860	0.174	0	0.152	2,469	0.200	3,334	0.154	0	0.154		
47	14,740	0.431	14,740	0.409	7,346	0.351	17,831	0.406	18,658	0.359	18,658	0.359		
48	6,870	0.259	6,870	0.246	3,424	0.213	8,735	0.225	9,865	0.199	9,865	0.199		
49	8,400	0.155	8,400	0.147	0	0.130	8,954	0.136	9,909	0.118	0	0.118		
50	7,900	0.246	0	0.234	0		7,640	0.232	7,499	0.232	0	0.232		
51	6,440	0.251	6,440	0.238	8,024	0.207	6,080	0.252	8,044	0.201	8,044	0.201		
52	4,330	0.512	4,330	0.486	5,395	0.416	4,654	0.344		0.249		0.249		
53	4,810	0.121	4,810	0.115	0	0.102	0	0.115	6,143	0.101	0	0.101		
54	15,210	0.773	15,210	0.734	18,952	0.626	19,295	0.890		0.666		0.666		
55	2,930	0.261	2,930	0.248	2,028	0.215	3,793	0.207	4,310	0.179	3,600	0.179		
56	1,510	0.474	1,510	0.450	1,252	0.361	2,069	0.579	2,094	0.416	1,800	0.416		
57	500	0.350	500	0.333	1,252	0.361	0	0.168	689	0.145	1,252	0.145		
58	1,850	0.828	1,850	0.787	3,003	0.558	2,439	0.501	2,986	0.459	2,986	0.459		
59	2,970	0.602	2,970	0.572	3,003	0.558	3,164	0.703	3,785	0.625	3,785	0.625		
60	2,050	0.221	2,050	0.210	1,869	0.184	2,229	0.202	2,589	0.176	2,589	0.176		
61	950	0.228	950	0.217	1,869	0.184	795	0.223	1,083	0.165	1,083	0.165		
62	7,850	0.280	7,850	0.266	9,781	0.230	8,975	0.299	9,743	0.260	9,743	0.260		
63	11,460	0.284	11,460	0.270	5,712	0.233	12,445	0.213	13,864	0.181	13,864	0.181		
64	4,960	0.281	4,960	0.267	4,747	0.222	5,784	0.197	6,696	0.169	6,696	0.169		
65	2,660	0.250	2,660	0.238	4,747	0.222	2,768	0.207	3,190	0.178	3,190	0.178		
66	22,480	0.198	22,480	0.188	11,204	0.164	35,628	0.218	37,964	0.192	37,964	0.192		
67	3,580	0.119	0	0.113	0		5,277	0.157	5,519	0.137	0	0.137		
68	3,340	0.180	3,340	0.171	0	0.150	0	0.181	2,778	0.146	0	0.146		
69	2,220	0.587	2,220	0.558	2,766	0.476	1,577	0.486	1,810	0.428	1,810	0.428		
70	1,360	0.180	0	0.171	0		0	0.156	1,333	0.138	0	0.138		
71	1,800	0.267	0	0.254	0		1,249	0.192	1,445	0.168	0	0.168		
72	3,740	0.343	0	0.326	0		4,569	0.218	5,138	0.192	0	0.192		
73	15,860	0.334	0	0.317	0		16,975	0.275	18,732	0.244	0	0.244		
74	1,620	0.237	0	0.225	0		1,553	0.194	1,712	0.170	0	0.170		
75	2,920	0.180	0	0.171	0		4,219	0.164	4,851	0.143	0	0.143		
76			0		0		0		13,428	0.211	11,765	0.211		
TOTALS	576,840	0.319	302,560	0.306	543,780	0.293	619,042	0.305	787,437	0.216	597,544	0.214		
TOTAL OZ.		183,746		154,017		159,480		188,593		170,395		127,887		
(@94%)		172,721		144,776		149,911		177,278		160,171		120,214		

Leur nouveau calcul s'élève à 597 544 tonnes @ 0,214 oz/t, pour un total de 127 887 onces en place.

Ils ont également retranché certains petits chantiers qui n'étaient plus jugés économiques.

8.3 Évaluation des réserves minières économiques

Pour évaluer les réserves minières disponibles, j'ai utilisé comme base le dernier calcul de **Addwest** car il semble le plus réaliste puisqu'il intègre les données récentes.

À partir de ce calcul, j'ai soustrait la production récente des chantiers, de même que les chantiers localisés sous le niveau 700. Ceux-ci sont en général de faible dimension et vont demander beaucoup de développement avant d'y accéder. Ils sont donc très incertains au point de vue économique et devraient être considérés comme inventaire géologique et non comme réserves. De plus, les très petits chantiers au-dessus du niveau 700 ont également été abandonnés.

Les réserves restantes ont été divisées en deux catégories, soit celles au-dessus du niveau 350 et celles localisées entre les niveaux 350 et le 700.

Les réserves au-dessus du niveau 350 sont présentement accessibles avec les développements actuels et peuvent être mises en production avec des coûts minimes. Les réserves entre les niveaux 350 et 700 demanderaient probablement un développement de plus de 3 000 pieds de rampe et du pompage. Elles devraient quand même demeurer économiques mais de façon moins rentable.

Les deux tableaux qui suivent présentent les réserves minières basées sur une largeur de 7 pieds, utilisant une teneur de coupure de 4 oz/t.

8.3.1 Réserves minières au-dessus du niveau 350

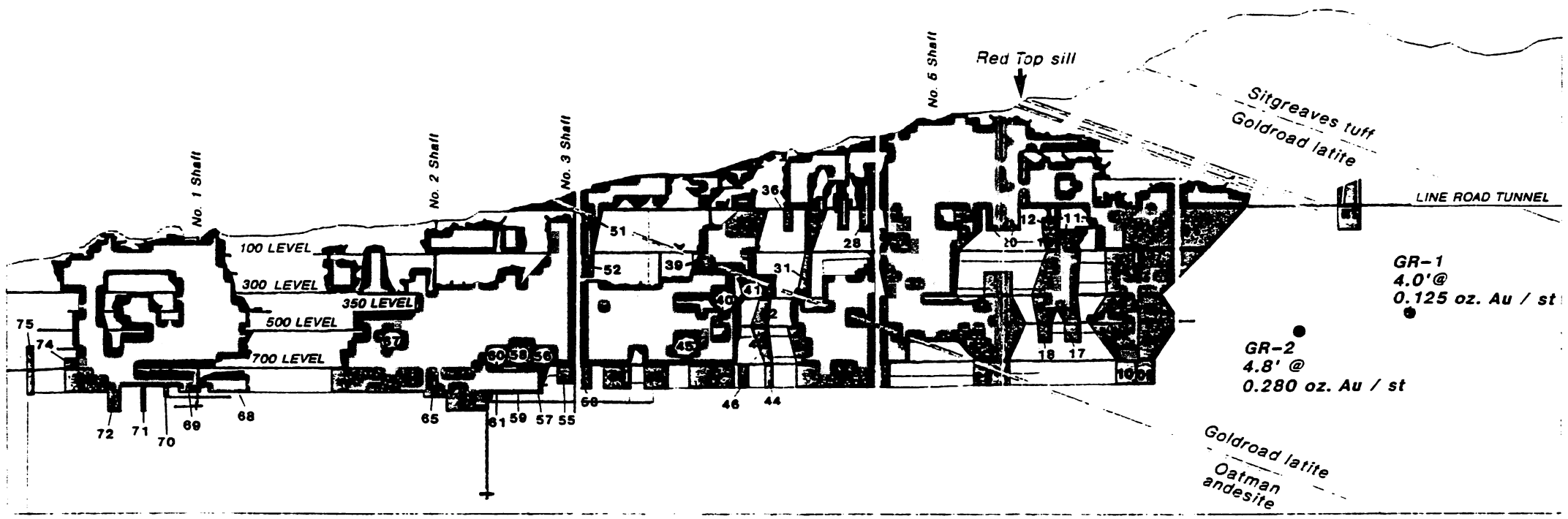
Bloc #	Tonnage (t)	Teneur (oz/t)
1	34 484	0,265
2	17 371	0,250
3	34 300	0,230
4	11 193	0,250
11	3 701	0,185
12	5 417	0,145
19	14 112	0,137
24	10 567	0,152
25	17 418	0,195
26	5 779	0,195
37	10 911	0,151
Sous-total	**165 253**	**0,214**

8.3.2 Réserves minières entre les niveaux 350 et 700

Bloc #	Tonnage (t)	Teneur (oz/t)
5	19 170	0,254
6	8 672	0,227
7	28 575	0,296
8	12 385	0,208
15	5 894	0,230
16	7 763	0,233
21	13 343	0,168
22	30 452	0,158
Sous-total	**126 254**	**0,222**

TOTAL	**291 507**	**0,217**

Looking Northeast



Modified from data provided by: Addwest Minerals, Inc. 1994

0 300 1500 ft.

Scale: 1" = 750'

H = V

Calculated blocks

Mined out

Drill hole

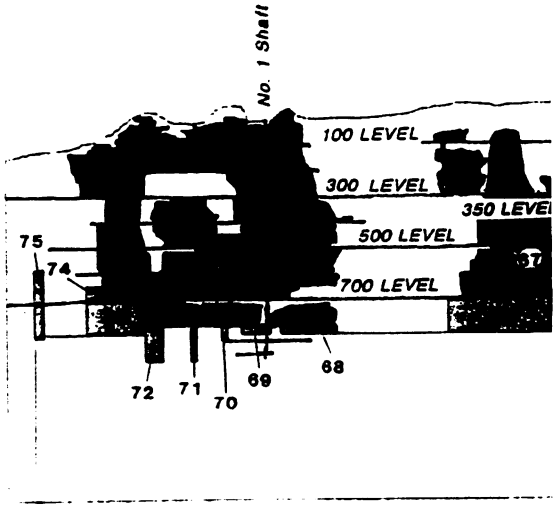
Figure 4

Watts, Griffis and McOuat Limited

Longitudinal Section of Gold Road Mine

Gold Road Project Mojave County, Arizona

March 1994



Modified from data provided by: Addwest Minerals.

Calculated blocks

Mined out

Drill hole

Figure 4

Watts, Griffis and McOuat Limited

Longitudinal Section of Gold Road Mine

Gold Road Project Mojave County, Arizona

March 1994

8.4 Résultat du calcul

Le total des deux tableaux précédents *(items 8.3.1 et 8.3.2)* est de 291 507 t @ 0,217 oz/t. Il est à noter que ces réserves sont basées sur une largeur de 7 pieds. Cette largeur pourrait peut-être être difficile à atteindre avec la méthode longs-trous en raison de la présence d'injection de quartz dans l'éponte supérieure. Il est jugé plus prudent de calculer une largeur de 8 pieds avec tonnage et teneur correspondants.

De plus, on doit assumer qu'on laissera en place 5 % de ces réserves sous forme de piliers.

Le résultat final de l'évaluation est donc de 316 493 tonnes courtes @ une teneur de 0,190 oz/t, pour un total de 60 094 onces in-situ.

En assumant une récupération de 93 %, cela porte le total d'onces disponibles après récupération à 55 887.

9.0 POTENTIEL SUPPLÉMENTAIRE

Le potentiel d'exploration existe à la mine **Gold Road** et ce, dans quatre directions différentes :

1) Il y a d'abord la possibilité d'extension latérale, à l'est où 2 trous d'exploration ont intercepté des valeurs économiques dans le prolongement de la structure connue à des distances respectives de 500 et 1 000 pieds à l'est de la galerie du niveau 500 (potentiel de 300 000 tonnes).

2) Du côté ouest, la veine est arrêtée le long d'une structure transverse. La veine pourrait avoir été déplacée par cette faille et continuer vers l'ouest. Par contre, il est possible que l'injection de quartz se termine le long de cette faille. Le potentiel existe tout de même, mais il est impossible à chiffrer.

3) Verticalement, en profondeur, la veine n'est pas fermée. Au niveau 700, la veine a été ouverte sur près de 6 000 pieds et environ 60 % de la veine a été minée. Il est évidemment difficile de quantifier ce potentiel, qui pourrait être supérieur à 1 M tonnes si la veine se poursuit de façon significative. Par contre, beaucoup de temps et d'argent seront nécessaires pour prouver ces réserves et un puits devrait probablement être envisagé pour le minage de ces réserves si elles existent.

4) Latéralement, il existe un potentiel de trouver une ou des structures parallèles à la faille **Gold Road**. Il en existe d'autres dans le district. Ce potentiel est évidemment impossible à chiffrer.

10.0 USINE ET PARC À RÉSIDUS

L'usine est conventionnelle de type C.I.P. et sa capacité est de 500 tpj. La construction est à aire ouverte (pas de toit). D'après les tests métallurgiques, la récupération devrait y être de 95 %. À date, l'usine n'a pu faire mieux de 90 % pour une raison inexpliquée.

En 1995, les coûts d'opération y ont été de 18,95 $/tonne avec une production de seulement 350 tpj. À pleine capacité (500 tpj), ce coût devrait diminuer aux environs de 14 $-15 $/tonne comme planifié.

Le parc à résidus a été conçu pour une capacité du double des réserves de départ, soit un peu plus de 1 M tonnes. Cependant, la digue actuelle devra être haussée dès l'année prochaine.

S'il y avait découverte de plus de 1 M tonnes, il y a possibilité de construire un autre parc un peu plus bas dans la vallée.

11.0 COÛTS DE PRODUCTION

Le tableau suivant résume les coûts de production de la mine pour le mois d'août 1995 et l'année à date :

	Août ($/t)	**AAD ($/t)**
Administration	13,83	19,27
Mine	40,02	39,53
Usine	17,82	18,95
Exploration	0,16	0,40
Total	**71,84**	**78,15**

Ces coûts sont très élevés et reflètent le manque de planification dont souffre la mine. D'après les résultats d'autres mines semblables et les études de faisabilité, il semble qu'un prix de 60 $/t soit atteignable avec un meilleur contrôle des coûts et une production de 500 tpj.

12.0 CONCLUSION

Le total des réserves minières économiques de la propriété **Gold Road** s'élève à 316 493 tonnes @ une teneur récupérée de 0,177 oz/t (93 %), pour un total de 55 887 onces disponibles. Si on combine cette teneur avec un coût de production probable de 60 $/tonne, on obtient un prix de revient de près de 340 $ US/once produite.

Ce coût de production assez élevé et le nombre d'onces disponibles limitent évidemment le *Cash Flow* potentiel pouvant être généré par cette mine.

Le potentiel d'exploration existe à **Gold Road** pour augmenter les réserves minières à court terme. Avec les caractéristiques du gisement (largeur de la veine, teneur, tonnage par jour disponible), la mine **Gold Road** pourrait être un producteur d'un peu plus de 30 000 onces par année pour quelques années, si l'exploration est favorable. La possibilité d'augmenter cette production annuelle semble faible pour le moment.

Watts, Griffis and McOuat
Consulting Geologists

October 31, 1995

M. Elzear Belzile
c/o M. Jean Depatie
Cambior Exploration
800 Rene Levesque Ouest, Suite 850
Montreal, Quebec, Canada
H3B 1X9

Dear Elzear:

It was my great pleasure to meet and travel with you on the inspection trip to the Gold Road mine last week. For your use, I enclose copies of the following:

- A print out of the spreadsheet constructed from the monthly stope record book. I recorded the "adjusted" extraction from each stope, the tons represented by assays of the mine cars, the assays and sampled widths from the stopes and the number of channels assayed. From that I calculated the ounces of gold expected from the extracted tons using the car sample assays and the stope sample assays and the percentage variation from the ounces expected by using the stope sample assays. The net difference was -12.6% although the individual stopes varied from -55% to +75%.

- A plot of the assays at five foot interval along the westernmost end of the 800 level.

- A plot of the assays at five foot intervals along the westernmost end of the 700 level.

As we agreed, the property has exploration potential. Reserves remaining above the 350 level are in the range of 45,000 to 55,000 ounces of gold. Another 20,000 to 25,000 may be projected from the old workings below the 350 level and some may be possible below the 700 level. I estimated that drilling along sections to test from 100 feet above the 100 level to the 700 level by intersecting the structure two times between the 700 and 500 levels, the 500 and 350 levels, the 350 and 100 levels with two intersections above the 100 level and one at the 700 level would amount to about 2400 feet of drilling. Of this, 1225 would be above the 350 level and 1175 feet below the 350 level. At $40 per foot, this represents $96,000. To test the structure 100 feet east or west of the section without moving the drill would require another 2650 feet each way. The total to test from the 350 level to 100 feet above the 100 level for 200 feet of strike would be 3895 feet which, at $40 per foot would be $155,800. Estimating that 50% to 60% of the structure would average 7 feet thickness of 0.20 oz. Au/t, the tested block would contain 4300 to 5200 ounces of gold at an exploration cost of $30 to $36 per ounce. Development costs would be minimal. Exploration costs below the 350 level would be slightly lower but to those costs would have to be added the cost of dewatering and vertical development. Clearly, the area of

immediate testing first above the 350 level on section then below the 350 level on section, then 100 feet to the east, 100 feet to the west and then below the 350 level to the east and west.

With underground discovery costs expected to be in the $30 to $40 range, little premium, if any, may be given to the 45,000 to 55,000 ounces available to the existing development. If the existing reserves can continue to be produced at the $56/t cost reported for September by Doug Christopherson, the reserves have only a simplistic $20 per ounce value which is $900,000 to $1,100,000. There is some additional value to the mine and mill equipment but this value is not determined at this time. Certainly it will be considerably less than the book asset value provided to you. If the mining and administrative costs could be reduced, the existing reserves could have greater values. As an example, the August administrative and milling costs could be reduced by 20% by increasing the average mill throughput from 400 tpd to 500 tpd.

Sound management can produce profits at Gold Road. Determining the value for a cash buyout will require Cambior's careful projection of operating and exploration costs.

I appreciated your experienced observations and remain at your service.

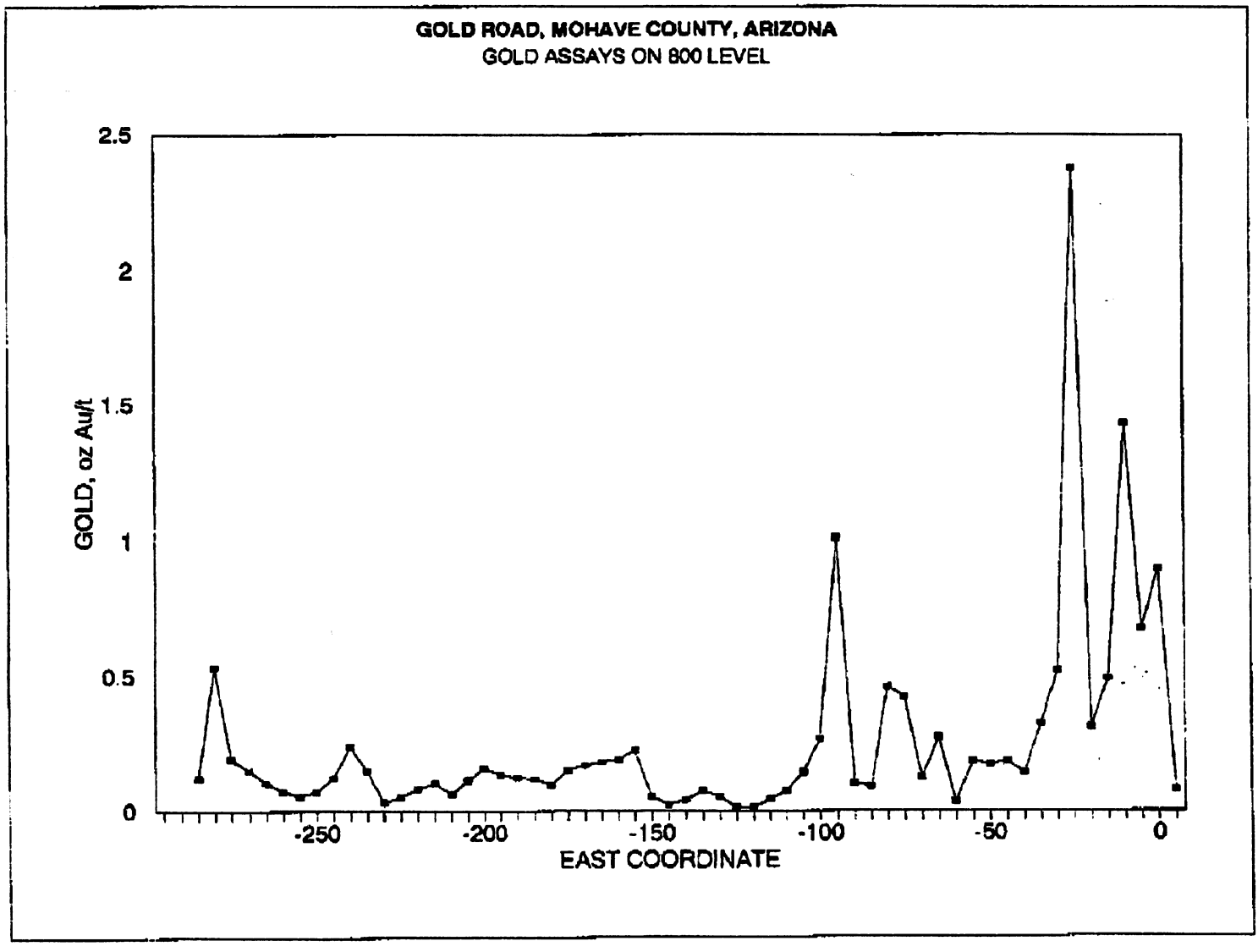
Very truly yours,

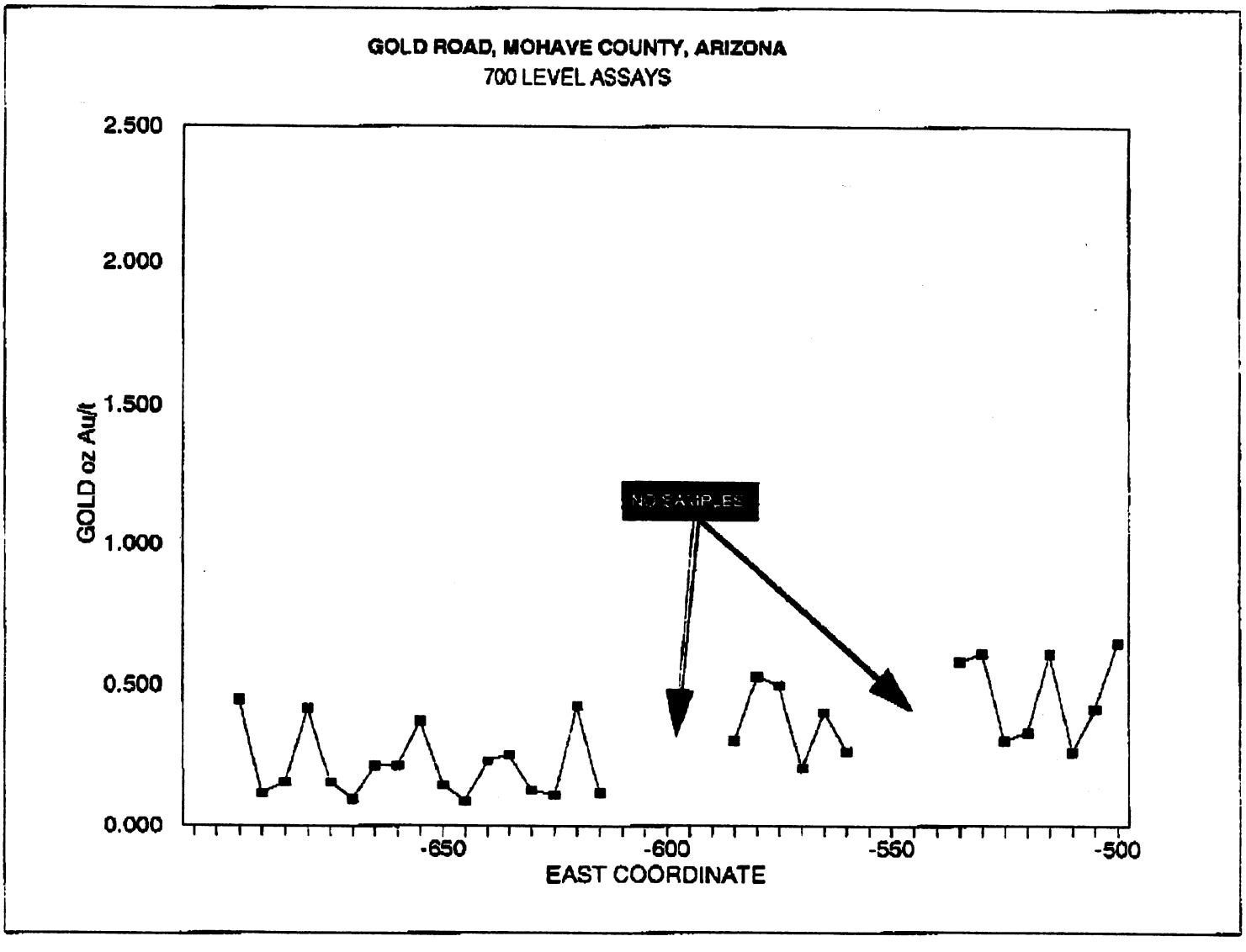
J. R. Wojcik
Manager

JRW/vs
encl.

GOLD ROAD RECONCILIATION FROM MONTHLY STOPE LOG BOOK TOTALS
EXTYRACTED OCTOBER 28, 1995

STOPE	EXTRACTED	ASSAYED	GRADE ASSAYED	GRADE SAMPLED	WIDTH STOPED	WIDTH SAMPLED	SAMPLES	OUNCES FROM EXTRACTE TIMES CAR ASSAYS	OUNCES TIMES EXTRACTEC TIMES CUT ASSAYS	PERCENT DIFFERENCE FROM CUT CALCULATEC ASSAYS
450A 3400	696	696	0.31	0.268	4.62	4.56	16	277.76	240.126	15.67
450 3900	13587	16571	0.264	0.299	5.3	4.33	279	3586.968	4062.513	-11.71
450A 3800	1815	1066	0.297	0.522	3.8	2.67	37	539.055	947.43	-43.10
450A 4150	9209	9930	0.275	0.27	4.73	3.94	150	2532.475	2486.43	1.85
450A 4150	18184	18024	0.225	0.19	5.48	3.77	333	4091.4	3454.86	18.42
450A E DRIFT								0	0	ERR
UNDER 4150	1019	980	0.276	0.285	5.62	2.48	58	281.244	290.415	-3.16
300A 3865	18812		0.297	0.321	5.52	4.77	248	5587.164	6038.652	-7.48
300A 4340	5833	3071	0.26	0.267		4.51	85	1516.58	1557.411	-2.62
LR 1800	4233	4214	0.256	0.238		4.72	23	1083.648	1007.454	7.56
LR 2000	2685	2735	0.198	0.238	18			531.63	639.03	-16.81
LR 2200	6515	6698	0.18	0.228		4.37	81	1172.7	1485.42	-21.05
LR 2330	4676	5114	0.291	0.166	6	3.43	93	1360.716	776.216	75.30
LR 2600	6810	6053	0.165	0.136		5.51	40	1123.65	926.16	21.32
LR 2800	4110							0	0	ERR
LR 3600	5198	4487	0.187	0.2		5.3	126	972.026	1039.6	-6.50
LR 4900	13234	13626	0.159	0.171		4.54	215	2104.206	2263.014	-7.02
LR 4885	1746	1900	0.22	0.376		3.04	121	384.12	659.988	-41.80
LR 5200	13219	16418	0.218	0.249		4.32	118	2881.742	3291.531	-12.45
100 #3SHAFT	8718	8140	0.512	0.479		3.36	140	4463.616	4175.922	6.89
100 1860	2624	2708	0.284	0.307		3.6	117	745.216	805.566	-7.49
100 EAST	973	1056	0.605	1.325		3.98	79	588.665	1289.225	-54.34
100 4820	7458	8075	0.577	0.965		4.19	127	4303.266	7346.13	-41.42
100 #2SHAFT	9398	10353	0.232					2180.336	0	ERR
100 1340	11743	11499	0.172	0.292		9.29	219	2019.796	3428.958	-41.10
107A 1920	2056	1639	0.193	0.158		4.49	48	396.808	324.848	22.15
300 110FW	4642	4479	0.286	0.406		3.61	286	1327.612	1893.936	-29.90
300 1115HW	1500	840	0.177					265.5	0	ERR
300 1100	574	568	0.322					184.828	0	ERR
350 2010	4278	3567	0.186	0.224	5.46	3.56	164	795.708	958.272	-16.96
350 2595	10811	12779	0.21	0.251		9.2	198	2270.31	2713.561	-16.33
350 2890	7197	6206	0.178	0.232		5.39	311	1281.066	1669.704	-23.28
350 3320	2672	1711	0.443	0.293		8.1	96	1183.696	782.895	51.19
350 3420	981	737	0.271	0.282		4.87	35	265.851	276.642	-3.90
350E DRIFT	2438	1739	0.198	0.483		4.99	73	482.724	1177.554	-59.01
500 E DRIFT	3588	2881	0.344	0.363		5.38	105	1234.272	1302.444	-5.23
500 3810	30619	17715	0.185	0.203		9.1	589	5664.515	6215.657	-8.87
500 3795	12121	4249	0.214	0.284		4.75	12	2593.694	3442.364	-24.65
ALL 3550	25994	22060	0.232	0.177		4.6	84	6030.608	4600.938	31.07
500 2510	12494	8843	0.174	0.22		8.27	216	2173.956	2748.68	-20.91
700 4100	642	642	0.137	0.138		4.48	53	115.354	116.196	-0.72
700 3595	4279	4130	0.126	0.116		8.02	123	539.154	496.364	8.62
700 4900	4464	4287	0.15	0.251		5.1	137	669.6	1120.464	-40.24
700 3260	2931	2922	0.126	0.27		4.92	18	369.306	791.37	-53.33
700 4975	3065	3160	0.226	0 338		4.77	154	692.69	1035.97	-33.14
LR 3110	10569	15014	0.349	0.519		2.92	189	3688.581	5485.311	-32.76
LR 1860	817	828	0.143	0.263		5.01	25	116.931	214.871	-45.63
LR 2760	982	1060	0.122	0.194		2.14	29	119.804	190.508	-37.11
300A 3860	9220	9040	0.333	0.371		3.82	144	3070.26	3420.62	-10.24
300A 3650	5435	5264	0.177	0.409		3.8	90	961.995	2222.915	-56.72
700 1850	19804	21575	0.165	0.255		8.12	40	3284.16	5075.52	-35.29
700 2450	6380	6750	0.261	0.329		7.37	112	1665.18	2099.02	-20.67
350 1975	458	398	0.085	0.127		5.43	15	38.93	58.166	-33.07
500 4725	3575	2235	0.339	0.3		6.25	126	1211.925	1072.5	13.00
500 4600	453	191	0.236	0.376		4.58	10	106.908	170.328	-37.23
800 220	3012	2299	0.176	0.244		3.28	35	530.112	734.926	-27.87
10E WZ	2533	2692	0.222	0.131		5.11	117	562.326	331.823	69.47
100 1700	7105	6061	0.232	0.291		4.06	168	1648.36	2067.555	-20.27
100 3800	6265	6760	0.321	0.396		4.05	123	2011.065	2480.94	-18.94
100 2635	564	506	0.085	0.076		3.83	32	47.94	42.864	11.84
100 1200	498	291	0.23					114.54	0	ERR
100 3580	1029	940	0.204	0.347		2.95	61	209.916	357.063	-41.21
500 4975	549	188	0.382	0.343		7.72	4	209.718	188.307	11.37
	389589		0.23733725028171	0.27232096388758				92463.982	106093.252	-12.85


GOLD ROAD, MOHAVE COUNTY, ARIZONA
GOLD ASSAYS ON 800 LEVEL
GOLD, oz Au/t
2.5
2
1.5
1
0.5
0
-250
-200
-150
-100
-50
0
EAST COORDINATE


GOLD ROAD, MOHAVE COUNTY, ARIZONA
700 LEVEL ASSAYS
2.500
2.000
1.500
1.000
0.500
0.000
GOLD oz Au/t
NO SAMPLES
-650
-600
-550
-500
EAST COORDINATE

CAMBIOR

FORMULE DE TRANSMISSION PAR TÉLÉCOPIEUR

(Telecopier covering sheet)

Date: Nov 6, 1995 **# de télécopieur:** _____

Destinataire: (Addressee)
Nom (name): RANDY MOORE
Compagnie (company): CAMBIOR - RENO
C.C.: _____

Expéditeur: (Sender)
Nom (name): JEAN DEPATIE

Nombre de pages (incluant celle-ci): (Number of pages (including this one)) 6

MESSAGE

FOR YOUR INFORMATION

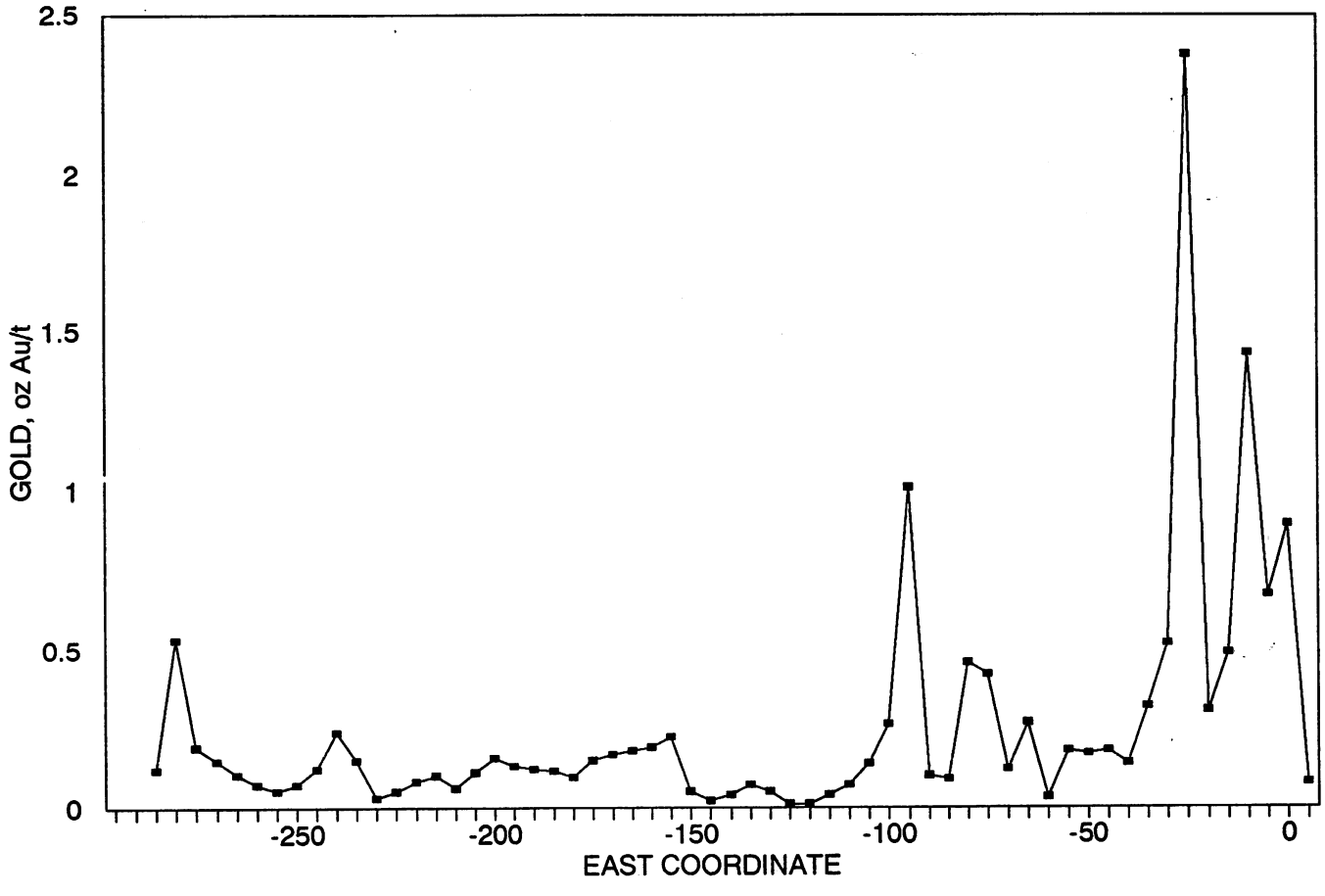
HEARD FRIDAY THAT ADDINGTON RES. HAD SOLD ALL OF THEIR MINING INTERESTS FOR 600,000 $ U.S CASH AND OTHER CONSIDERATIONS

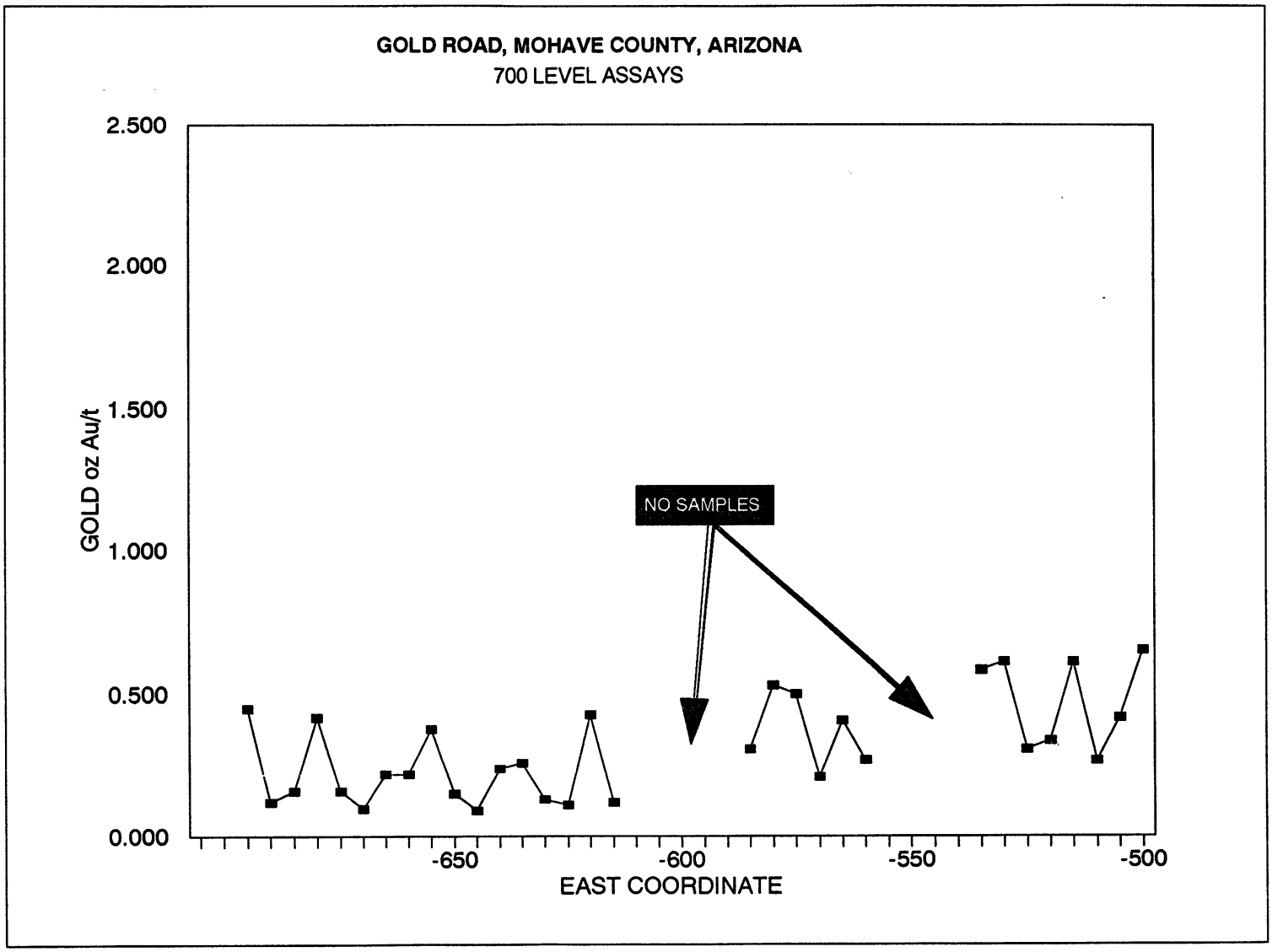
Jean Depatie

CAMBIOR INC.
800 René-Lévesque Ouest, suite 850, Montréal (Québec) Canada, H3B 1X9
Tel.: (514) 878-3166 Fax: (514) 878-0635 Telex: 055-60930

GOLD ROAD, MOHAVE COUNTY, ARIZONA

GOLD ASSAYS ON 800 LEVEL




GOLD ROAD, MOHAVE COUNTY, ARIZONA
700 LEVEL ASSAYS
2.500
2.000
1.500
1.000
0.500
0.000
GOLD oz Au/t
NO SAMPLES
-650
-600
-550
-500
EAST COORDINATE

Watts, Griffis and McOuat Limited
Suite 210
165, South Union Boulevard
Lakewood, Colorado 80228, U.S.A
In account with:

Date: November 17, 1995
Project: CBR AMI
Inv. No. 95-133

Cambiex Exploration
800 Rene Levesque Ouest Suite 850
Montreal, Quebec H3B 1X9

Services requested for the evaluation of the "Gold Road" mining project in Arizona

Attn: Mr. Jean Depatie

Services month of October

Professional Fees:

J. R. Wojcik	12 hr. @ $133/hr	$1,596.00
	2 days @ $931/day	1,862.00
Total Professional Fees:		$3,458.00

Disbursements:

Airfare	$295.00
Hotel/meals	136.33
Taxi	40.00
Communications	19.13
Total Disbursements:	$490.46
Net due:	$3,948.46

Note
To be paid in U.S funds

Respectfully submitted,

J.R. Wojcik

O.K. - accepted
Jean Depatie
20/11/95

TOTAL P.01

REPORT ON GOLD ROAD MINE

MOHAVE COUNTY, ARIZONA

PREPARED FOR

ADDWEST MINERALS, INC.

Denver, Colorado
April, 1994

Watts, Griffis and McOuat Limited
Consulting Geologists and Engineers

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1. SUMMARY

1.0 SUMMARY

The Gold Road mine, in west-central Arizona was discovered in 1902 and produced over 600,000 fine ounces of gold during three periods of concerted activity. Executive Order PL-208 closed the mine during World War II and the mine has remained idle since the successful conclusion of the war. At the time of closure, in 1949, the mine operator reported proven and probable ore reserves totalling 456,000 st grading 0.325 oz Au/st. Addwest Minerals Incorporated (Addwest) became aware of the opportunity represented by Gold Road's ore reserve and, in 1992, purchased an option to acquire the property subject to a 2% royalty on proceeds from the sale of precious metals, ores or concentrates.

The Gold Road vein is one of the major gold producing structures in the San Francisco mining district which lies about 95 miles southeast of Las Vegas, Nevada and about 200 miles northwest of Phoenix, Arizona. Gold production, at Gold Road, was from a quartz calcite vein emplaced along a steeply dipping fracture zone in volcanic rocks. Mining was continuous for over 6000 ft. horizontally and 1400 ft. vertically. The vein is exposed in the easternmost mine workings and drill holes 500 ft. and 1000 ft. east of these workings have intersected the vein.

Addwest has prepared a mining and processing plan to re-enter the mine via a 2800 ft. declined ramp, has applied for and received, from the appropriate agencies, permits for operation and has arranged a $9.33 million gold loan to fund the mine and mill construction.

Addwest has re-interpreted the sample and assay data, which comprises more than 5000 sets of channel samples, and estimates that there are 557,000 st of proven and probable mineable, fully diluted ore grading 0.305 oz Au/st.

Watts, Griffis and McOuat (WGM) has reviewed Addwest's plans and estimates and has modified those plans and estimates in line with experience in the industry. Using the adjusted

plans, WGM calculates an estimated value of the annual cash flows from the operation of $10.4 million discounted to the present at 10%.

Addwest's modified plan is estimated to produce gold at about $187 per ounce which will place it in the lower quartile of north American gold producers.

TABLE 1

AFTER TAX CASH FLOWS DISCOUNTED TO PRESENT VALUE AT 10%

	Millions Dollars		
	Price	Cost	Grade
Plus 10%	13.7	9.0	11.7
Base Case	10.4	10.4	10.4
Less 10%	7.0	11.6	9.0

2. INTRODUCTION

2.1 GENERAL

Addwest Minerals Inc. (Addwest) has acquired over 2000 acres of surface and/or mineral rights which contain the Gold Road gold vein and its projected extensions. The Gold Road vein was discovered in 1902 and produced, during three periods of serious activity, over 600,000 fine ounces of gold. At the close of the latest period of activity in 1942 due to the Executive Order L-208, the then operator reported 148,000 ounces of gold in proven and probable reserves in 456,000 st grading 0.325 oz Au/st.

The Gold Road property is in west-central Arizona, on a paved county road about 25 miles southwest of a regional commercial center, Kingman.

Addwest has re-entered the mine to standing water level and has confirmed ore blocks carried on the previous operator's inventory at the time of mine closure.

Addwest has also completed metallurgical tests on composite samples from the mine, and formulated a mine development plan and a mill flowsheet with construction plans. Furthermore, Addwest has arranged a gold loan of $9.33 million dollars to fund new mill construction and resumption of underground production.

Permit applications have been submitted for public comment and, no adverse testimony having been received, both the Air Quality Permit and the Aquifer Protection Permit have been issued.

2.2 TERMS OF REFERENCE

Watts, Griffis and McOuat Limited (WGM) was engaged to prepare this qualifying report to be included in a Prospectus for an initial offering of shares in Addwest Minerals, Inc. WGM's Manager of the Denver, Colorado office toured the mine site in the company of Addwest's geologist in February, 1994. WGM will be paid a fee for the preparation of this report, said fee comprising a daily fee plus reimbursement of out of pocket expenses. Payment of such fee is not contingent on the conclusions of the report nor the success of the offering. WGM has given and not withdrawn permission for the report to be included in the Prospectus dated-

_____.

2.3 SOURCES OF INFORMATION

WGM's manager toured the Gold Road mine site and the accessible underground workings. WGM also interviewed Addwest's President and Project Manager and reviewed a feasibility study prepared by Addwest integrating tests, studies and design work of various consultants specializing in the diverse disciplines involved in such a complex endeavor.

WGM also reviewed documents in the public domain which are listed under the heading "List of Materials Available for Review" at the end of this report.

2.4 UNITS AND CURRENCY

All measurements herein are in the English system. All values reported herein are in United States dollars unless otherwise noted. A table of conversions is attached as Appendix D.

3. PROPERTY LOCATION, ACCESS AND DESCRIPTION

3.1 GENERAL

The Gold Road Property is located approximately 25 miles south west of Kingman, Arizona. A paved county road from Kingman to Oatman and Topock traverses the property to within 250 ft of the proposed mine portal. The property comprises 18 patented lode mining claims, four patented millsites, 93 unpatented lode mining claims and six unpatented mill sites totalling 2145 acres.

3.2 LOCATION AND ACCESS

Addwest's Gold Road project is on a 2145 acre parcel located approximately 25 miles southwest of Kingman, Arizona in sections 10-14 and 24 of Township 19 north, Range 20 west and sections 17-20 of Township 19 north, Range 19 west. Access is via U.S. Highway 93 to Kingman, about 95 miles southeast from Las Vegas, Nevada, or about 200 miles northwest from Phoenix, Arizona. From Kingman, the Oatman road, old U.S. Route 66 now maintained by Mohave County, traverses the property two miles north of Oatman village, which is 27 miles from Kingman.

3.3 DESCRIPTION

Addwest has assembled, by exercise of an option to purchase and by mineral location, a property covering 2145 acres, consisting of both patented and unpatented lode mining claims and patented and unpatented millsites.

Addwest has purchased, for payments totalling $300,000 to Amwest Exploration Company, and two promissory notes for advance royalty payments of $350,000 each due July 10, 1995 and July 10, 1996, the properties known as the Gold Road Property of Amwest Exploration

Company. Amwest is a wholly owned subsidiary of Arava Resources Inc. which is, in turn, a wholly owned subsidiary of Mueller Industries Inc.

Amwest retains the right to a royalty of 2% of the proceeds received by Addwest from the sale of precious metals, ores, or concentrates from the Amwest and Gold Road Red Top properties (Net Smelter Royalty).

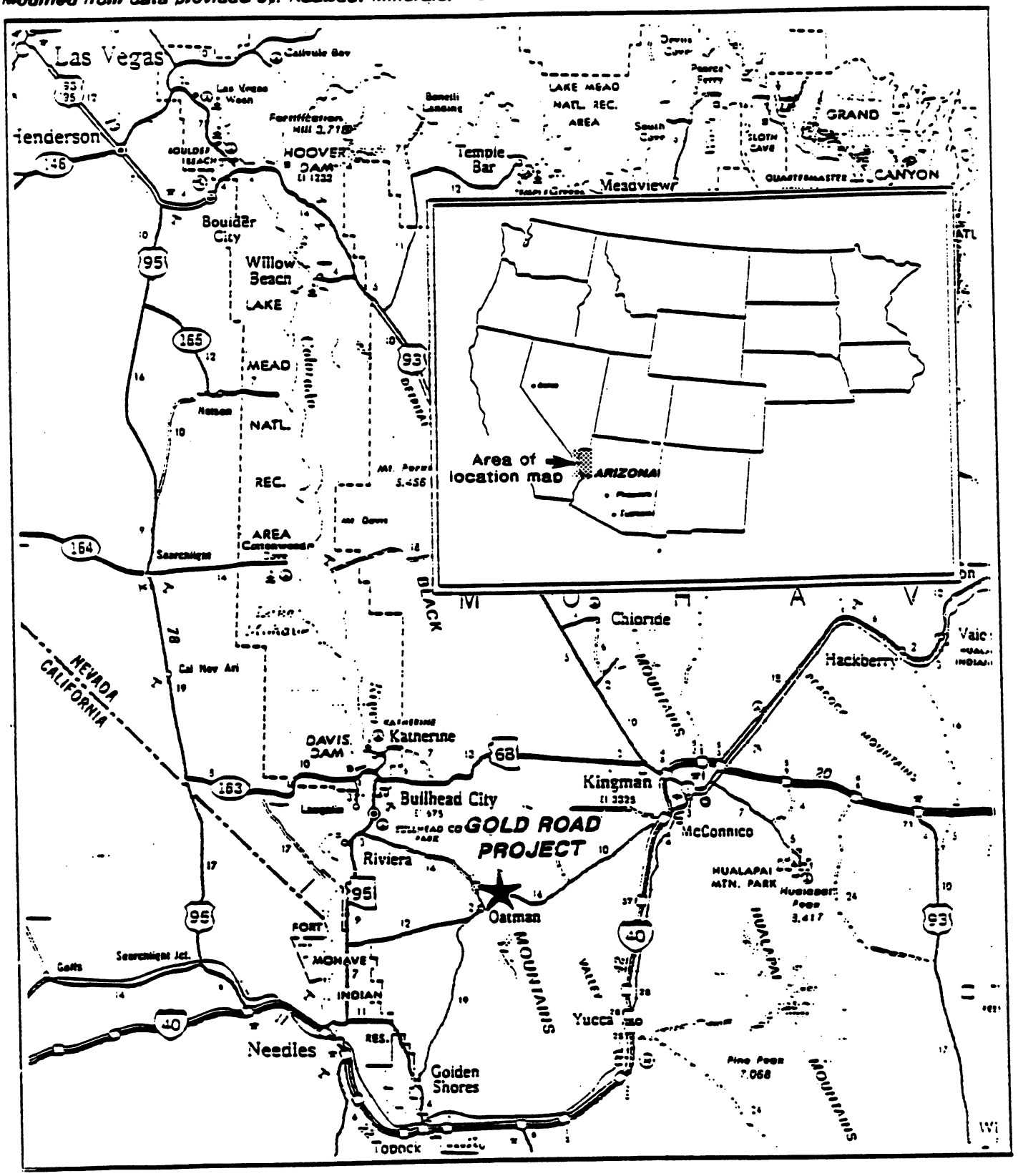
Included in the Amwest purchase is the assignment, to Addwest, of a lease in favor of Amwest from Gold Road Red Top Mining Co. (Gold Road) on four unpatented mining claims contiguous with the Amwest claim block. Addwest purchased the four claims for a total payment of $160,000. Gold Road retains the right to a royalty of 1.5% of the proceeds received by Addwest from the sale of precious metals, ores, or concentrates, from the Amwest and Gold Road Properties (Net Smelter Royalty).

In addition, Addwest has located 64 unpatented lode mining claims surrounding the purchased properties.

All of the ore reserves estimated by Addwest at this time and all of the proposed mine construction are on patented lode mining claims and thus not at risk for assessment of additional U.S. Government royalties or holding costs arising from modifications or revisions to the Mining Law of 1872.

A list of the claims and millsites is included as Appendix C.

Modified from data provided by: Addwest Minerals, Inc. 1994.



March 1994

Figure 1

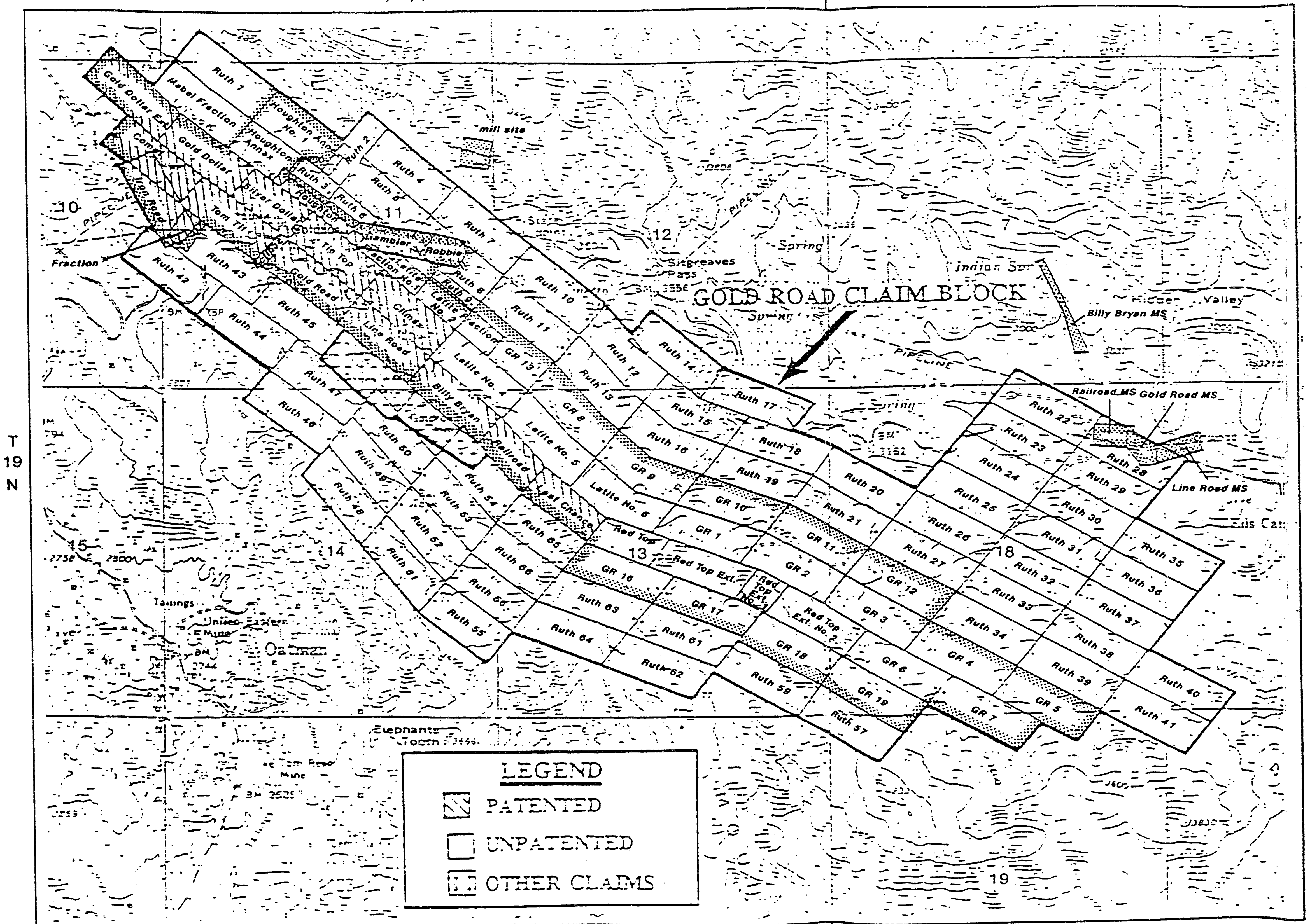
Location

Gold Road Project Mojave County, Arizona

Note: 2 mill sites in Section 2 (above) are included in royalty position

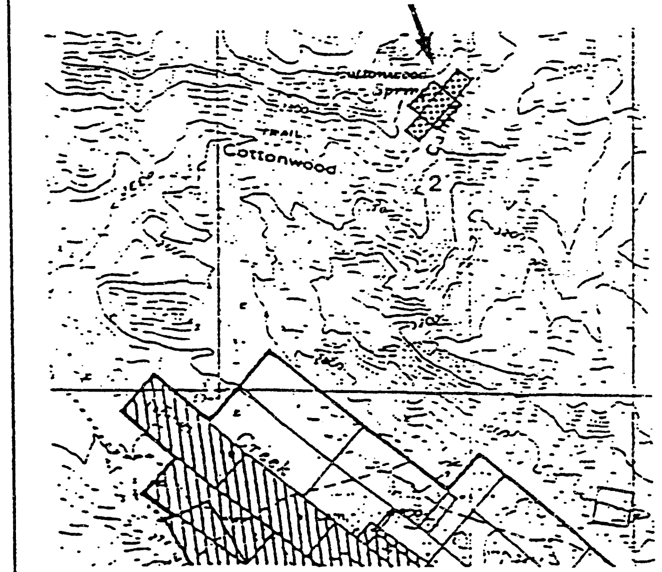
R 20 W | R 19 W

T 19 N



Addwest, Gold Road Royalty Properties

MILL SITES IN SECTION 2



Data provided by: Addwest Minerals, Inc., 1994

0 — 1 mi.
0 — 1 km

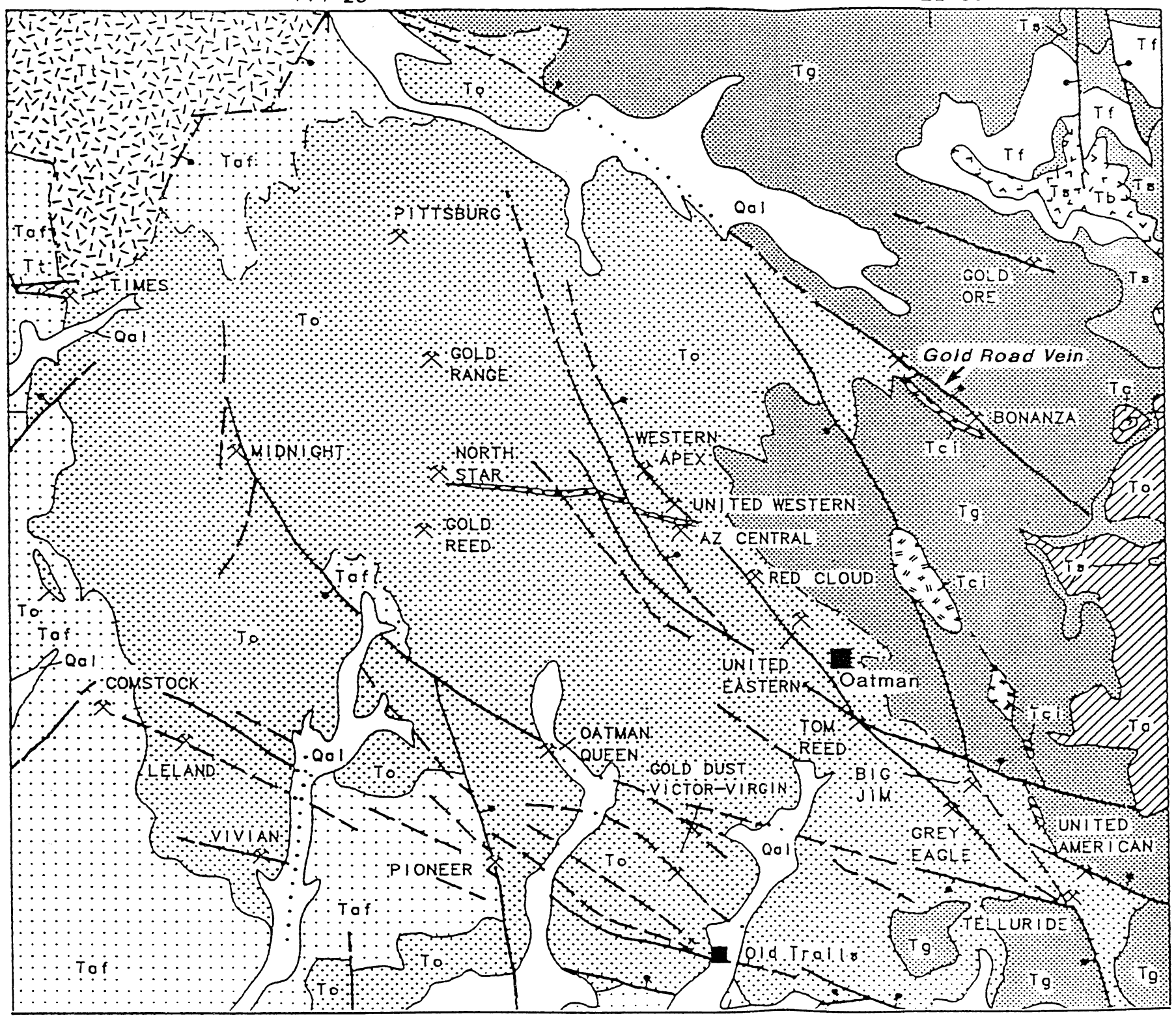
Figure 2

Watts, Griffis and McOuat Limited

Claims

Gold Road Project — Mojave County, Arizona

March 1994



From USGS Bulletin 1857, Geology and Gold Deposits of the Oatman District, NW Arizona, by E Dewitt, et. al., 1991

0 1 2 km

0 1 mi

EXPLANATION

TERTIARY

- Qal — Quaternary alluvium
- Tci — Rhyolite porphyry intrusives
- Tt — Times Porphyry
- Tb — Basalt
- Ts — Sitgreaves Tuff (equivalent to Flat Spring and Antelope rocks)
- Tf — Flag Spring Quartz Latite
- To — Antelope Rhyolite
- Tg — Gold Road Dacite
- To — Oatman Andesite
- Te — Esperanza Quartz Latite
- Taf — Alcyone Formation

80 — Fault—Bar and ball on downthrown side; tick with number indicates dip; dashed where projected; dotted where concealed

Contact—Dashed where uncertain

Mine

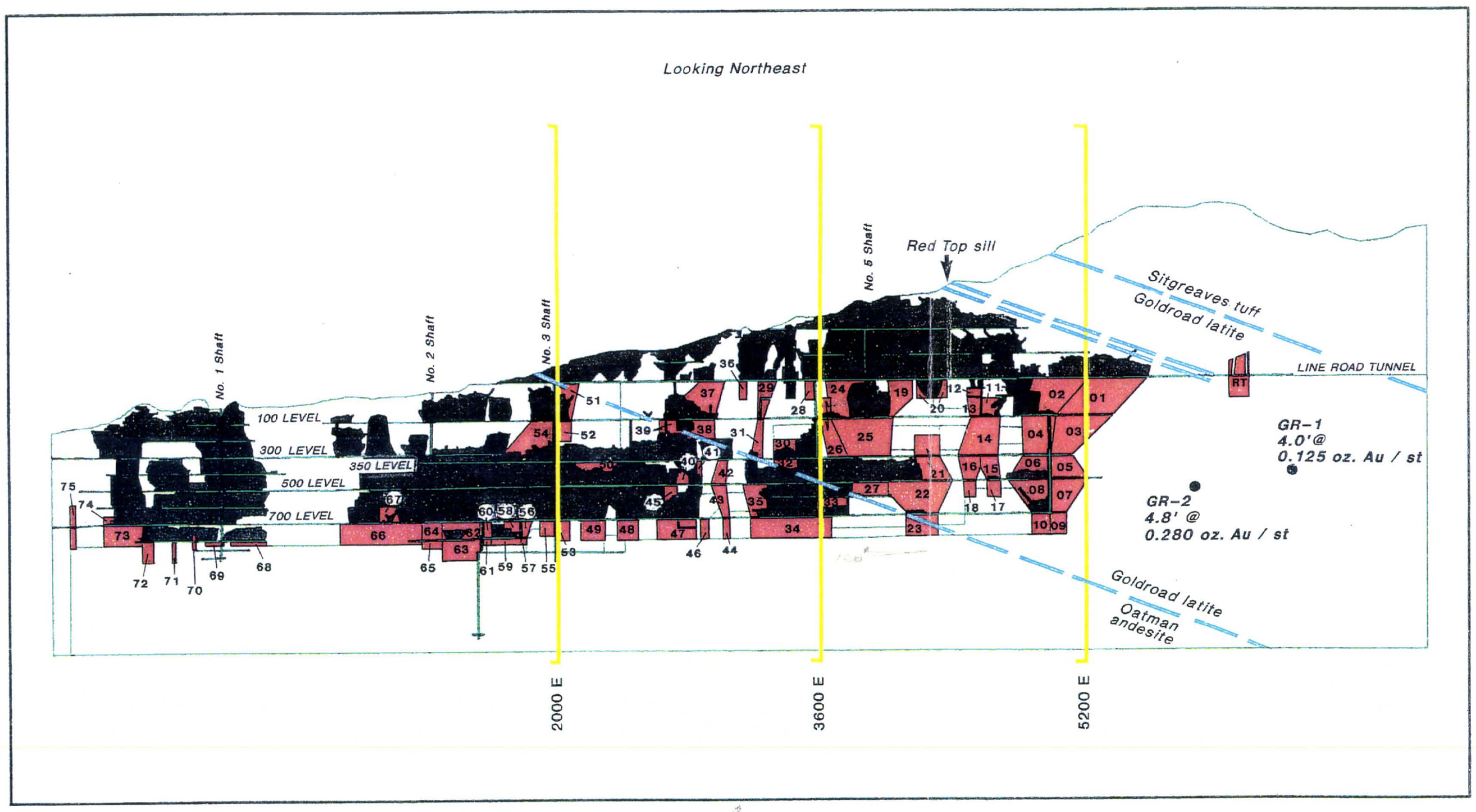
Figure 3

Watts, Griffis and McOuat Limited

Regional Geology

Gold Road Project **Mojave County, Arizona**

March 1994



Modified from data provided by: Addwest Minerals, Inc. 1994

0 300 1500 ft.

Scale: 1" = 750'

H = V

Calculated blocks

Mined out

Drill hole

Figure 4

Watts, Griffis and McOuat Limited

Longitudinal Section of Gold Road Mine

Gold Road Project Mojave County, Arizona

March 1994

4. CLIMATE AND INFRASTRUCTURE

4.1 CLIMATE

Gold Road lies near the eastern limit of the Basin and Range physiographic province at an elevation of about 3000 ft above sea level. The climate is typical of the high desert at 35° north latitude having cool, dry winter months and hot summer months with infrequent heavy rains as thunderstorms. Daily temperatures range up to 96° F, between 31° and 54° in January and between 67° and 96° in July and August. Precipitation averages 9.8 inches annually with approximately 50% in the summer monsoon season, July to September. Light winter snowfall is not unusual.

4.2 INFRASTRUCTURE

Gold Road is well situated for access to services and supplies. Kingman is a commercial center for northwestern Arizona with a recent history of production from mines such as the Mineral Park porphyry copper deposit and the Portland heap leach gold operation. Kingman is on Interstate 40 and on the Santa Fe railroad main line. An ample labor pool is available, in the local area, to staff the proposed mine. Training will be required for some of the new personnel to attain the level of skill desired for the design mining methods.

Power is available from Citizens Utility Corporation at 20.8 kva within 2800 ft of the mill site.

5. HISTORY AND PREVIOUS PRODUCTION

5.1 ARIZONA

Rich gold placer deposits in the Dome district were discovered in 1858 followed by other discoveries in 1862 along the Colorado River and, in the period 1862 to 1870, other rich placer deposits were found in the Weaver, Lynx Creek, and Big Bug districts. Gold lodes were discovered in the Bradshaw Mountains in Yavapai County and in the San Francisco district, near Oatman in Mohave County in 1863.

In Arizona, to 1965, 42 districts in 10 counties had produced at least 10,000 ounces of gold.

5.2 SAN FRANCISCO DISTRICT

Mohave County ranks second among Arizona's gold producing counties with a total of about 2.5 million ounces prior to 1960. More than one half of this total came from the lode mines of the San Francisco district.

Gold was discovered, in the Oatman area, in 1863 in what became known as the Moss vein. Other veins with prominent outcrops were discovered soon afterward. Although some rich ore was gained from near surface pockets along the Moss vein, most development efforts remained unrewarding and the district was inactive until good ore was found, at shallow depth, on the Tom Reed vein in 1901 and a stampede to the district ensued with the discovery of rich ore, in outcrop, on the Gold Road vein in 1902. Activity continued at a high level through 1924 and revived for a short period from 1930 through 1942.

Total gold production from the district, from 1897 through 1951 has been estimated at over 2.0 million ounces.

5.3 GOLD ROAD MINE

Following discovery in 1902, the Gold Road vein was developed by the Gold Road Mining and Exploration Company who produced 196,000 ounces of gold between 1903 and 1911 from ores averaging 0.60 oz Au/st, The United States Smelting Refining and Mining Company (USSR&M) acquired the property in 1911 and produced another 185,000 ounces of gold by 1916. USSR&M did not operate the mine during World War I but produced some 36,000 ounces of gold in the period 1923 to 1925. When the official gold price increased to $32.00 per ounce in 1932 and then $35.00 in 1934, USSR&M built a new mill and, by 1942, was processing over 400 st/day. USSR&M produced over 190,000 ounces of gold during this last phase of activity. United States gold mines were closed, in 1942, by Executive Order L-208 which defined gold mining as activity not essential to the war effort required for a successful resolution of World War II.

The Gold Road mill and equipment were moved to Bayard, New Mexico and equipped to process zinc ores which were necessary for the war effort. Inflation, prosperity, and a redirection of U.S. skilled labor after the successful conclusion of the war prevented the reopening of the Gold Road mine. In 1992, Addwest entered into an option to purchase agreement with Amwest for the acquisition of the Gold Road properties

Since that time, Addwest has reopened the Line Road tunnel to the number 3 shaft and completed sufficient rehabilitation of the shaft to gain access to portions of the 100 level.

During the extended closure, the mine's lower levels have accumulated water to about 30 ft above the 350 level. Addwest has descended in the 4975 raise to the water level.

6. GEOLOGY AND MINERALIZATION

6.1 REGIONAL

Approximately 80% of Arizona's pre-1951 gold production has been won from mines lying within 75 miles of the southwestern margin of the Colorado Plateau. Within this region, the deformed Precambrian rocks have been tilted, intensely faulted and intruded by masses of igneous rocks. Resting upon older Precambrian rocks in the Black Mountains, a thick sequence of volcanic rocks, long regarded as Tertiary in age, has been intruded by numerous granitic bodies, dikes and plugs

6.2 SAN FRANCISCO DISTRICT

In the San Francisco district, the lower portion of the volcanic series consists of andesite and trachyte, approximately 5,000 ft thick together with a unit comprising about 1,600 ft of latite, andesite and siliceous flows termed the Gold Road volcanics. Rhyolitic flows and tuffs, 1,500 or more feet thick, lie unconformably upon the lower members in some areas and directly upon older Precambrian rocks in other areas.

A monzonitic stock intrudes the trachyte about 3 miles west of the Gold Road Mine. Rhyolite porphyry dikes have been mapped southwest of the Gold Road vein. The dikes are emplaced in two dominant directions, sub parallel to the Gold Road vein at about N50°W and aligned with a N75°W set of veins and fractures.

There are 23 identified vein systems in the seven mile north-south extent of the Oatman district. Of these, the Gold Road and the Tom Reed veins were the only major sources of gold ores. The United Eastern mine exploited a portion of the Tom Reed vein.

6.3 GOLD ROAD

The Gold Road vein is a braided system emplaced within the Gold Road fault structure. The Gold Road fault structure is a northwest striking normal fault dipping 65° to 85° to the northeast with local dip reversals. The fault zone varies in width up to 100 ft and may host several quartz veins within that width. In narrower stretches of the structure, only one quartz vein is found aligned either entirely along the hanging wall or the foot wall or entirely central to the structure. In extremely narrow stretches of the structure, quartz vein may replace the total width.

The fault structure itself is splayed locally and these splits can host mineralization.

The Gold Road vein, as described, has been mapped within three formations, the Oatman andesite, the Gold Road latite and the Sitgreaves tuff. The character of the vein does not change abruptly at formation contacts but there is a general narrowing upward from widths of 30 ft in the Oatman andesite to only a few inches in the Sitgreaves tuff. Historically, mining has terminated upward at the surface or within the uppermost 200 ft of the Gold Road formation at what the miners termed the "Red Top Sill." Little exploration effort has been directed toward the structure within the uppermost Gold Road formation above the "Red Top Sill" or the Sitgreaves tuff, although a raise from the Line Road tunnel at approximately 6100 E reported "ore grade" mineralization above the Red Top Sill.

To date, mining has extracted ore from the Gold Road vein over a horizontal distance of about 6000 ft and a vertical range of 1400 ft. There is a report of a test of the Gold Road structure, in 1916, via a winze to approximately the 1400 level which corresponds to an elevation of 1450 ft above sea level. Production from the Tom Reed (and United Eastern veins) came from depths at elevations down to 1500 ft above sea level. Production along the vein to the west of No. 1 shaft terminated

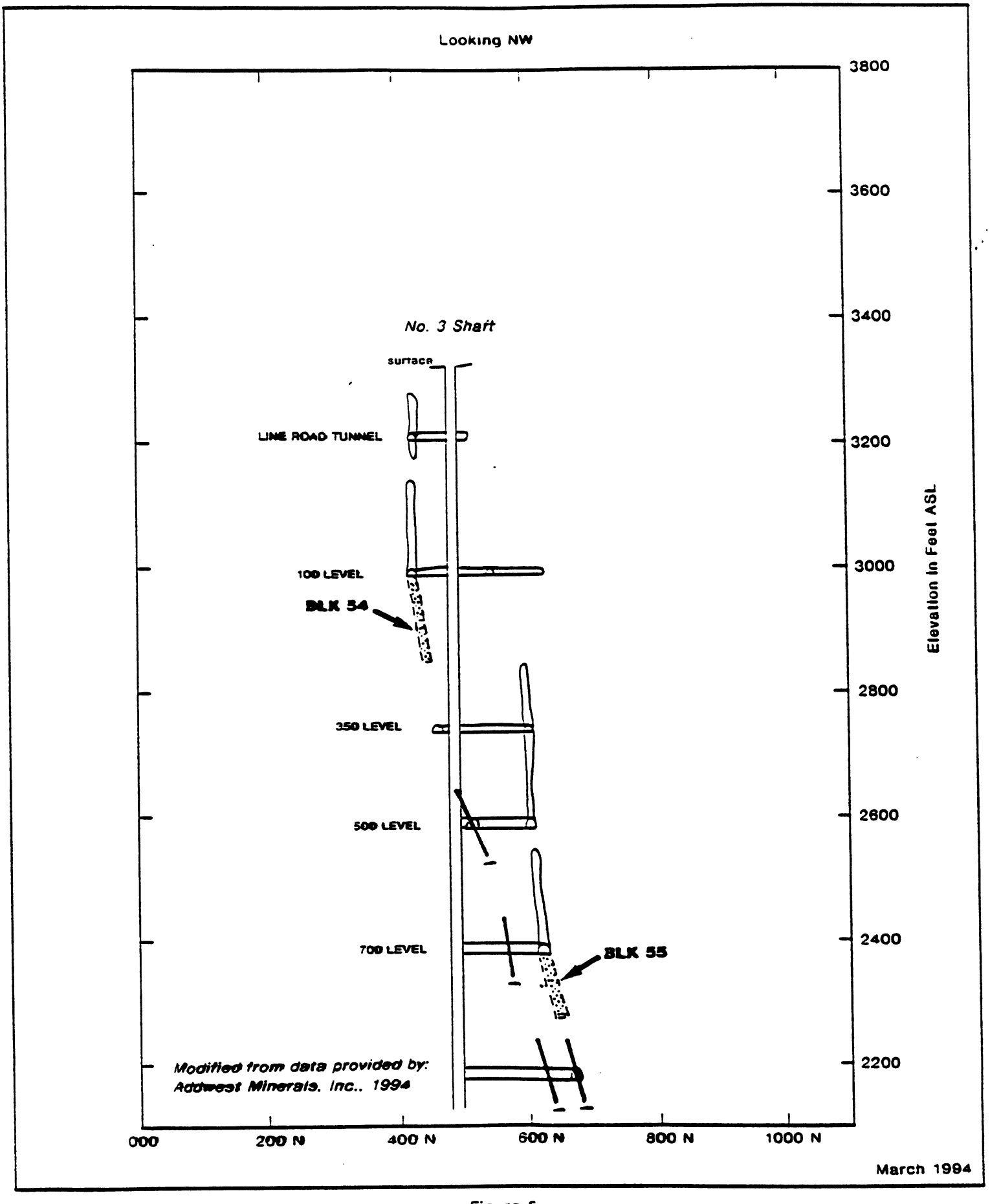


Figure 5

Cross Section 2000 E

Gold Road Project Mojave County, Arizona

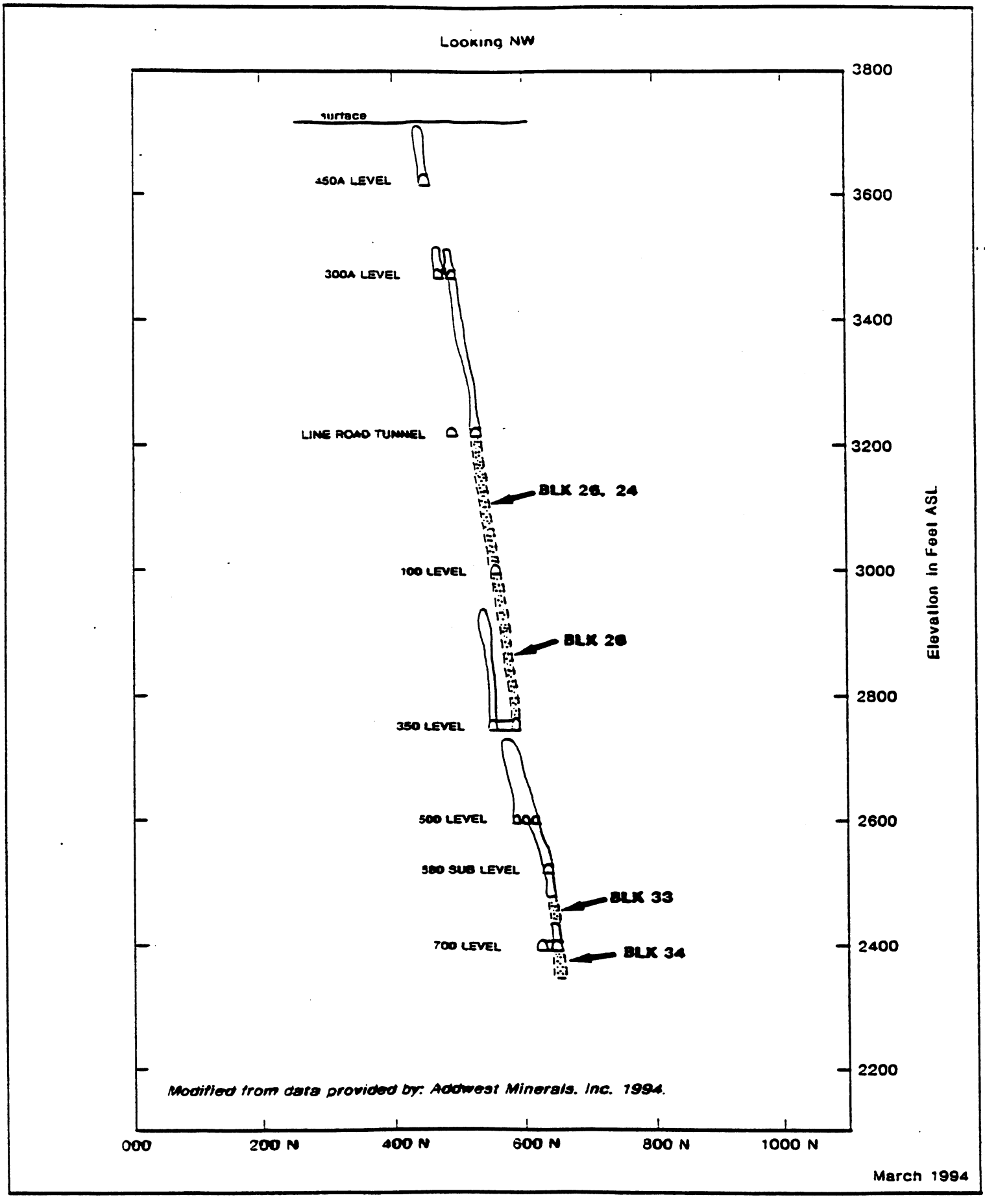


Figure 6

Cross Section 3600 E

Gold Road Project Mojave County, Arizona

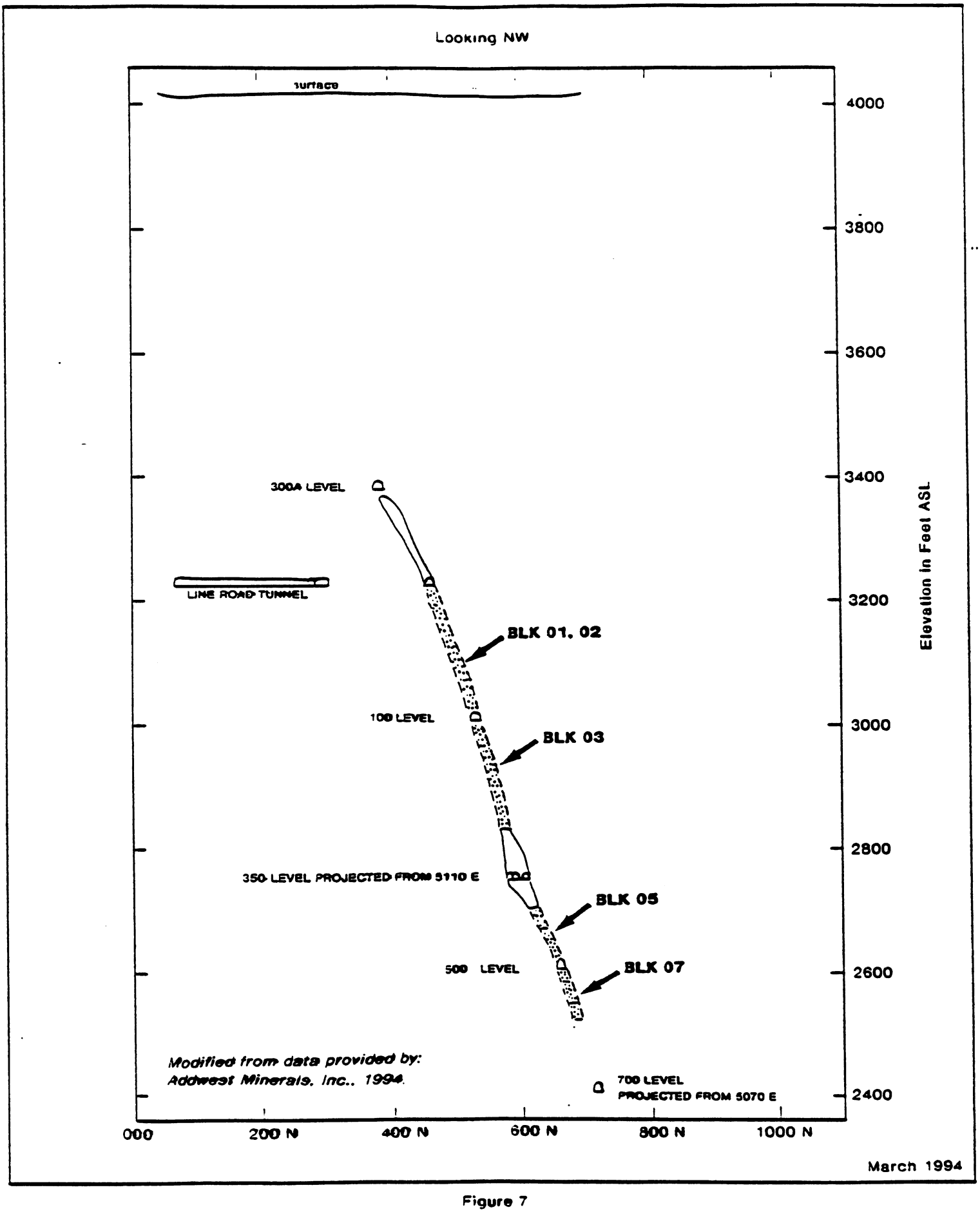


Figure 7

Cross Section 5200 E

Gold Road Project Mojave County, Arizona

abruptly at about 650W. It is not determined whether development was interrupted by faulting which offset the vein or whether USSR&M was unable to come to terms with the adjacent property owners for mutually satisfactory development. USSR&M acquired the West Gold Road Mining Co. claims in 1945 when the mine was inactive.

Mineralogy, within the Gold Road vein, typifies the district and epithermal gold deposits in general. Gold is the most valuable constituent of the ore and, in fact, other metals are present only in very minor quantities. Sulfide minerals rarely occur. The gold occurs primarily as fine grained native gold or alloyed with silver in ratios up to 50%-50% in thin quartz bands. The vein consists of quartz with local concentrations of banded calcite. Fluorine may be present in quantities up to 500 ppm. Where observed along the Line Road tunnel, the footwall of the vein is a fault surface and stoping broke clean to the fault plane.

Of 2388 composited data set intervals used in the ore reserve calculation, nine ranged above 5.0 oz Au/st with a maximum of 17.8 oz Au/st. Mineralized intercepts exceeding 0.10 oz Au/st ranged from 1.0 to 17.0 ft in width averaging 4.59 ft.

6.4 RESERVES

When the Gold Road mine was closed, in 1942, USSR&M estimated a remaining inventory of 456,000 tons averaging 0.325 oz Au/st (148,000 oz Au). Arava Resources, USSR&M's survivor, recalculated an estimate, in 1989, with the same results. Addwest has calculated estimates ranging from 520,000 tons at 0.341 oz Au/st (177,000 oz Au) to 612,000 tons at 0.324 oz Au/st (198,000 oz Au) using different cut off grades. Early in 1993, Addwest contracted for a computer manipulated estimation of tons and grade.

The data base from which the various estimates have been made consists of more than 5000 sets of channel samples across the veins where they were exposed by workings in development drifts and raises. Addwest digitized the locations of the sample sets assigning values for coordinates, elevation, assay, width of sample and host rock type. A check of 10%

of the digitized sample sets found an encoding error rate of 0.4% which was judged acceptable. The sample set locations were plotted, from the encoded data base on level plans and sample sets on structures cojugate or parallel to the primary structure were identified and extracted from the active file. Classical statistical analysis of the sample sets in the active file provided a basis for the decision to cut all composite assays exceeding 5.0 oz Au/st to the 5.0 oz Au/st level. The average grade increases from the Line Road tunnel level to the 500 level and then varies with increasing depth but the data below the 700 level may be insufficient to demonstrate a trend. No systematic gradation laterally was detected.

An inventory of tons and grade of vein material exceeding 0.15 oz Au/st was calculated by constructing a series of blocks 31 ft. x 20 ft. covering a projection of the primary vein and old workings on a longitudinal section. Known excavations on existing plans and sections were digitized, transferred to the block model and removed from consideration. A grade and thickness were calculated for each remaining block using an inverse distance squared weighting algorithm. For grade estimation, the weighting used a minimum of one sample and a maximum of eighteen within distances of 200 ft along the dip direction and 20 ft along the strike. Thicknesses were estimated from a minimum of one and a maximum of six samples within the same distances used for grade estimation.

This calculation, using a density factor of 13.0 ft^3/t, estimated that the vein, within the area under consideration, contains 177,000 oz. of gold in 520,000 st of material grading 0.341 oz Au/st over an average width of 4.5 ft.

A second estimate was compiled in which the minimum vein width was maintained at 5.0 ft. If the vein width was less than 5.0 ft., additional width was added at 0.065 oz. Au/st grade to bring the total to 5.0 ft. Thickness and grade estimates were calculated from the adjusted sample set in the same manner as the previous estimate. The results, 184,000 oz. of gold contained in 579,000 st grading 0.318 oz Au/st was the basis for Addwest's mine plan.

Adjustments to the second estimate were necessary to reflect allowances for pillars, dilution, irregular and small blocks.

Addwest's engineers calculated a cost of extraction for each block and deleted those with a negative value after credit for contained gold. The remaining blocks were compiled into Addwest's ore reserve of 156,000 oz. of gold in 518,000 st of ore grading 0.302 oz Au/st.

WGM found four types of mineral estimation blocks:

1. Blocks sampled on three sides.
2. Blocks sampled on two sides.
   a. Blocks sampled on two adjacent development levels.
   b. Blocks sampled on one development level and projected to a stope.
3. Blocks sampled on one side projected from a development level or a stope.

Addwest introduced dilution by specifying a minimum five foot stoping width. An additional (24.6%) dilution was then added at a historical average grade of 0.027 oz Au/st. Thus vein widths less than 3.5 were doubly diluted and vein widths exceeding six feet were diluted without regard to expected performance in the stopes. Further tonnage and grade dilution was added in blocks bounded by stoped ground for which the grade of the ore actually produced from the stope was used in the calculation. This was already an operationally diluted grade and thickness and adding an additional 24.6% is inappropriate.

Inspection of drifts and stope entries accessible along the Line Road tunnel revealed that, where the vein walls were "frozen" and not delineated by fault planes, overbreak ranged from 0.5 to 1.5 ft. WGM recommended that another estimate of mineable tonnage be made by adding 1.5 ft of dilution to sampled widths greater than 3.5 ft exceeding 0.15 oz Au/st using actual sample assay grades where available and 0.027 oz Au/st where no data were available. Where a block was bounded on one side by a stope, an average width was estimated from the length and area as measured on the longitudinal section. The actual grade of material produced from the stope was assigned over that length. This grade and width are as actually

diluted in production and no further dilution was added to these widths or grades. Where sampled vein-widths exceeding 0.15 oz Au/st were less than 3.5 ft. the vein was diluted to 5.0 ft using actual assays where available or 0.027 oz Au/st an historical average. The overall average vein width is 4.59 ft. and the average diluted mining width is 6.63 ft. which indicates a life of mine dilution factor of 44%

Addwest's estimated unit mining costs were then subtracted from the individual block's value in estimated gold content and blocks with negative mined value were deleted from the inventory. The blocks with positive mined values total 619,000 st grading 0.305 oz Au/st. WGM estimates that 90% of the ore can be extracted and that 95% of the contained gold will be recovered in the mill for a total fully diluted, mineable reserve of 557,000 st grading 0.289 oz. recoverable gold per short ton of diluted ore.

TABLE 2

ORE RESERVES
MINEABLE, FULLY DILUTED

	TONS	GRADE		OUNCES	
		Inplace	Recoverable	Inplace	Recoverable
Proven	60,000	0.297	0.282	17760	16870
Probable	497,000	0.306	0.291	151970	144,370
Total	557,000	0.305	0.289	169,730	161,240

TABLE 3

ORE RESERVE CALCULATIONS

GOLD ROAD PROJECT
ORE RESERVE CALCULATION
MANUAL, HIGH GRADE CUT TO 5 OZ/TON

3/10/94

BLOCK #	RESERV CLASS (# SIDES)	MANUAL AV.GRAD OPT Au	AV. THK. (FEET)	TONS ORE	TONS *90%	OUNCES	TONS PROVEN	OUNCES PROVEN	TONS PROBABLE	OUNCES PROBABLE
1	2	0.296	5.80	32593	29334	8683	0	0	29334	8683
2	2	0.625	6.31	21690	19521	12201	0	0	19521	12201
3	2	0.331	6.55	26892	24203	8011	0	0	24203	8011
4	2	0.815	6.27	19831	17848	14546	0	0	17848	14546
5	3	0.340	9.37	16620	14958	5086	14958	5086	0	0
6	3	0.274	6.25	13337	12003	3289	12003	3289	0	0
7	3	0.309	8.66	20137	18123	5600	18123	5600	0	0
8	3	0.256	6.38	16431	14788	3786	14788	3786	0	0
11	1	0.237	5.51	3928	3535	838	0	0	3535	838
12	stope pro	0.181	5.00	1587	1428	259	0	0	1428	259
13	2	0.211	5.18	3170	2853	602	0	0	2853	602
14	2	0.273	5.99	22063	19857	5421	0	0	19857	5421
15	2	0.270	5.89	6427	5784	1562	0	0	5784	1562
16	2	0.280	6.50	7713	6942	1944	0	0	6942	1944
17	1	0.223	6.15	3681	3313	739	0	0	3313	739
19	2	0.215	5.16	10456	9410	2023	0	0	9410	2023
20	1	0.545	5.40	3098	2788	1520	0	0	2788	1520
21	2	0.188	5.50	18272	16445	3092	0	0	16445	3092
22	2	0.202	6.34	27881	25093	5069	0	0	25093	5069
24	2	0.189	6.02	12432	11189	2115	0	0	11189	2115
25	2	0.178	5.93	31629	28466	5067	0	0	28466	5067
27	1	0.190	7.88	10338	9304	1768	0	0	9304	1768
28	1	0.252	5.05	2388	2149	542	0	0	2149	542
29	2	0.202	5.13	6280	5652	1142	0	0	5652	1142
30	1	0.203	6.73	4705	4235	860	0	0	4235	860
31	2	0.215	5.90	4764	4288	922	0	0	4288	922
33	2	0.280	8.83	7749	6974	1953	0	0	6974	1953
34	1	0.201	6.49	30825	27743	5576	0	0	27743	5576
35	2	0.300	6.75	10184	9166	2750	0	0	9166	2750
38	1	0.216	6.36	8656	7790	1683	0	0	7790	1683
39	1	0.195	5.35	3305	2975	580	0	0	2975	580
41	2	0.191	6.20	2044	1840	351	0	0	1840	351
42	2	0.228	6.66	5373	4836	1103	0	0	4836	1103
43	2	0.256	6.27	6109	5498	1408	0	0	5498	1408
44	1	0.222	5.30	1972	1775	394	0	0	1775	394
45	1	0.380	7.33	3316	2984	1134	0	0	2984	1134
46	1	0.200	5.20	2469	2222	444	0	0	2222	444
47	1	0.406	8.08	17831	16048	6515	0	0	16048	6515
48	1	0.225	7.39	8735	7862	1769	0	0	7862	1769
49	1	0.136	6.41	8954	8059	1096	0	0	8059	1096
50	1	0.232	9.59	7640	6876	1595	0	0	6876	1595
51	2	0.252	5.22	6080	5472	1379	0	0	5472	1379
52	1	0.344	5.00	4654	4189	1441	0	0	4189	1441
54	2	0.890	7.14	19295	17366	15455	0	0	17366	15455
55	1	0.207	6.16	3793	3414	707	0	0	3414	707
56	2	0.579	7.10	2069	1862	1078	0	0	1862	1078
58	2	0.501	5.88	2439	2195	1100	0	0	2195	1100
59	1	0.703	5.57	3164	2848	2002	0	0	2848	2002
60	2	0.202	6.19	2229	2006	405	0	0	2006	405
61	1	0.223	5.14	795	716	160	0	0	716	160
62	2	0.299	6.97	8975	8078	2415	0	0	8078	2415
63	1	0.213	5.84	12445	11201	2386	0	0	11201	2386
64	2	0.197	6.14	5784	5206	1026	0	0	5206	1026
65	1	0.207	5.87	2768	2491	516	0	0	2491	516
66	1	0.218	7.50	35628	32065	6990	0	0	32065	6990
67	1	0.157	6.90	5277	4749	746	0	0	4749	746
69	1	0.486	7.17	1577	1419	690	0	0	1419	690
71	1	0.192	6.46	1249	1124	216	0	0	1124	216
72	1	0.218	6.92	4569	4112	896	0	0	4112	896
73	1	0.275	7.93	16975	15278	4201	0	0	15278	4201
74	1	0.194	7.03	1553	1398	271	0	0	1398	271
75	1	0.164	6.21	4219	3797	623	0	0	3797	623
			6.63	619042	557138	169734	59873	17760	497265	151974
						0.305		0.297		0.306

Because of the continuity of the vein at grades above 0.15 oz Au/st, both along strike and dip, WGM considers those blocks developed and sampled on three sides as measured and those developed on one or two sides as indicated resources. The corresponding blocks showing a positive cash value after all applicable costs have been assigned are considered as proven and probable ore respectively. In this assignment, WGM has relied on the definition of "Proven ore" and "Probable ore" as expressed in National Policy No 2-A, Guide for Engineers, Geologists and Prospectors Submitting Reports on Mining Properties to Canadian Provincial Securities Administrators.

> "Proven ore" or "measured ore" means that material for which tonnage is computed from dimensions revealed in outcrops or trenches or underground workings on drill holes and for which the grade is computed from the results of adequate sampling, and for which the sites for inspection, sampling and measurement are so spaced and the geological character so well defined that the size, shape and mineral content are established, and for which the computed tonnage and grade are judged to be accurate within limits which shall be stated and for which it shall be stated whether the tonnage and grade of proven ore or measured ore are "in situ" or extractable with dilution factors shown and reasons for the use of these dilution factors clearly explained.
>
> "Probable ore" or "indicated ore" means that material for which tonnage and grade are computed partly from specific measurements, samples or production data and partly from projection for a reasonable distance on geological evidence and for which the sites available for inspection, measurement and sampling are too widely or otherwise inappropriately spaced to outline the material completely or to establish its grade throughout.

6.5 POTENTIAL

Potential for development of additional ore at the Gold Road Mine lies in four directions.

1 A. Horizontally, to the east where two drill holes intersected 4.8 ft of vein grading 0.280 oz Au/st and 4.0 ft of vein grading 0.125 oz Au/st along the strike projection of the vein at distances of 500 ft and 1000 ft respectively east of the face of the 500 level east drift.

B. Horizontally, to the west where the vein may persist offset along a transverse fault or where development may have terminated because of adverse ownership. At the

surface, west of the No. 1 shaft, the projection of the vein is concealed by alluvium and slope detritus.

2. Vertically, there are approximately 3000 ft of stopes originating on the 700 level and extending upward. Addwest has projected these areas downward along dip for a distance of 100 feet. Over 700 ft of stoping originates along the 800 level in the No. 1 shaft area with no workings below and there are about 700 ft along the 800 level west of the No. 3 shaft with diluted composite assays exceeding 0.15 oz Au/st over 5.0 ft of width. These blocks have been extended downward along dip for a distance of 100 ft. Where developed above the 700 level, from 750 W to 5000 E, approximately 60% of the vein has been mined. Stratigraphically, the westernmost stopes on the 700 level are 2000 ft below the contact between the Oatman andesite and the Gold Road latite. This contact crosses the 700 E level at about 4100 E and the base of the 700 W level stopes project along the eastward dip over 200 ft. vertically below the 700 level at that point. It is not possible to quantify the potential at depth, but the dimensions of the existing mined out stopes and the current ore reserves which together represent over 2 million tons can be projected onto the unexplored ground below the 700 level.

3. Laterally, splits and parallel veins may provide supplemental ore tonnage that is not possible to quantify.

Addwest estimates that over 2,000,000 additional tons of ore grading 0.355 oz Au/st may remain undeveloped in the Gold Road system. A significant investment of time and resources will be necessary to determine the true potential.

7. ENVIRONMENTAL

7.1 BACKGROUND

In conjunction with its operations and properties, Addwest is subject to extensive and changing federal, state and local laws, regulations and ordinances governing health and safety and the protection of the environment including laws and regulations relating to air and water quality, mined land reclamation, waste handling and disposal, the protection of certain species, and the preservation of certain lands. These environmental laws and regulations may require the acquisition of permits and other authorizations for mining and related activities. The operations and activities at the Gold Road project which require compliance with such environmental laws, regulations and ordinances are discussed below.

7.2 PERMIT REQUIREMENTS AND STATUS

The Gold Road project is located on patented mining claims about two miles north of Oatman, Mohave County, Arizona. The project includes reopening the historic Gold Road mine and mining by underground methods, construction of a 500 tons per day precious metals processing mill and a tailings impoundment along with various support facilities. Some development rock will be placed in existing mine voids underground and the balance will be disposed of on the surface. Existing access to the project is good.

All proposed project disturbance is to patented mining claims (private lands) and therefore project construction, operation, closure and reclamation is not subject to federal reclamation regulation. Arizona does not currently have a state mined land reclamation act in place so the state regulates mine operations, closure and reclamation under authority of the Arizona Aquifer Protection Act and the Arizona Air Quality Control Act. In Arizona, counties are not allowed to regulate mining activities under their zoning regulations or police powers so Addwest does not need to obtain Mohave County approval to operate the project.

The U.S. Army Corps of Engineers determined that the Silver Creek drainage, which bisects the project area, is considered waters of the United States and diversion of uncontaminated flow around the project area requires Corps of Engineers review of project plans prior to construction. Addwest has complied with the applicable portions of the regulations by providing all necessary and requested information.

The Arizona Environmental Quality Act of 1986 established the requirement to develop the Aquifer Protection Permit (APP) program. To obtain an APP for a discharging facility, the applicant must make two demonstrations. The first is that "the facility will be so designed, constructed and operated as to ensure the greatest degree of discharge reduction achievable through the application of the best available demonstrated control technology, processes, operating methods or other alternatives." The second demonstration is that the discharge will not cause or contribute to a violation of an aquifer water quality standard at the point of compliance. Once it is determined that a facility is regulated, all water quality aspects of that facility are subject to regulatory review. A complete application is to include the above demonstrations, detailed information regarding site geology and hydrology and contingency plans, remedial action plans and closure plans. The regulations require bonding to ensure proper closure.

Addwest applied for the Gold Road project APP in early 1993 and the application was deemed complete by letter dated July 23, 1993. Following technical review and negotiation, the Arizona Department of Environmental Quality notified Addwest of its intention to issue the AAP on February 2, 1994.

The approved tailings disposal system includes tailings thickening and cyanide reduction prior to thin layer deposition in a lined impoundment. The approved impoundment design includes double lining, localized leak detection and collection liners, a prepared compacted subgrade and surface water controls. Any drainage from the tailings will be captured in a process water reclaim pond and either be reused in the milling process or allowed to evaporate.

Other facilities reviewed during the AAP process included storage of process chemicals and fuels, the handling of storm water, and development rock disposal practices. Design of the waste rock disposal area did not require unusual methods because Gold Road development rock and ore has been shown not to have the potential to be acid generating or to leach unacceptable metals concentrations.

The approved monitoring plan provides for monitoring the integrity of the process water control technology, surface water, ground water and the characteristics of waste rock.

The approved closure and reclamation plan includes sealing or securing mine entrance points, removal of equipment and facilities, foundation breakup and covering and grading of waste rock to provide drainage and to reduce erosion. Very little revegetation is planned because of the lack of available soils and the low precipitation in the Oatman area. Toward the end of the operations, tailings deposition will be managed to provide appropriate drainage of the surface of the deposited tailings. The surface of the tailings will be covered with development rock which will reduce wind and water erosion. Closure and reclamation activities are bonded and a post operational monitoring program will measure closure success and provide for bond release.

As required by regulation, application was made to the Arizona Department of Environmental Quality for an air quality control permit. This permit was issued in March, 1994.

To summarize, all environmental permits and approvals necessary for the construction and operation of the Gold Road Project have been received.

8. MINING

8.1 GENERAL

Mining operations combine three activities in varying proportions to achieve profitability and longevity. The three activities are exploration, development, and production. (Figure 8). Within the mine, exploration activities may be long hole or diamond core drilling or they may be driving crosscuts or drifts in search of new vein structures or ore shoots. Development involves providing access and haulageways for mining equipment, men, materials and ore. Production is the process of extracting the ore in a pre-planned sequence and transporting it to the mill on a regular, reliable schedule. The proportions of total expenditures committed to the three areas varies with the maturity of the mine.

Exploration is followed by development which is followed by production plus reduced development which then proceeds to a balance of exploration, development and production as necessary to prolong the successful life of the mine.

As for the Gold Road Mine, sufficient ore remained unmined at the time of closure, in 1942, to move the project to the second, development step for Addwest. Addwest considered three alternatives for access and haulage.

- re-habilitate existing workings and use rail haulage.
- sink a new shaft and slash existing workings or drive new haulageways as necessary for trackless mining equipment.
- drive a ramp for access and trackless haulage and drive new haulageways.

Addwest chose to develop a totally new access to the mine via a ramp declined at a 12% grade in the vein hanging wall. The ramp passes the No. 3 shaft at about the 2850 elevation from which the initially chosen ore blocks will be accessed.

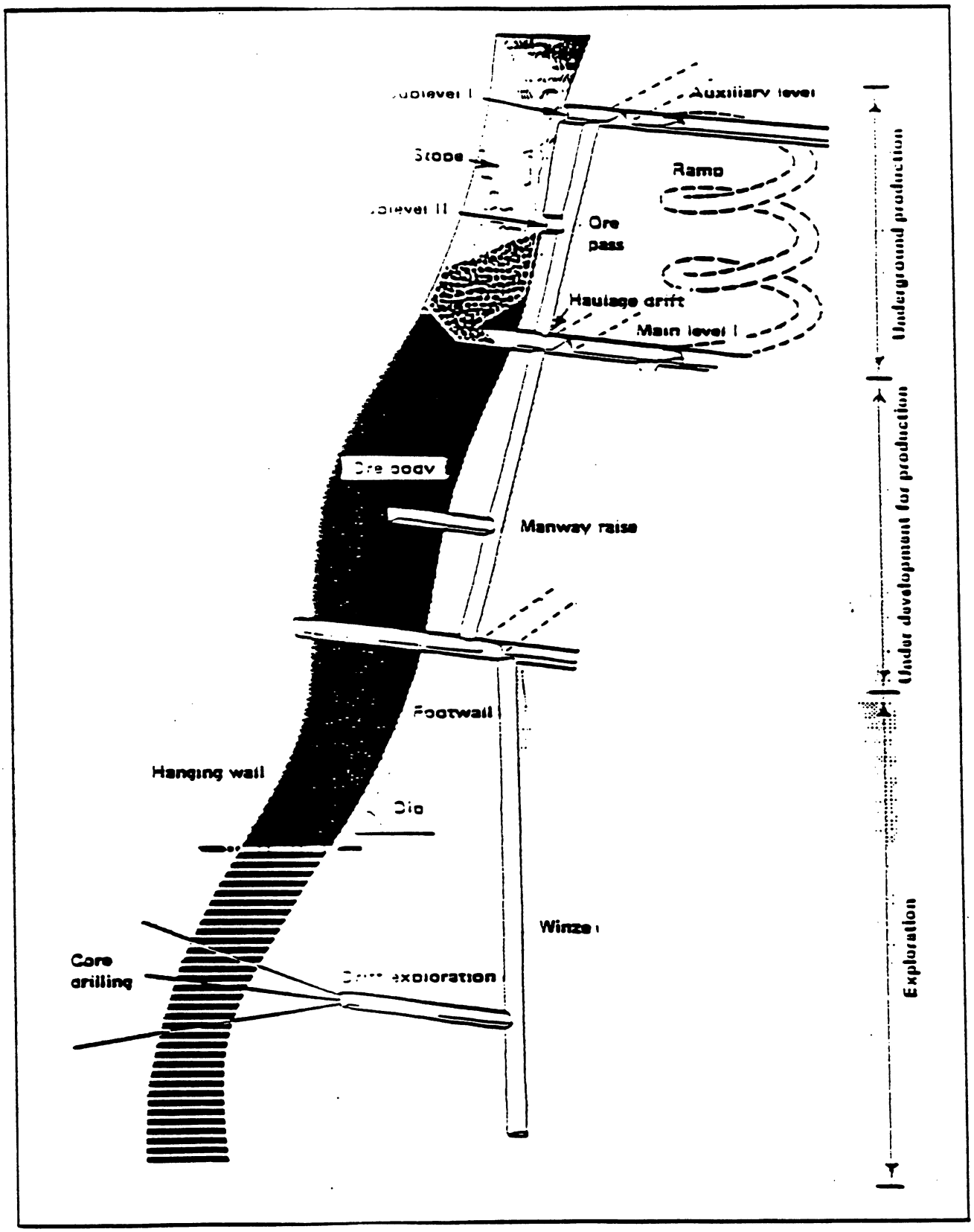


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Figure 8

Three Stages of Mining

For production, Addwest elected to use an extension of the traditional shrink stoping method using sub-levels and long hole drilling equipment. Historically, the Gold Road Mine used the shrink stoping method with rail haulage and transfer via an underground shaft. The proposed Addwest method enjoys the flexibility of rubber tired loading and hauling equipment and the economies of a bulk mining method.

8.2 MINE PLAN AND METHOD

8.2.1 ACCESS AND HAULAGE

Concurrent with the construction of the mill and permanent surface facilities, the decline will be driven from a point near the mill water storage tank at an elevation of approximately 3000 ft above sea level. The decline is planned to extend 2800 ft to the 350 level on a negative 12% grade. A 10 ft x 12 ft cross section is a minimum requirement for trucks and for air, water and ventilation utilities. Re-muck bays will be excavated at nominal 300 ft intervals according to experience. The re-muck bays along the decline, at 50 ft on the hanging wall side of the vein structure, will later serve as drill stations for prospecting the hanging wall of the vein.

At about 1600 ft from the portal, a short crosscut will connect to the No. 3 shaft. This connection will facilitate ventilation of the lower 1200 ft of decline and provide an alternate means of egress from the mine. At an appropriate time in the future, the decline is to be extended another 1800 ft to provide access to the 500 and 700 levels. Ultimately, a ramp will be driven from the 700 level to the 900 level for exploration and development. A 1600 ft incline from the 350 level-decline intersection will provide access to the ore blocks on the 100 level.

Addwest has firm bids for Phase I and Phase II construction of the decline.

About 60,000 cubic feet of underground chambers are planned for installation of shops, materials storage and the explosives magazines.

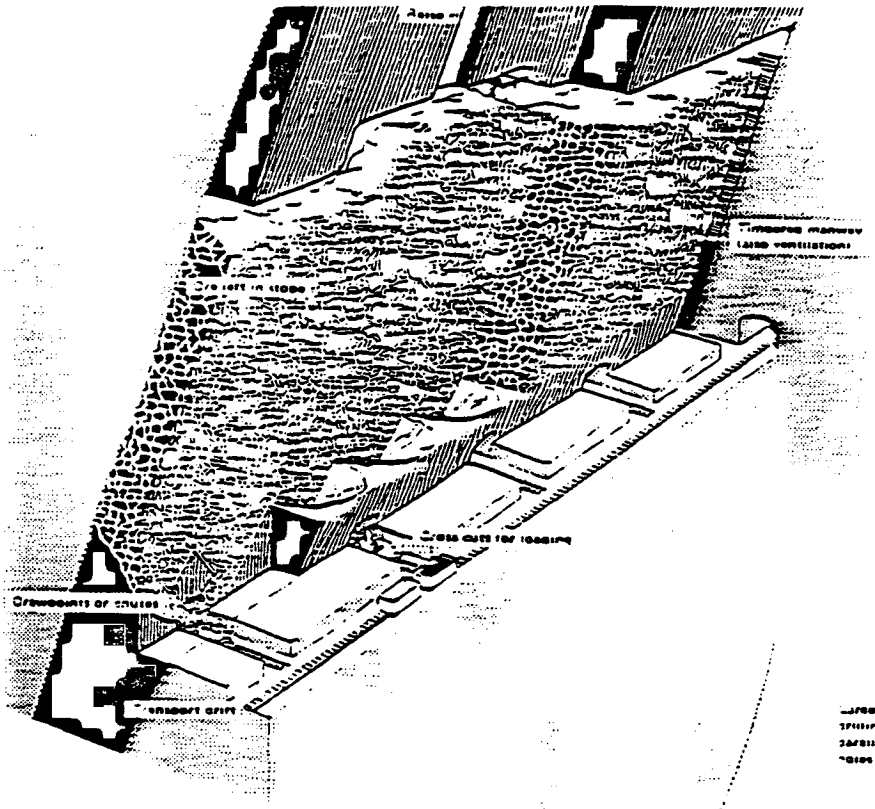
Development on the 100 and 350 level will consist of driving haulage ways 25 to 50 ft from the vein structure, in the footwall rocks. Cross cuts from the haulage ways to the vein ore blocks will be located at the limits of the blocks and spaced about 50 ft apart along the length of the blocks. The cross cuts will be connected, along the vein, by the undercut in preparation for mining. Further access to the ore blocks will be via the service raises driven between haulage levels and spaced about 200 ft apart along the strike of the ore block.

Sub-levels at 50 ft vertical intervals connecting the service raises will conclude stope access and development. Addwest has prepared an estimate of the cost of development for each of 67 blocks through the completion of the undercut on the first sublevel. This estimated cost ranged from $12 to $115 per ton of ore accessed. Additional development in the form of sublevels and slot raises at the block limits will be ongoing as the ore pillars are drilled, blasted and extracted.

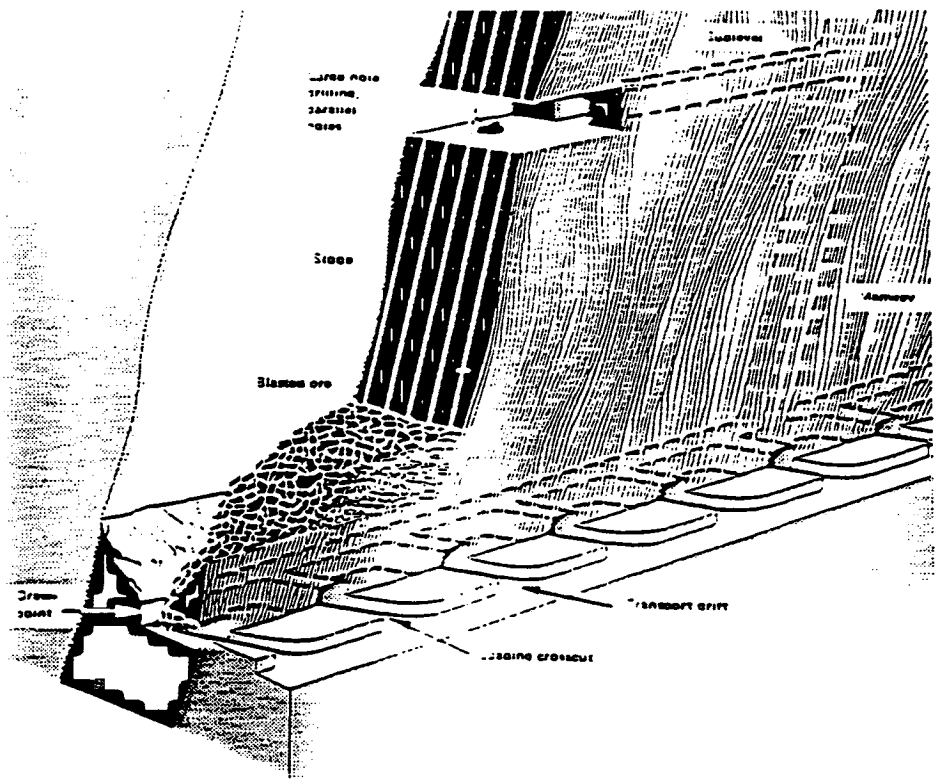
8.2.2 PRODUCTION, STOPING PLAN

From the Gold Road Mine, the most recent past production was by the shrink stoping method in which vertical holes were drilled into the back of the stope and, after blasting, only enough ore was drawn from the stope to lower the surface of the broken ore to a convenient level for drilling the next round. The depth of drill hole was limited by the dimensions of the opening and drilling was by small "stoper" pneumatic drills. (Figure 9 C)

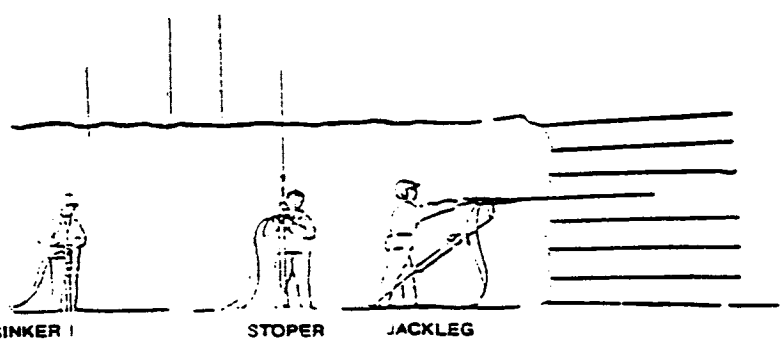
Modern shrink stoping can use horizontal drill holes which permit deeper drill holes and greater productivity per man shift. (Figure 9 A) The "jack leg" pneumatic drill, which permits efficient horizontal drilling, was not introduced to the industry until after the Gold Road Mine closed in 1942.



9a: Shrinkage stoping with crosscut loading



9b: Sublevel stoping with large hole blasting and drawpoint loading



9c: The sinker, the stoper, and the jackleg drill

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Figure 9

Mining Methods

The present plan for Gold Road production is based on sub-level, long-hole stoping in all ore blocks. WGM expects that the smaller or narrower blocks may be mined by shrink stoping to eliminate excessive development costs.

Addwest's development plan requires access to seven ore blocks and stock piling of 7,000 tons of ore before commissioning the mill. WGM has altered that plan to access nine ore blocks and stockpile 14,000 tons of ore prior to commencing milling. This will ensure a continuous supply of ore to the mill for uninterrupted operations at a small additional development expense.

Following commencement of milling operations, Addwest's plan produces 700 st/day, 5 days/week to supply ore for continuous mill operations 7 days/week at 500 st/day throughput.

8.3 COSTS AND SCHEDULE

8.3.1 CAPITAL COSTS

Capital costs have been estimated in two categories:

- Pre production development
- Continuing development

Pre production costs comprise:

- Contract cost for the decline and crosscuts.
- Level and stope development
- Underground shops and storage
- Mine equipment and inventory
- Site Engineering and Construction Administration

Continuing development costs following mill start up comprise:

- Contract cost for decline extension with associated crosscuts
- Level and stope development
- Additional mine equipment and inventory.

Cost estimates have been based on actual bid quotations for the decline and crosscuts, calculated estimates for level and stope development and prices of new or used equipment provided by vendors dealing in that type of equipment.

TABLE 4

MINE DEVELOPMENT CAPITAL COST ESTIMATE

Pre Production		
Decline and crosscuts	$1,000,000	
Level and stope development	700,000	
Tailings Pond	800,000	
Mine Equipment and Inventory	1,200,000	
Surface Facilities	200,000	
Site Engineering, Construction Administration	300,000	
Sub-total Pre production cost		$4,200,000
Continuing Development		
Decline and crosscuts	$1,000,000	
Level and stope development	700,000	
Mine Equipment and Inventory	300,000	
Sub-total Continuing Development		2,000,000
Total Capital Cost		$6,200,000

8.3.2 OPERATING COST

The largest single component of operating cost is labor which is a direct function of the wage scale and the number of stopes required to be active and under development. WGM has reviewed Addwest's estimate of personnel requirements and wage scales and has adjusted that estimate such that the daily cost for underground labor is $10,966 or $15.67 per ton at 700 tons per day. This is an average hourly rate of $16.12. In addition there are surface and technical support personnel estimated at $3.62/st chargeable to the underground operation and

charges for repair, material and supplies of $9.75/st for a total estimated direct mining cost of $29.04/st.

TABLE 5

SUMMARY, MINE OPERATING COST

Description	Cost$/Day	$Per Ton @ 700 tpd
Labor (underground)	$10,965	$15.66
Labor (support)	2,535	3.62
Equipment Repair	1,100	1.62
Materials	3,350	4.79
Fuel & Supplies	2,200	3.13
Services	150	0.21
Total	$20,301	$29.04

TABLE 6
UNDERGROUND LABOR REQUIREMENTS AND COSTS

Description	Number	Rate, each/Day	Cost $/Day
Miner	26	141.79	3686.54
Utility Miner	26	117.14	3045.64
Truck Driver	11	117.14	1288.21
Toplander	3	110.97	332.91
Mechanic	7	147.96	1035.72
Oiler	3	123.30	369.90
Electrician	2	147.96	295.92
Longhole Driller	3	129.47	388.41
Sub-total	81		10443.25
Add 5% for unscheduled overtime			522.18
Total Underground Labor per Day			$10,965.43
		Per ton	$15.67

TABLE 7
SURFACE AND TECHNICAL SUPPORT LABOR REQUIREMENTS AND COSTS

Description	Number	Rate, each	Cost$/day
Superintendent	1	399.08	399.08
Shift Boss	3	277.43	832.28
Chief Mechanic	1	157.21	157.21
Geologist	1	215.78	215.78
Engineer	1	215.78	215.78
Safety/Ventilation Engineer	1	215.78	215.78
Engineering Technician	2	129.47	258.94
Grade Control	1	129.47	129.47
Dryhouse/Lampman	1	110.97	110.97
Total support	12		$2535.29
Cost per day			$2535.29
Cost per ton			$3.62

8.3.3 SCHEDULE

The schedule and budget for access and haulage are as follows:

	Time, Wks	Cost $ x 1000
Phase I Decline to No. 3 shaft	9	630,000
Phase II Decline to 350 level	9	380,000
Phase III Incline to 100 level	16	400,000
Phase IV Decline to 700 level	18	500,000
Phase V Decline to 900 level	20	600,000

9. PROCESSING

9.1 GENERAL

Naturally occurring ores are delivered to the processing plant, the mill, as freshly blasted material from the mine. In order for the metals or metal bearing minerals to be separated from the enclosing rocks, the rocks must be crushed and ground to a size that liberates the desired materials to be segregated and removed. Early gold recovery systems relied upon the unique specific gravity of gold relative to the enclosing rocks and recovered any contained gold in simple gravity traps over which the crushed and slurried ores were passed. The introduction, in 1898, of the cyanide process whereby the gold bearing slurry was contacted with a sodium cyanide solution which dissolved the gold for later precipitation from the clarified liquor permitted the successful development of many gold ores in which the gold, although present as elemental gold, was of such fine particulate size that recovery in gravity systems was not highly efficient. Gold Road ores were processed by the cyanidation process. Addwest proposes to use a modern variation of the cyanidation process whereby the gold bearing solution is contacted with activated carbon suspended in the leaching pulp. Gold adsorbs on the carbon and when the carbon has been loaded with gold to a predetermined level, the carbon is removed from the ore pulp and the gold recovered in a separate stripping process.

9.2 TESTING AND RECOVERABILITY

Modern mill design requires determination of not only the characteristics of the ores but also the characteristics of the waste rock and of the tailings remaining after processing. Samples selected to be representative of typical ore and waste were collected by Addwest and submitted to a series of tests to provide data from which a process could be selected and equipment sized to the desired rate of production. Samples of historic tailings remaining on the site were also tested for acid generating potential and for meteoric water mobility. Ore and waste rock samples were found to have very low acid generating potential and moderate to high acid neutralizing potential. Leachability of possible contaminants in the ore and waste

samples proved to be at 1/100th of the recommended maximum contaminant limit (MCL) with most elements less than 1/100th of the limit. Contaminant content of leachate from the historic tailings was 1/10th at most of the MCL.

Three bulk samples from pillars on the Line Road Tunnel were submitted to a commercial testing firm for tests to confirm the assumptions of metallurgical responses and power requirements necessary to provide a basis for a design of the milling facilities. Results of the tests support a process design which will recover 95% of the contained gold and 50% of any contained silver from ores with an average gold content of 0.355 oz Au/st.

The metallurgical test program evaluated the effect of grind, leach retention time, pulp density and cyanide concentration on the efficiency of gold extraction from the ore. Other tests included:

- Thickening tests to determine settling rates for the tailings pulp
- Cyanide destruction tests to determine reagent performance and consumption rates necessary to reduce weak acid dissocciable cyanide to acceptable levels
- Grinding tests to determine the energy required for ore diminution.

9.3 PLAN AND METHOD

Based on the results of the testing, a flow sheet was proposed that included:

- Two stage crushing to approximately 1/2 inch product.
- Ball Mill grinding until 80% of the product is less than 325 mesh. Requires 1000 HP
- Twenty four hours leach time.
- Gold recovery on carbon in the pulp.
- 1.0 lb. cyanide per short ton ore.
- 20 g/l carbon content in pulp.
- 120-150 oz Au/st loading on carbon.
- 0.024 lb flocculent per short ton solids in the tailings

- 1.9 grams chlorine and 2 grams lime per gram cyanide in spent solution.
- 94-96% recovery of contained gold.

Historically, USSR&M used water from springs as far as a mile away from the mill. Addwest acquired the rights to the water in these springs with purchase of the patented and unpatented mill sites.

The proposed flow sheet calls for recovery of decanted water from the tailings and estimates only about 60 gpm average fresh make up water will be necessary. Addwest estimates that as many as 85 million gallons of water are present in the flooded lower levels of the mine and it is their intent to utilize this water in the mill as they de-water those lower workings. Additional water will be developed from the springs and from wells as necessary.

9.4 COSTS AND SCHEDULE

9.4.1 CAPITAL COST

Addwest solicited bids and has accepted a firm price proposal for building and commissioning a mill capable of continuous processing Gold Road ores, at the site, at an average rate of 500 st/day. The successful bid amounts to $5.1 million to which must be added $0.6 million for used equipment which is to be procured directly by Addwest and Addwest administration costs of $0.1 million for a total of $5.8 million.

9.4.2 OPERATING COST

Operating costs consist of three major components, labor, reagents and supplies and power. Results of the testing described above permit estimation of reagent and power consumption with a high level of confidence. Labor costs have been estimated based on prevailing wage rates in the area. WGM adjusted Addwest's estimated costs by adding two additional operating personnel and increasing the power cost by 25%.

TABLE 8

PROCESS STAFFING COST AT 500 ST/DAY

Labor No.	21
$/st	5.07
$st Supplies Reagents	3.72
$/st Materials	---
$/st Equipment	0.31
$/st Services	0.07
$/st Power	2.89
Total $/st	12.06

9.4.3 SCHEDULE

Addwest's contract for construction of the mill calls for completion within seven months of ground breaking. The contract for the decline accessing the mine estimates four months to reach the 350 level. This should permit ample time to develop the necessary number of stopes and build an adequate stockpile of ore before the mill commences operation.

10. ECONOMIC ANALYSIS

10.1 COSTS AND PRODUCTION

10.1.1 GENERAL

WGM examined capital and operating costs estimated for the Gold Road mine as prepared by Addwest and their consultants and adjusted those cost estimates where it was considered appropriate. WGM estimates mine life costs of $53.89 per short ton of ore milled and $186.76 per ounce of gold. Addwest's other estimates ranged from $57.34 per short ton of ore and $164.83 per ounce of gold to $60.44 per short ton of ore and $212.58 per ounce of gold.

TABLE 9

COMPARISON OF PRODUCTION COST ESTIMATES

	$/st ore	$/oz gold
Addwest	57.34	164.83
Addwest Consultant	60.44	212.58
WGM	53.89	186.76

Addwest and Addwest's consultant included a 10% contingency allowance in estimated costs for mining, milling and general and administrative expenses whereas WGM attempted to estimate costs, production and recoveries as realistically as possible. In order to do this WGM made the following assumptions and adjustments to previous cash flow calculations.

1. Sufficient stopes will be developed and an adequate stockpile of mined ore will be available so that the mill may operate at full capacity upon commencement of processing.

2. A 10% surcharge was added to the mining cost in quarter one to allow for unscheduled overtime to maintain a 3500 st/wk production rate.

3. Mill recovery of gold in ore was reduced to 90% in the first production quarter as the mill will be commissioning.

4. A 5% surcharge was added to the mining cost in quarter two to allow for unscheduled overtime to maintain a 3500 st/wk production rate.

5. Mill recovery of gold in ore was reduced to 93% in the second production quarter as the mill will be commissioning.

6. Only 90% of each reserve block will be recovered.

7. The mine will deliver 700 st/day to the mill for five days per week.

8. The mill will process 500 st/day for seven days per week.

9. Administrative personnel will be scheduled on a five day per week basis with weekend supervision rotating.

10. Mill recovery of gold in ore averages 95% over the balance of the mine's life.

11. Mill and mine equipment depreciated in seven year class.

12. Seventy percent of pre-production development was recovered in the first year of production and the balance over five years.

13. Depletion is claimed as the lesser of 15% of gross or 50% of net after depreciation.

14. Income taxes are charged at a 28% federal rate and a 5% state rate.

15. Existing reserves are adequate for 12 quarters of production at 45,500 st/qtr.

16. Loan proceeds drawdown and principal and interest repayment schedule are based on Addwest's schedule provided by the lender.

17. Mineable, fully diluted reserves of 546,000 short tons grading 0.305 oz Au/st containing 157,545 ounces of recoverable gold.

10.1.2 COSTS

Capital costs are based on firm price bids for mill construction and for the initial 2800 feet of decline entry with crosscuts and remuck bays as necessary. Cost of mine equipment is divided between initial requirements and continuing requirements for additional and replacement equipment. Continuing exploration and development is spread over the mine life.

TABLE 10

CAPITAL COST ESTIMATE

Mill	$ 5,800,000
Mine	
Equipment	1,200,000
Access	1,000,000
Surface Facilities	200,000
Level and stope development	700,000
Tailings	800,000
Administration	300,000
Total Pre-production Cost	$10,000,000
Continuing cost	
Equipment	300,000
Development & exploration	1,700,000
Total Continuing Development	$2,000,000

TABLE 11

OPERATING COSTS

Mining N=93	Per Day	Per Qtr
Labor	$13,291	
Equipment Repair	1,134	
Materials	3,350	
Fuel & Supplies	2,200	
Services	150	
Total	$20,125	$1,308,135
Milling N=21		
Labor	$ 2,535	
Supplies & Reagents	1,860	
Equipment Repair	155	
Services	35	
Power	1,445	
Total	$ 6,030	$ 548,730
Administration N=5		
Labor	$ 825	
Equipment	56	
Reclamation	280	
Supplies	224	
Services	350	
Indirects	378	
Total	$ 2,113	$ 137,345

10.1.3 PRODUCTION

WGM has reviewed Addwest's proposed mineout plan and sequence and has based the attached estimate of project cash flow on the following assumptions:

1. Sustainable mine production is 700 short tons per day, five days per week.

2. To sustain full production on mill startup, a stockpile of 14,000 tons of ore will be available from nine developed ore blocks.

3. Continuing production will require an average of four active stopes producing 175 short tons per day with two stopes under development.

10.2 CASH FLOW CALCULATION AND SENSITIVITY TO CHANGES IN GOLD PRICE, COST OF PRODUCTION, OR GRADE

A discounted, after tax, net present value was calculated for 12 quarters of production from the Gold Road mine at a steady gold price of $380 per ounce. Other values were calculated by varying the gold price, the mining and milling cost or the grade by 10% higher or lower than the base calculation. The results are tabulated below.

TABLE 12

AFTER TAX CASH FLOWS DISCOUNTED TO PRESENT VALUE AT 10%

	Millions Dollars		
	Price	Cost	Grade
Plus 10%	13.7	9.0	11.7
Base Case	10.4	10.4	10.4
Less 10%	7.0	11.6	9.0

11. CONCLUSIONS AND RECOMMENDATIONS

11.1 GENERAL

Addwest Minerals Inc. recognized the mining opportunity residing in that portion of the Gold Road gold deposit developed but unmined since closure in the World War II era and in the potential for mineralization yet to be discovered along the Gold Road structure. After careful consideration, Addwest has developed a mining and processing plan that utilizes trackless mining methods and is expected to produce gold at a cost of $187 per ounce. WGM has reviewed the Addwest plans and designs and concurs that the plan is reasonable and proper for the ore deposit at Gold Road. Successful implementation of the mine plan is contingent on sustained production sufficient to supply ore to the mill for processing at the designed 500 st/day rate. In order to achieve this sustained rate of production, WGM recommends that Addwest (1) initiate training of underground personnel as soon as possible after the decline is collared and (2) prepare eight to nine stopes for production and/or stockpile 15,000 to 25,000 st of ore before attempting to operate the mill on a continuous basis. The mill flowsheet represents a straightforward processing scheme that should permit continuous operation once all of the systems have been tested individually and collectively.

These tests should be completed to Addwest's satisfaction before final acceptance of the facility.

LIST OF MATERIALS AVAILABLE FOR REVIEW

Gold Road Project, Feasibility Study; Addwest Minerals, Inc. June, 1993

The Gold Road Project; Mineable Reserve Evaluation, Western Services Engineering, January, 1993

Metallurgical and Engineering Evaluation of Samples from the Gold Road Mine; I C Technologies, June, 1993

Budget and Milestone Payments, Gold Road Project; Kilborn International, Inc., February 1994

Tender to Perform Construction Items as Specified, Line Road Decline, J. S. Redpath Corporation; January, 1994

Arizona Lode Gold Mines and Mining, Bull. 137, Arizona Bureau of Geology and Mines, 1967

A Resume of the Geology of Arizona, Bull. 171, Arizona Bureau of Mines, 1962

Geology and Ore Deposits of the Oatman and Katherine Districts, Mohave County, Arizona, Lausen, Carl; Bull 131, Arizona Bureau of Mines, 1931

Geology and Ore Deposits of the Oatman District, Mohave County, Arizona, Dewitt, E. et al, U.S. Geol Surv. Bull 1857, 1991

Geology and Ore Deposits, Oatman, Arizona, Durning, W. and Buchanan, L. Arizona Geological Society Digest, Vol. 15, 1984

Geology of the Oatman District, Ransome, F.L., U.S. Geol. Surv. Bull. 743, 1923

Mineral Deposits of the Cerbat and Black Mtns, Mohave County, Arizona, Schrader, F.C., U.S. Geol. Surv. Bull. 397, 1909

Exploration Procedure and Controls of Mineralization, Oatman District, Buchanan, L., Durning, W., and Clifton, , Preprint 80-143, SME Annual Meeting, 1980

Igneous Petrology of the Oatman District, Mohave County, Arizona, Thorsen, John P., Univ. of Cal, PhD Dissertation, 1971

Principal Gold-Producing Districts of the United States, U.S. Geol. Surv. PP610, 1968

LIST OF MATERIALS AVAILABLE FOR REVIEW

Gold Road Project, Feasibility Study; Addwest Minerals, Inc. June, 1993

The Gold Road Project; Mineable Reserve Evaluation, Western Services Engineering, January, 1993

Metallurgical and Engineering Evaluation of Samples from the Gold Road Mine; I C Technologies, June, 1993

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Arizona Lode Gold Mines and Mining, Bull. 137, Arizona Bureau of Geology and Mines, 1967

A Resume of the Geology of Arizona, Bull. 171, Arizona Bureau of Mines, 1962

Geology and Ore Deposits of the Oatman and Katherine Districts, Mohave County, Arizona, Lausen, Carl; Bull 131, Arizona Bureau of Mines, 1931

Geology and Ore Deposits of the Oatman District, Mohave County, Arizona, Dewitt, E. et al, U.S. Geol Surv. Bull 1857, 1991

Geology and Ore Deposits, Oatman, Arizona, Durning, W. and Buchanan, L. Arizona Geological Society Digest, Vol. 15, 1984

Geology of the Oatman District, Ransome, F.L., U.S. Geol. Surv. Bull. 743, 1923

Mineral Deposits of the Cerbat and Black Mtns, Mohave County, Arizona, Schrader, F.C., U.S. Geol. Surv. Bull. 397, 1909

Exploration Procedure and Controls of Mineralization, Oatman District, Buchanan, L., Durning, W., and Clifton, , Preprint 80-143, SME Annual Meeting, 1980

Igneous Petrology of the Oatman District, Mohave County, Arizona, Thorsen, John P., Univ. of Cal, PhD Dissertation, 1971

Principal Gold-Producing Districts of the United States, U.S. Geol. Surv. PP610, 1968

CERTIFICATE

To Accompany Report to Addwest Minerals Incorporated

on

April ___, 1994

I, Joseph R. Wojcik, do hereby certify that:

1) I reside at 2055 Crestvue Circle, Golden, Colorado, 80401 and that I have been certified as a Certified Professional Geologist by the American Institute of Professional Geologists.

2) I am a graduate of the Ohio State University with a B.Sc. degree in Geology (1956) and I have practiced my profession continuously for more than thirty five years.

3) I visited Gold Road between February 10 and 11, 1994 and this report is based on this visit, review of a number of reports and interviews with key staff in the head office in Arvada, Colorado.

4) I do not own, directly or indirectly, nor do I expect to receive any interest, directly or indirectly, in the properties described in this report nor in any associated or affiliated company. I do not own nor do I expect to receive, directly or indirectly, securities of Addwest Minerals Incorporated or in any associated or affiliated company.

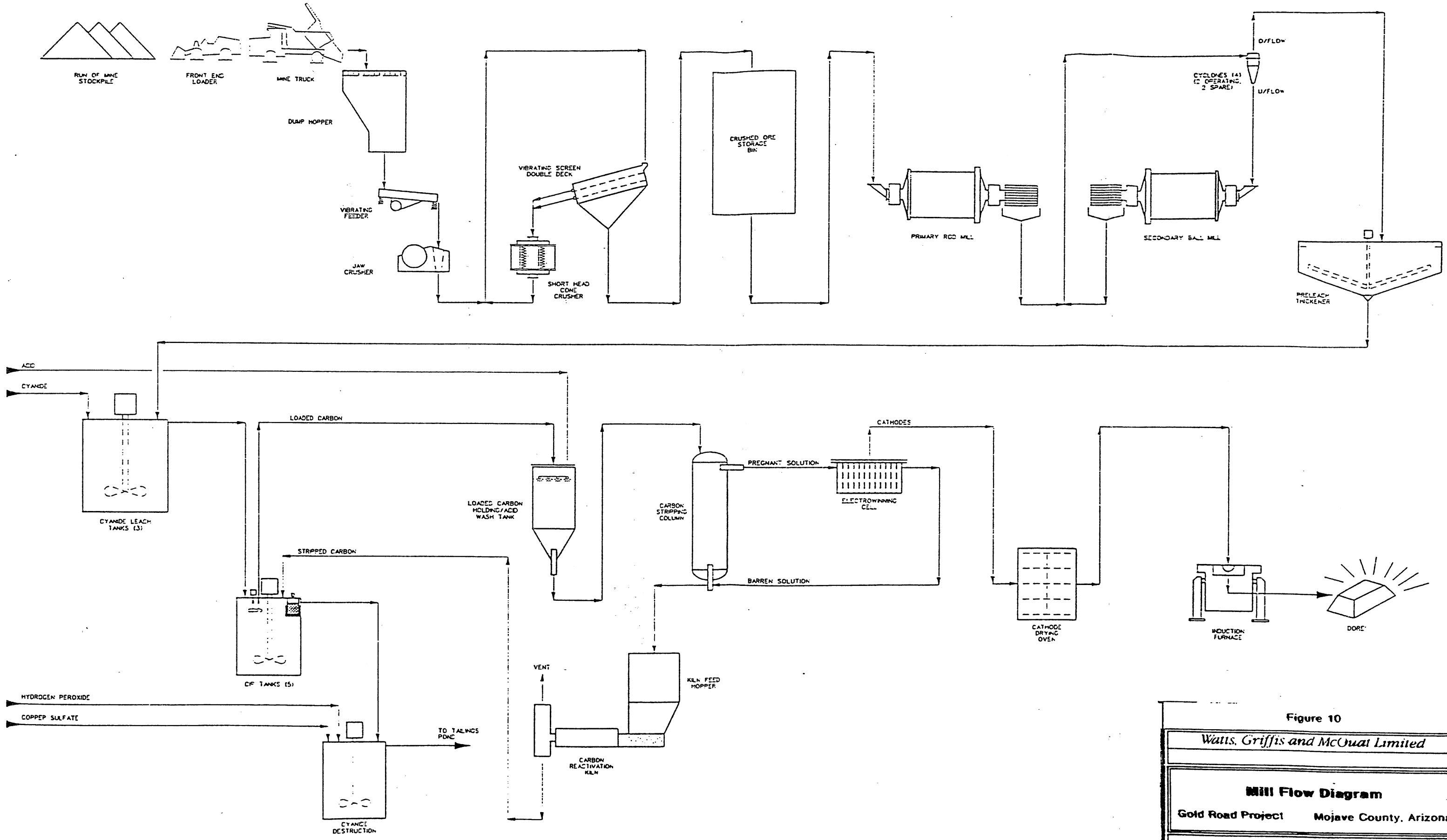
Joseph R. Wojcik, CPG

April ____, 1994

APPENDICES

ITEM	DESCRIPTION	CALC	QTR -3	QTR -2	QTR -1	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12	TOTAL
1	TONS MILLED					45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	546000
2	GRADE (oz AU/st)					0.367	0.376	0.399	0.409	0.320	0.264	0.252	0.273	0.277	0.300	0.233	0.202	0.289
3	CONTAINED OUNCES	1*2				16698.5	17108	18154.5	18609.5	14560	12012	11466	12421.5	12603.5	13650	10601.5	9191	167076
4	RECOVERY, GOLD %					0.9	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
5	GOLD PRODUCED, OUNCES	3*4				15028.65	15910.44	17248.78	17679.03	13832	11411.4	10892.7	11800.43	11973.33	12967.5	10071.43	8731.45	157545
6	CUMULATIVE OUNCES, GOLD					15028.65	30939.09	48186.87	65864.89	79696.89	91108.29	102001	113801.4	125774.7	138742.2	148813.7	157545.1	
7	GOLD PRICE US$/OUNCE					380	380	380	380	380	380	380	380	380	380	380	380	
8	REVENUE, GOLD US$	5*7				5.711	6.046	6.554	6.718	5.256	4.338	4.139	4.484	4.550	4.928	3.827	3.318	59.867
9	GRADE, (oz AG/st)					0.275	0.282	0.299	0.307	0.240	0.198	0.189	0.205	0.208	0.225	0.175	0.152	
10	CONTAINED OUNCES, SILVER	1*9				12523.88	12831	13615.88	13957.12	10920	9009	8599.5	9316.125	9452.625	10237.5	7951.125	6893.25	
11	RECOVERY, SILVER %					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
12	SILVER PRODUCED, OUNCES	9*10				6261.938	6415.5	6807.938	6978.562	5460	4504.5	4299.75	4658.063	4726.313	5118.75	3975.563	3446.625	62654
13	CUMULATIVE OUNCES, SILVER					6261.938	12677.44	19485.38	26463.94	31923.94	36428.44	40728.19	45386.25	50112.56	55231.31	59206.88	62653.5	62654
14	SILVER PRICE, US$/OUNCE					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
15	REVENUE, SILVER US$	12*14				0.028	0.029	0.031	0.031	0.025	0.020	0.019	0.021	0.021	0.023	0.018	0.016	0.282
16	TOTAL GROSS REVENUE	8+15				5.739	6.075	6.584	6.749	5.281	4.357	4.159	4.505	4.571	4.951	3.845	3.333	60.149
																		0.000
	OPERATING COST																	15.693
17	MINING X 10^6					1.439	1.374	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	6.586
18	MILLING X 10^6					0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	1.644
19	GENERAL & ADMINISTRATION X 10^6					0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.559
20	SALES, TRANSP, INS. X 10^6	5*3.5				0.053	0.056	0.061	0.063	0.049	0.041	0.039	0.042	0.043	0.046	0.036	0.031	2.195
21	ROYALTIES X10^6	16*0.036				0.209	0.222	0.240	0.248	0.193	0.159	0.152	0.164	0.167	0.181	0.140	0.122	1.108
22	SEVERANCE TAX X10^6	(18-17)*				0.108	0.118	0.132	0.136	0.099	0.078	0.071	0.080	0.082	0.091	0.063	0.051	0.948
23	PROPERTY TAX X10^6					0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.392
24	INTEREST X 10^6		0.028	0.045	0.047	0.070	0.062	0.060	0.043	0.023	0.012	0.007						29.210
25	TOTAL COSTS	sum(17..2	0.028	0.045	0.047	2.644	2.596	2.566	2.561	2.437	2.360	2.342	2.359	2.364	2.391	2.313	2.278	
26	OPERATING PROFIT	16-26	-0.028	-0.045	-0.047	3.095	3.479	4.018	4.188	2.844	1.996	1.817	2.146	2.207	2.560	1.533	1.057	30.939
28	DEPRECIATION X 10^6					0.737	0.737	0.737	0.737	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289	5.260
29	DEPLETION X 10^6	LESSER OF(.15*16) AND (.5*(26-27-28))				0.681	0.911	0.988	1.012	0.792	0.653	0.624	0.676	0.686	0.743	0.577	0.384	8.906
27	LOSS CARRY FORWARD			-0.070	-0.117	0.117	0	0	0	0	0	0	0	0	0	0	0	
30	TAXABLE INCOME X 10^6	26-27-28				1.380	1.830	2.293	2.439	1.762	1.054	0.904	1.181	1.233	1.528	0.667	0.384	18.656
31	INCOME TAX X10^6	AZ(.05)+FED(.28)*(1-AZ(.05))=.316				0.436	0.578	0.725	0.771	0.557	0.333	0.286	0.373	0.389	0.483	0.211	0.121	5.263
32	PROFIT AFTER TAX	30-31				0.944	1.252	1.569	1.668	1.206	0.721	0.618	0.808	0.843	1.045	0.456	0.263	11.393
	CAPITAL																	9.330
33	LOAN PROCEEDS		5.100	3.800	0.430												-0.500	9.700
34	INVESTMENT		5.400	3.800	1.000												0.100	2.013
35	EXPLORATION & DEVELOPMENT					0.017	0.215	0.194	0.312	0.137	0.182	0.144	0.412	0.100	0.100	0.100	-1.000	0.000
36	WORKING CAPITAL		0.333	0.333	0.334													9.330
37	LOAN REPAYMENTS					1.127	0.227	2.268	2.648	1.512	0.605	0.945						0.200
38	PROPERTY PAYMENTS		0.200															13.646
39	CASH FLOW 32+28+29+33-34-35-36-37-38		-0.833	-0.333	-0.904	1.398	2.458	0.831	0.460	0.638	0.876	0.442	1.361	1.716	1.977	1.222	2.336	13.646
40	CUM CASH FLOW		-0.833	-1.166	-2.070	-0.672	1.786	2.618	3.077	3.715	4.591	5.033	6.394	8.112	10.089	11.310	13.646	
41	NET PRESENT VALUE @10%	10.370																
	@15%	9.073																
42	CASH FLOW BEFORE TAX		-0.859	-0.308	-0.951	1.834	3.037	1.556	1.230	1.195	1.209	0.728	1.734	2.107	2.460	1.433	2.457	18.910
43	NET PRESENT VALUE @ 10%	14.610																
	@15%	12.911																

BASE CASE



Data provided by Addwest Minerals, 1994

Figure 10

Watts, Griffis and McOuat Limited

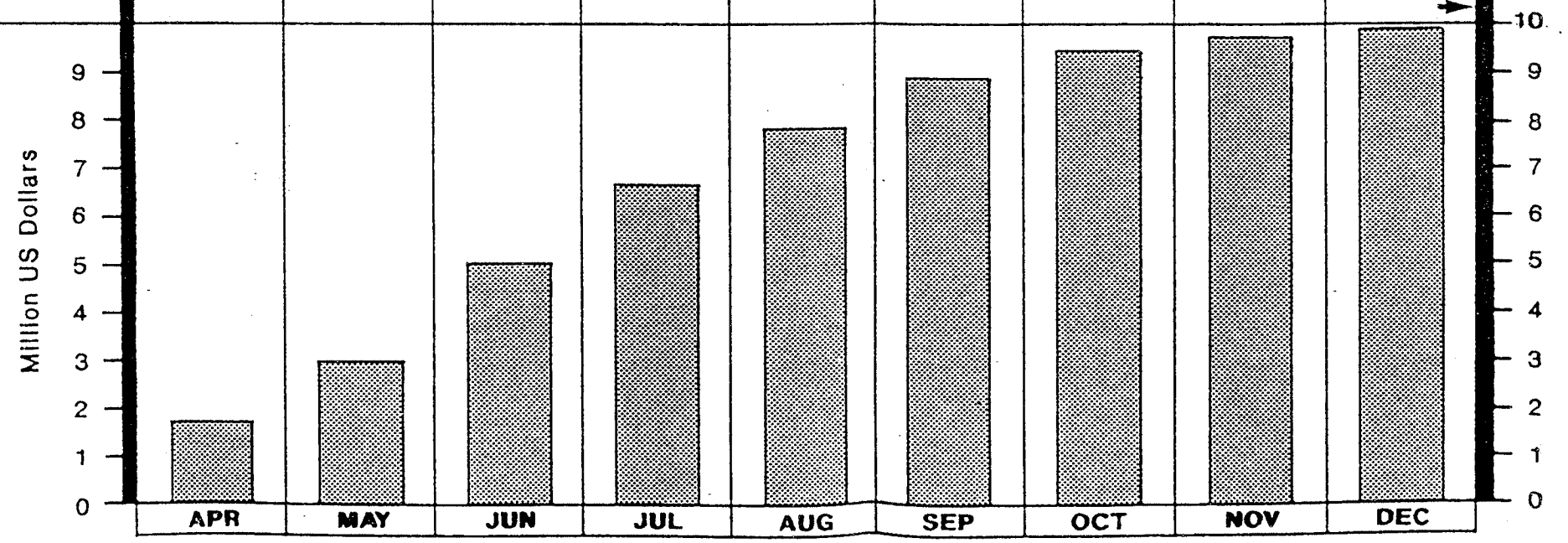
Mill Flow Diagram

Gold Road Project **Mojave County, Arizona**

March 1994

Mine Construction Schedule

	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SOURCE EQUIPMENT									
CIVIL & CONCRETE DESIGN									
STEEL DESIGN									
PIPING & MECHANICAL DESIGN									
ELECTRICAL & INSTRUMENT DESIGN									
CONTRACTOR MOB									
CIVIL/CONCRETE									
STRUCTURAL STEEL									
FIELD ERECTED TANKS									
OTHER TANKS									
MECHANICAL									
PLATEWORK									
PIPING									
ELECTRICAL & INSTRUMENTATION									
ARCHECTURAL									
MISC.									
RUN-IN & TEST									
DEMOB									
MINE CONTRACTOR MOB									
PREPARE PORTAL									
COLLAR PORTAL									
DECLINE TO NO. 3 SHAFT									
DECLINE TO 350 LEVEL									
CROSSCUTS & STOPE DEVELOPMENT									
INCLINE TO 100 LEVEL									
DRIFTING & STOPE DEVELOPMENT									
PRODUCTION									→



1994 Capital Investment Schedule
(cumulative)

Figure 11

Watts, Griffis and McOuat Limited

Schedule of Mine Construction and Investments

Gold Road Project Mojave County, Arizona

March 1994

ITEM		DESCRIPTION	CALC	QTR -3	QTR -2	QTR -1	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11		TOTAL
	1	TONS MILLED					45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	546000
	2	GRADE (oz AU/st)					0.387	0.377	0.399	0.409	0.319	0.262	0.253	0.272	0.284	0.291	0.233	0.201	0.288
	3	CONTAINED OUNCES	1*2				16698.5	17153.5	18154.5	18609.5	14514.5	11921	11511.5	12376	12922	13240.5	10601.5	9145.5	166849
	4	RECOVERY, GOLD %					0.9	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
	5	GOLD PRODUCED, OUNCES	3*4				15028.65	15952.78	17246.78	17679.03	13788.78	11324.95	10935.93	11757.2	12275.9	12578.48	10071.43	8688.225	157328
	6	CUMULATIVE OUNCES, GOLD					15028.65	30981.41	48228.18	65907.21	79695.98	91020.93	101956.9	113714.1	125990	138568.4	148639.9	157328.1	
	7	GOLD PRICE US$/OUNCE					380	380	380	380	380	380	380	380	380	380	380	380	
	8	REVENUE, GOLD US$	5*7				5.711	6.062	6.554	6.718	5.240	4.303	4.156	4.468	4.665	4.780	3.827	3.302	59.785
	9	GRADE, (oz AG/st)					0.275	0.283	0.299	0.307	0.239	0.197	0.190	0.204	0.213	0.218	0.175	0.151	
	10	CONTAINED OUNCES, SILVER	1*9				12523.88	12865.13	13815.88	13957.12	10885.88	8940.75	8633.625	9282	9691.5	9930.375	7951.125	6859.125	
	11	RECOVERY, SILVER %					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
	12	SILVER PRODUCED, OUNCES	9*10				6261.938	6432.563	6907.938	6978.562	5442.938	4470.375	4316.813	4641	4845.75	4965.188	3975.563	3429.563	62568
	13	CUMULATIVE OUNCES, SILVER					6261.938	12694.5	19602.44	26581	31923.94	36394.31	40711.13	45352.13	50197.88	55163.06	59138.63	62568.19	62568
	14	SILVER PRICE, US$/OUNCE					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
	15	REVENUE , SILVER US$	12*14				0.028	0.029	0.031	0.031	0.024	0.020	0.019	0.021	0.022	0.022	0.018	0.015	0.282
	16	TOTAL GROSS REVENUE	8+15				5.739	6.091	6.584	6.749	5.264	4.324	4.175	4.489	4.687	4.802	3.845	3.317	60.068
																			0.000
		OPERATING COST																	17.482
	17	MINING X 10^6					1.5829	1.5114	1.4388	1.4388	1.4388	1.4388	1.4388	1.4388	1.4388	1.4388	1.4388	1.4388	7 247
	18	MILLING X 10^6					0.6039	0.6039	0.6039	0.6039	0.6039	0.6039	0.6039	0.6039	0.6039	0.6039	0.6039	0.6039	1 808
	19	GENERAL & ADMINISTRATION X 10^6					0.1507	0.1507	0.1507	0.1507	0.1507	0.1507	0.1507	0.1507	0.1507	0.1507	0.1507	0.1507	0 559
	20	SALES, TRANSP, INS. X 10^6	5*3.5				0.053	0.057	0.061	0.063	0.049	0.040	0.039	0.042	0.044	0.045	0.036	0.031	2.192
	21	ROYALTIES X10^6	16*0.036				0.209	0.222	0.240	0.248	0.192	0.158	0.152	0.164	0.171	0.175	0.140	0.121	1 065
	22	SEVERANCE TAX X10^6	(16-17)*				0.104	0.114	0.129	0.133	0.096	0.072	0.068	0.076	0.081	0.084	0.060	0.047	0 948
	23	PROPERTY TAX X10^6					0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.392
	24	INTEREST X 10^6		0.026	0.045	0.047	0.070	0.062	0.060	0.043	0.023	0.012	0.007						31 577
	25	TOTAL COSTS	sum(17..2	0.026	0.045	0.047	2.853	2.800	2.762	2.757	2.632	2.554	2.539	2.554	2.568	2.578	2.509	2.471	
	26	OPERATING PROFIT	16-28	-0.026	-0.045	-0.047	2.886	3.291	3.822	3.992	2.632	1.769	1.636	1.934	2.118	2.228	1.336	0.846	28.489
							0.737	0.737	0.737	0.737	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289	5 260
	28	DEPRECIATION X 10^6					0.861	0.914	0.988	1.012	0.790	0.649	0.626	0.673	0.703	0.720	0.524	0.278	8.738
	29	DEPLETION X 10^6	LESSER OF(.15*16) AND (.5*(28-27-28))				0.117	0	0	0	0	0	0	0	0	0	0	0	
	27	LOSS CARRY FORWARD				-0.070	-0.117	1.171	1.640	2.097	2.243	1.553	0.832	0.721	0.972	1.126	1.216	0.524	0.278	14 375
	30	TAXABLE INCOME X 10^6	28-27-28				0.370	0.518	0.663	0.709	0.491	0.263	0.228	0.307	0.356	0.384	0.165	0.088	4 543
	31	INCOME TAX X10 ^6	AZ(.05)+FED(.28)*(1-AZ(.05))=.316				0.801	1.122	1.435	1.534	1.063	0.569	0.493	0.665	0.770	0.832	0.358	0.190	9.833
	32	PROFIT AFTER TAX	30-31																
																			9.330
		CAPITAL																	
	33	LOAN PROCEEDS		5.100	3.800	0.430												-0.500	9.700
	34	INVESTMENT		5.400	3.800	1.000												0.100	2.013
	35	EXPLORATION					0.017	0.215	0.194	0.312	0.137	0.182	0.144	0.412	0.100	0.100	0.100	-1.000	0.000
	36	WORKING CAPITAL		0.333	0.333	0.334													9 330
	37	LOAN REPAYMENTS					1.127	0.227	2.268	2.646	1.512	0.605	0.945						0 200
	38	PROPERTY PAYMENTS		0.200														2.158	11.917
	39	CASH FLOW 32+28+29+33-34-35-36-37-38		-0.633	-0.333	-0.804	1.255	2.331	0.697	0.326	0.492	0.720	0.319	1 215	1.662	1.741	1.071	11.917	11.917
	40	CUM CASH FLOW		-0.633	-1.166	-2.070	-0.815	1.516	2.213	2.539	3.031	3.750	4.070	5.285	6.947	8.689	9.759		
	41	NET PRESENT VALUE @10%	9.006																
		@15%	7.855																
	42	CASH FLOW BEFORE TAX		-0.859	-0.308	-0.951	1.625	2.849	1.360	1.034	0.983	0.982	0.547	1.522	2.018	2.126	1.236	2.246	16.460
	43	NET PRESENT VALUE @ 10%	12.670																

COST X 1.10

Watts, Griffis and McOuat

ITEM		DESCRIPTION	CALC	QTR -3	QTR -2	QTR -1	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12	TOTAL
	1	TONS MILLED					45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	546000
	2	GRADE (oz AU/st)					0.367	0.377	0.399	0.409	0.319	0.262	0.253	0.272	0.284	0.291	0.233	0.201	0.288
	3	CONTAINED OUNCES	1*2				16698.5	17153.5	18154.5	18609.5	14514.5	11921	11511.5	12376	12922	13240.5	10601.5	9145.5	166849
	4	RECOVERY, GOLD %					0.9	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
	5	GOLD PRODUCED, OUNCES	3*4				15028.65	15952.76	17246.78	17679.03	13788.78	11324.95	10935.93	11757.2	12275.9	12578.48	10071.43	8688.225	157328
	6	CUMULATIVE OUNCES, GOLD					15028.65	30981.41	48228.18	65907.21	79695.98	91020.93	101956.9	113714.1	125990	138568.4	148639.9	157328.1	
	7	GOLD PRICE US$/OUNCE					380	380	380	380	380	380	380	380	380	380	380	380	
	8	REVENUE, GOLD US$	5*7				5.711	6.062	6.554	6.718	5.240	4.303	4.156	4.468	4.665	4.780	3.827	3.302	59.785
	9	GRADE, (oz AG/st)					0.275	0.283	0.299	0.307	0.239	0.197	0.190	0.204	0.213	0.218	0.175	0.151	
	10	CONTAINED OUNCES, SILVER	1*9				12523.88	12865.13	13615.88	13957.12	10885.88	8940.75	8633.625	9282	9691.5	9930.375	7951.125	6859.125	
	11	RECOVERY, SILVER %					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
	12	SILVER PRODUCED, OUNCES	9*10				6261.938	6432.563	6807.938	6978.562	5442.938	4470.375	4316.813	4641	4845.75	4965.188	3975.563	3429.563	62568
	13	CUMULATIVE OUNCES, SILVER					6261.938	12694.5	19502.44	26481	31923.94	36394.31	40711.13	45352.13	50197.88	55163.06	59138.63	62568.19	62568
	14	SILVER PRICE, US$/OUNCE					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
	15	REVENUE, SILVER US$	12*14				0.028	0.029	0.031	0.031	0.024	0.020	0.019	0.021	0.022	0.022	0.018	0.015	0.282
	16	TOTAL GROSS REVENUE	8+15				5.739	6.091	6.584	6.749	5.264	4.324	4.175	4.489	4.687	4.802	3.845	3.317	60.068
		OPERATING COST																	0.000
	17	MINING X 10^6					1.2951	1.2368	1.1772	1.1772	1.1772	1.1772	1.1772	1.1772	1.1772	1.1772	1.1772	1.1772	14.304
	18	MILLING X 10^6					0.4941	0.4941	0.4941	0.4941	0.4941	0.4941	0.4941	0.4941	0.4941	0.4941	0.4941	0.4941	5.929
	19	GENERAL & ADMINISTRATION X 10^6					0.1233	0.1233	0.1233	0.1233	0.1233	0.1233	0.1233	0.1233	0.1233	0.1233	0.1233	0.1233	1.480
	20	SALES, TRANSP, INS. X 10^6	5*3.5				0.053	0.057	0.061	0.063	0.049	0.040	0.039	0.042	0.044	0.045	0.038	0.031	0.559
	21	ROYALTIES X10^6	16*0.036				0.209	0.222	0.240	0.246	0.192	0.158	0.152	0.164	0.171	0.175	0.140	0.121	2.192
	22	SEVERANCE TAX X10^6	(16-17)*				0.111	0.121	0.135	0.139	0.102	0.079	0.075	0.083	0.088	0.091	0.087	0.053	1.144
	23	PROPERTY TAX X10^6					0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.948
	24	INTEREST X 10^6		0.026	0.045	0.047	0.070	0.062	0.060	0.043	0.023	0.012	0.007						0.392
	25	TOTAL COSTS	sum(17..2	0.026	0.045	0.047	2.435	2.395	2.370	2.365	2.240	2.162	2.147	2.162	2.176	2.184	2.116	2.079	28.831
	26	OPERATING PROFIT	16-26	-0.026	-0.045	-0.047	3.304	3.696	4.214	4.385	3.024	2.162	2.028	2.327	2.511	2.618	1.729	1.238	33.235
	28	DEPRECIATION X 10^6					0.737	0.737	0.737	0.737	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289	5.260
	29	DEPLETION X 10^6	LESSER OF(.15*16) AND (.5*(26-27-28))				0.881	0.914	0.988	1.012	0.790	0.649	0.626	0.673	0.703	0.720	0.577	0.474	8.987
	27	LOSS CARRY FORWARD			-0.070	-0.117	0.117	0	0	0	0	0	0	0	0	0	0	0	
	30	TAXABLE INCOME X 10^6	26-27-28				1.589	2.048	2.490	2.635	1.948	1.224	1.113	1.364	1.519	1.609	0.863	0.474	18.871
	31	INCOME TAX X10 ^6	AZ(.05)+FED(.28)*(1-AZ(.05))=.316				0.502	0.646	0.787	0.833	0.615	0.387	0.352	0.431	0.480	0.508	0.273	0.150	5.963
	32	PROFIT AFTER TAX	30-31				1.087	1.399	1.703	1.802	1.331	0.837	0.761	0.933	1.039	1.100	0.590	0.325	12.908
		CAPITAL																	9.330
	33	LOAN PROCEEDS		5.100	3.800	0.430												-0.500	9.700
	34	INVESTMENT		5.400	3.800	1.000													2.013
	35	EXPLORATION					0.017	0.215	0.194	0.312	0.137	0.182	0.144	0.412	0.100	0.100	0.100	0.100	0.000
	36	WORKING CAPITAL		0.333	0.333	0.334												-1.000	9.330
	37	LOAN REPAYMENTS					1.127	0.227	2.268	2.646	1.512	0.605	0.945						0.200
	38	PROPERTY PAYMENTS		0.200															15.242
	39	CASH FLOW 32+28+29+33-34-35-36-37-38		-0.833	-0.333	-0.904	1.541	2.608	0.968	0.594	0.761	0.988	0.588	1.484	1.931	2.010	1.356	2.488	15.242
	40	CUM CASH FLOW		-0.833	-1.166	-2.070	-0.529	2.079	3.044	3.638	4.399	5.386	5.974	7.457	9.388	11.398	12.754	15.242	
	41	NET PRESENT VALUE @10%	11.640																
		@15%	10.211																
	42	CASH FLOW BEFORE TAX		-0.859	-0.308	-0.951	2.043	3.254	1.752	1.427	1.375	1.375	0.939	1.915	2.411	2.518	1.629	2.638	21.205
	43	NET PRESENT VALUE @ 10%	16.441																

COST X .90

ITEM	DESCRIPTION	CALC	QTR -3	QTR -2	QTR -1	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12	TOTAL
1	TONS MILLED					45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	546000
2	GRADE (oz AU/st)					0.330	0.376	0.359	0.368	0.320	0.264	0.252	0.273	0.277	0.300	0.210	0.202	0.278
3	CONTAINED OUNCES	1*2				15028.65	17108	16339.05	16748.55	14560	12012	11468	12421.5	12603.5	13650	9541.35	9191	160670
4	RECOVERY, GOLD %					0.9	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
5	GOLD PRODUCED, OUNCES	3*4				13525.79	15910.44	15522.1	15911.12	13832	11411.4	10892.7	11800.43	11973.33	12967.5	9064.283	8731.45	151543
6	CUMULATIVE OUNCES, GOLD					13525.79	29436.23	44958.32	60869.44	74701.45	86112.85	97005.54	108808	120779.3	133746.8	142811.1	151542.5	
7	GOLD PRICE US$/OUNCE					380	380	380	380	380	380	380	380	380	380	380	380	
8	REVENUE, GOLD US$	5*7				5.140	6.048	5.898	6.046	5.256	4.336	4.139	4.484	4.550	4.928	3.444	3.318	57.586
9	GRADE, (oz AG/st)					0.248	0.282	0.269	0.276	0.240	0.198	0.189	0.205	0.208	0.225	0.157	0.152	
10	CONTAINED OUNCES, SILV	1*9				11271.49	12831	12254.29	12561.41	10920	9009	8599.5	9316.125	9452.625	10237.5	7156.013	6893.25	
11	RECOVERY, SILVER %					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
12	SILVER PRODUCED, OUNCE	9*10				5635.744	6415.5	6127.144	6280.708	5460	4504.5	4299.75	4658.063	4726.313	5118.75	3578.006	3446.625	60251
13	CUMULATIVE OUNCES, SILVER					5835.744	12051.24	18178.39	24459.09	29919.09	34423.59	38723.34	43381.41	48107.72	53226.47	56804.48	60251.1	60251
14	SILVER PRICE, US$/OUNCE					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
15	REVENUE , SILVER US$	12*14				0.025	0.029	0.028	0.028	0.025	0.020	0.019	0.021	0.021	0.023	0.016	0.016	0.271
16	TOTAL GROSS REVENUE	8+15				5.165	6.075	5.926	6.074	5.281	4.357	4.159	4.505	4.571	4.951	3.461	3.333	57.857
																		0.000
	OPERATING COST																	
17	MINING X 10^6					1.439	1.374	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	15.893
18	MILLING X 10^6					0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	6.588
19	GENERAL & ADMINISTRATION X 10^6					0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	1.644
20	SALES, TRANSP, INS. X 10^6	5*3.5				0.048	0.058	0.055	0.058	0.049	0.041	0.039	0.042	0.043	0.048	0.032	0.031	0.539
21	ROYALTIES X10^6	16*0.036				0.189	0.222	0.216	0.222	0.193	0.159	0.152	0.164	0.167	0.181	0.126	0.122	2.112
22	SEVERANCE TAX X10^6	(16-17)*				0.093	0.118	0.115	0.119	0.099	0.078	0.071	0.080	0.082	0.091	0.054	0.051	1.049
23	PROPERTY TAX X10^6					0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.948
24	INTEREST X 10^6		0.026	0.045	0.047	0.070	0.062	0.060	0.043	0.023	0.012	0.007						0.392
25	TOTAL COSTS	sum(17..2	0.026	0.045	0.047	2.604	2.596	2.520	2.513	2.437	2.360	2.342	2.359	2.364	2.391	2.285	2.276	29.048
26	OPERATING PROFIT	16-26	-0.026	-0.045	-0.047	2.561	3.479	3.406	3.561	2.844	1.996	1.817	2.146	2.207	2.560	1.175	1.057	28.810
28	DEPRECIATION X 10^6					0.737	0.737	0.737	0.737	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289	5.260
29	DEPLETION X 10^6	LESSER OF(.15*16) AND (.5*(28-27-28))				0.775	0.911	0.889	0.911	0.792	0.653	0.624	0.676	0.686	0.743	0.443	0.384	8.487
27	LOSS CARRY FORWARD			-0.070	-0.117	0.117	0	0	0	0	0	0	0	0	0	0	0	
30	TAXABLE INCOME X 10^6	26-27-28				0.933	1.830	1.780	1.913	1.762	1.054	0.904	1.181	1.233	1.528	0.443	0.384	14.946
31	INCOME TAX X10^6	AZ(.05)+FED(.28)*(1-AZ(.05))=.316				0.295	0.578	0.563	0.605	0.557	0.333	0.286	0.373	0.389	0.483	0.140	0.121	4.723
32	PROFIT AFTER TAX	30-31				0.638	1.252	1.218	1.309	1.206	0.721	0.618	0.808	0.843	1.045	0.303	0.263	10.223
	CAPITAL																	9.330
33	LOAN PROCEEDS		5.100	3.800	0.430												-0.500	9.700
34	INVESTMENT		5.400	3.600	1.000												0.100	2.013
35	EXPLORATION					0.017	0.215	0.194	0.312	0.137	0.182	0.144	0.412	0.100	0.100	0.100	-1.000	0.000
36	WORKING CAPITAL		0.333	0.333	0.334													9.330
37	LOAN REPAYMENTS					1.127	0.227	2.268	2.648	1.512	0.605	0.945						0.200
38	PROPERTY PAYMENTS		0.200															
39	CASH FLOW 32+28+29+33-34-35-36-37-		-0.833	-0.333	-0.904	1.008	2.458	0.382	-0.001	0.638	0.876	0.442	1.361	1.718	1.977	0.935	2.336	12.057
40	CUM CASH FLOW		-0.833	-1.166	-2.070	-1.084	1.394	1.776	1.775	2.412	3.289	3.731	5.091	6.809	8.786	9.721	12.057	12.057
41	NET PRESENT VALUE @10	9.036																
	@15%	7.847																
42	CASH FLOW BEFORE TAX		-0.859	-0.308	-0.951	1.301	3.037	0.944	0.603	1.195	1.209	0.728	1.734	2.107	2.460	1.075	2.457	16.780
43	NET PRESENT VALUE @ 10	12.819																

GRADE X .90

Watts, Griffis and McOuat

ITEM	DESCRIPTION	CALC	QTR -3	QTR -2	QTR -1	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12	TOTAL
1	TONS MILLED					45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	546000
2	GRADE (oz AU/st)					0.367	0.378	0.399	0.409	0.320	0.264	0.252	0.273	0.277	0.300	0.233	0.202	0.289
3	CONTAINED OUNCES	1*2				16698.5	17108	18154.5	18609.5	14560	12012	11468	12421.5	12603.5	13650	10601.5	9191	167076
4	RECOVERY, GOLD %					0.9	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
5	GOLD PRODUCED, OUNCES	3*4				15028.65	15910.44	17246.78	17679.03	13832	11411.4	10892.7	11800.43	11973.33	12967.5	10071.43	8731.45	157545
6	CUMULATIVE OUNCES, GOLD					15028.65	30939.09	48185.87	65864.89	79696.89	91108.29	102001	113801.4	125774.7	138742.2	148813.7	157545.1	
7	GOLD PRICE US$/OUNCE					418	418	418	418	418	418	418	418	418	418	418	418	
8	REVENUE, GOLD US$	5*7				6 282	6.651	7.209	7.390	5.782	4.770	4.553	4 933	5.005	5.420	4 210	3.650	65.854
9	GRADE, (oz AG/st)					0.275	0 282	0.299	0 307	0.240	0.198	0.189	0.205	0.208	0.225	0.175	0.152	
10	CONTAINED OUNCES, SILV	1*9				12523.88	12831	13615.88	13957.12	10920	9009	8599.5	9316.125	9452.625	10237.5	7951.125	6893.25	
11	RECOVERY, SILVER %					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
12	SILVER PRODUCED, OUNCE	9*10				6261.938	6415.5	6807.938	6978 562	5460	4504 5	4299.75	4658.063	4726.313	5118.75	3975.563	3446.625	62654
13	CUMULATIVE OUNCES, SILVER					6261.938	12677.44	19485.38	26463.94	31923.94	36428.44	40728.19	45388.25	50112.56	55231.31	59206.88	62653.5	62654
14	SILVER PRICE, US$/OUNCE					4.5	4.5	4.5	4.5	4.5	4.5	4 5	4.5	4.5	4.5	4 5	4.5	
15	REVENUE , SILVER US$	12*14				0.028	0.029	0.031	0.031	0.025	0.020	0.019	0.021	0.021	0.023	0.018	0.016	0.282
16	TOTAL GROSS REVENUE	8+15				6.310	6.679	7.240	7.421	5.808	4.790	4.572	4.954	5.026	5.443	4.228	3.665	68.138
	OPERATING COST																	0.000
17	MINING X 10^6					1.439	1.374	1.308	1.308	1.308	1 308	1.308	1.308	1.308	1.308	1 308	1.308	15 893
18	MILLING X 10^6					0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0 549	6.588
19	GENERAL & ADMINISTRATION X 10^6					0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	1.644
20	SALES, TRANSP, INS. X 10^6	5*3.5				0.053	0 056	0.061	0.063	0.049	0.041	0.039	0.042	0.043	0.046	0.036	0 031	0.559
21	ROYALTIES X10^6	16*0.036				0.230	0.244	0.264	0.271	0.212	0.175	0.167	0.181	0.183	0.199	0.154	0.134	2.414
22	SEVERANCE TAX X10^6	(16-17)*				0.122	0.133	0.148	0.153	0.112	0.087	0.082	0.091	0.093	0.103	0.073	0.059	1.258
23	PROPERTY TAX X10^6					0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.948
24	INTEREST X 10^6		0.028	0.045	0.047	0.070	0.062	0.060	0.043	0.023	0.012	0 007						0.392
25	TOTAL COSTS	sum(17..2	0.028	0.045	0.047	2.679	2.633	2.607	2.602	2.469	2.387	2.367	2.387	2.392	2.421	2.336	2.297	29.578
26	OPERATING PROFIT	16-26	-0.028	-0.045	-0.047	3.631	4.046	4.633	4.819	3.337	2.403	2.205	2.567	2.634	3.022	1.892	1.369	38.558
28	DEPRECIATION X 10^6					0.737	0.737	0.737	0.737	0.289	0.289	0 289	0.289	0.289	0.289	0.289	0.289	5.260
29	DEPLETION X 10^6	LESSER OF(15*16) AND (.5*(28-27-28))				0.947	1.002	1.086	1.113	0.871	0.719	0.686	0.743	0.754	0.817	0.634	0.540	9.910
27	LOSS CARRY FORWARD				-0.070	-0.117	0.117	0	0	0	0	0	0	0	0	0	0	0	
30	TAXABLE INCOME X 10^6	26-27-28				1 831	2.307	2.810	2.969	2.177	1.398	1.230	1.535	1.591	1.917	0.969	0.540	21.271
31	INCOME TAX X10 ^6	AZ(.05)+FED(.28)*(1-AZ(.05))=.316				0.578	0.729	0.888	0.938	0.688	0.441	0.389	0.485	0.503	0.606	0.306	0.171	6.722
32	PROFIT AFTER TAX	30-31				1.252	1.578	1.922	2.031	1.489	0.955	0.842	1.050	1.088	1.311	0.662	0.369	14.549
	CAPITAL																	
33	LOAN PROCEEDS		5.100	3.800	0.430													9.330
34	INVESTMENT		5.400	3.800	1.000												-0.500	9.700
35	EXPLORATION & DEVELOPMENT					0.017	0.215	0.194	0.312	0.137	0.182	0.144	0.412	0.100	0.100	0.100	0.100	2.013
36	WORKING CAPITAL		0.333	0.333	0.334												-1.000	0.000
37	LOAN REPAYMENTS					1.127	0.227	2.268	2.648	1.512	0.605	0.945						9.330
38	PROPERTY PAYMENTS		0.200															0.200
39	CASH FLOW 32+28+29+33-34-35-36-37-		-0.833	-0.333	-0.904	1.792	2.875	1.283	0.923	1.000	1.175	0.727	1.670	2.031	2.317	1.486	2.598	17.806
40	CUM CASH FLOW		-0.833	-1.166	-2.070	-0.278	2.597	3.880	4.803	5.803	6.978	7.705	9.375	11.406	13.723	15.209	17.806	17.806
41	NET PRESENT VALUE @10	13.717																
	@15%	12.088																
42	CASH FLOW BEFORE TAX		-0.859	-0.308	-0.951	2.370	3.604	2.171	1.861	1.688	1.616	1.116	2.155	2.534	2.922	1.792	2.769	24.528
43	NET PRESENT VALUE @ 10	19.135																

PRICE X 1.10

Watts, Griffis and McOuat

ITEM	DESCRIPTION	CALC	QTR -3	QTR -2	QTR -1	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12	TOTAL
1	TONS MILLED					45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	546000
2	GRADE (oz AU/st)					0.404	0.376	0.439	0.450	0.320	0.264	0.252	0.273	0.277	0.300	0.256	0.202	0.300
3	CONTAINED OUNCES	1*2				18368.35	17108	19969.95	20470.45	14560	12012	11466	12421.5	12603.5	13650	11661.65	9191	173482
4	RECOVERY, GOLD %					0.9	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
5	GOLD PRODUCED, OUNCES	3*4				16531.52	15910.44	18971.45	19446.93	13832	11411.4	10892.7	11800.43	11973.33	12967.5	11078.57	8731.45	163548
6	CUMULATIVE OUNCES, GOLD					16531.52	32441.96	51413.41	70860.34	84692.34	96103.74	106996.4	118796.9	130770.2	143737.7	154816.3	163547.7	
7	GOLD PRICE US$/OUNCE					380	380	380	380	380	380	380	380	380	380	380	380	
8	REVENUE, GOLD US$	5*7				6.282	6.046	7.209	7.390	5.256	4.338	4.139	4.484	4.550	4.928	4.210	3.318	62.148
9	GRADE, (oz AG/st)					0.303	0.282	0.329	0.337	0.240	0.198	0.189	0.205	0.208	0.225	0.192	0.152	
10	CONTAINED OUNCES, SILV	1*9				13776.26	12831	14977.46	15352.84	10920	9009	8599.5	9316.125	9452.625	10237.5	8748.238	6893.25	
11	RECOVERY, SILVER %					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
12	SILVER PRODUCED, OUNCE	9*10				6888.131	6415.5	7488.731	7676.419	5460	4504.5	4299.75	4658.063	4726.313	5118.75	4373.119	3446.625	65056
13	CUMULATIVE OUNCES, SILVER					6888.131	13303.63	20792.36	28468.78	33928.78	38433.28	42733.03	47391.09	52117.41	57236.16	61609.28	65055.9	65056
14	SILVER PRICE, US$/OUNCE					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
15	REVENUE , SILVER US$	12*14				0.031	0.029	0.034	0.035	0.025	0.020	0.019	0.021	0.021	0.023	0.020	0.016	0.293
16	TOTAL GROSS REVENUE	8+15				6.313	6.075	7.243	7.424	5.281	4.357	4.159	4.505	4.571	4.951	4.230	3.333	62.441
																		0.000
	OPERATING COST																	
17	MINING X 10^6					1.439	1.374	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	15.893
18	MILLING X 10^6					0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	6.588
19	GENERAL & ADMINISTRATION X 10^6					0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	1.644
20	SALES, TRANSP, INS. X 10^6	5*3.5				0.059	0.056	0.067	0.069	0.049	0.041	0.039	0.042	0.043	0.048	0.039	0.031	0.581
21	ROYALTIES X10^6	16*0.038				0.230	0.222	0.284	0.271	0.193	0.159	0.152	0.164	0.167	0.181	0.154	0.122	2.279
22	SEVERANCE TAX X10^6	(16-17)*				0.122	0.118	0.148	0.153	0.099	0.076	0.071	0.080	0.082	0.091	0.073	0.051	1.164
23	PROPERTY TAX X10^6					0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.948
24	INTEREST X 10^6		0.026	0.045	0.047	0.070	0.062	0.060	0.043	0.023	0.012	0.007						0.392
25	TOTAL COSTS	sum(17..2	0.026	0.045	0.047	2.685	2.598	2.613	2.609	2.437	2.360	2.342	2.359	2.364	2.391	2.340	2.276	29.372
26	OPERATING PROFIT	16-26	-0.026	-0.045	-0.047	3.628	3.479	4.630	4.816	2.844	1.996	1.817	2.146	2.207	2.560	1.890	1.057	33.069
28	DEPRECIATION X 10^6					0.737	0.737	0.737	0.737	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289	5.260
29	DEPLETION X 10^6	LESSER OF(.15*16) AND (.5*(26-27-28))				0.947	0.911	1.088	1.114	0.792	0.653	0.624	0.676	0.686	0.743	0.634	0.384	9.250
27	LOSS CARRY FORWARD				-0.070	-0.117	0.117	0	0	0	0	0	0	0	0	0	0	0	
30	TAXABLE INCOME X 10^6	26-27-28					1.827	1.830	2.807	2.965	1.762	1.054	0.904	1.181	1.233	1.528	0.968	0.384	18.442
31	INCOME TAX X10 ^6	AZ(.05)+FED(.28)*(1-AZ(.05))=.316					0.577	0.578	0.887	0.937	0.557	0.333	0.286	0.373	0.389	0.483	0.305	0.121	5.828
32	PROFIT AFTER TAX	30-31					1.250	1.252	1.920	2.028	1.206	0.721	0.618	0.808	0.843	1.045	0.681	0.263	12.614
	CAPITAL																	9.330
33	LOAN PROCEEDS		5.100	3.800	0.430												-0.500	9.700
34	INVESTMENT		5.400	3.800	1.000													
35	EXPLORATION					0.017	0.215	0.194	0.312	0.137	0.182	0.144	0.412	0.100	0.100	0.100	0.100	2.013
36	WORKING CAPITAL		0.333	0.333	0.334												-1.000	0.000
37	LOAN REPAYMENTS					1.127	0.227	2.268	2.646	1.512	0.605	0.945						9.330
38	PROPERTY PAYMENTS		0.200															0.200
39	CASH FLOW 32+28+29+33-34-35-36-37-		-0.833	-0.333	-0.804	1.790	2.458	1.281	0.921	0.638	0.676	0.442	1.361	1.718	1.977	1.484	2.336	15.211
40	CUM CASH FLOW		-0.833	-1.166	-2.070	-0.280	2.178	3.459	4.380	5.018	5.694	6.136	7.497	9.414	11.391	12.876	15.211	15.211
41	NET PRESENT VALUE @10	11.686																
	@15%	10.285																
42	CASH FLOW BEFORE TAX		-0.859	-0.308	-0.951	2.367	3.037	2.168	1.858	1.195	1.209	0.728	1.734	2.107	2.460	1.790	2.457	21.039
43	NET PRESENT VALUE @ 10	16.401																

GRADE X 1 10

	DESCRIPTION	CALC	QTR -3	QTR -2	QTR -1	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12	TOTAL
1	TONS MILLED					45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	546000
2	GRADE (oz AU/st)					0.367	0.376	0.399	0.409	0.320	0.264	0.252	0.273	0.277	0.300	0.233	0.202	0.289
3	CONTAINED OUNCES	1*2				16698.5	17108	18154.5	18609.5	14560	12012	11466	12421.5	12603.5	13650	10601.5	9191	167076
4	RECOVERY, GOLD %					0.9	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
5	GOLD PRODUCED, OUNCES	3*4				15028.65	15910.44	17246.78	17679.03	13832	11411.4	10892.7	11800.43	11973.33	12967.5	10071.43	8731.45	157545
6	CUMULATIVE OUNCES, GOLD					15028.65	30939.09	48185.87	65864.89	79696.89	91108.29	102001	113801.4	125774.7	138742.2	148813.7	157545.1	
7	GOLD PRICE US$/OUNCE					342	342	342	342	342	342	342	342	342	342	342	342	
8	REVENUE, GOLD US$	5*7				5,140	5,441	5,898	6,048	4,731	3,903	3,725	4,036	4,095	4,435	3,444	2,986	53,880
9	GRADE, (oz AG/st)					0.275	0.282	0.299	0.307	0.240	0.198	0.189	0.205	0.208	0.225	0.175	0.152	
10	CONTAINED OUNCES, SILV	1*9				12523.88	12831	13615.88	13957.12	10920	9009	8599.5	9316.125	9452.625	10237.5	7951.125	6893.25	
11	RECOVERY, SILVER %					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
12	SILVER PRODUCED, OUNCE	9*10				6261.938	6415.5	6807.938	6978.562	5460	4504.5	4299.75	4658.063	4726.313	5118.75	3975.563	3448.625	62654
13	CUMULATIVE OUNCES, SILVER					6261.938	12677.44	19485.38	26463.94	31923.94	36428.44	40728.19	45386.25	50112.56	55231.31	59206.88	62653.5	62654
14	SILVER PRICE, US$/OUNCE					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
15	REVENUE , SILVER US$	12*14				0.028	0.029	0.031	0.031	0.025	0.020	0.019	0.021	0.021	0.023	0.018	0.016	0.282
16	TOTAL GROSS REVENUE	8+15				5.168	5.470	5.929	6.078	4.755	3.923	3.745	4.057	4.116	4.458	3.462	3.002	54.162
																		0.000
	OPERATING COST																	
17	MINING X 10^6					1.439	1.374	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	1.308	15.893
18	MILLING X 10^6					0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	0.549	6.588
19	GENERAL & ADMINISTRATION X 10^6					0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	0.137	1.644
20	SALES, TRANSP, INS. X 10^6	5*3.5				0.053	0.056	0.061	0.063	0.049	0.041	0.039	0.042	0.043	0.046	0.036	0.031	0.559
21	ROYALTIES X10^6	16*0.036				0.189	0.200	0.218	0.222	0.174	0.143	0.137	0.148	0.150	0.163	0.126	0.110	1.977
22	SEVERANCE TAX X10^6	(16-17)*				0.093	0.102	0.116	0.119	0.096	0.065	0.061	0.069	0.070	0.079	0.054	0.042	0.957
23	PROPERTY TAX X10^6					0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.079	0.948
24	INTEREST X 10^6		0.026	0.045	0.047	0.070	0.062	0.060	0.043	0.023	0.012	0.007						0.392
25	TOTAL COSTS	sum(17..2	0.026	0.045	0.047	2.609	2.559	2.526	2.520	2.405	2.334	2.316	2.332	2.336	2.360	2.289	2.256	28.842
26	OPERATING PROFIT	16-26	-0.026	-0.045	-0.047	2.559	2.911	3.403	3.558	2.350	1.589	1.428	1.725	1.780	2.097	1.173	0.746	25.321
28	DEPRECIATION X 10^6					0.737	0.737	0.737	0.737	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289	5.260
29	DEPLETION X 10^6	LESSER OF(.15*16) AND (.5*(28-27-28))				0.775	0.821	0.889	0.912	0.713	0.588	0.562	0.609	0.617	0.669	0.442	0.228	7.825
27	LOSS CARRY FORWARD				-0.070	-0.117	0.117	0	0	0	0	0	0	0	0	0	0	0	
30	TAXABLE INCOME X 10^6	26-27-28				0.930	1.354	1.777	1.909	1.348	0.712	0.578	0.828	0.874	1.140	0.442	0.228	12.119
31	INCOME TAX X10 ^6	AZ(.05)+FED(.28)*(1-AZ(.05))=.316				0.294	0.428	0.561	0.603	0.426	0.225	0.183	0.261	0.276	0.360	0.140	0.072	3.829
32	PROFIT AFTER TAX	30-31				0.636	0.926	1.215	1.308	0.922	0.487	0.395	0.566	0.598	0.780	0.302	0.156	8.289
	CAPITAL																	
33	LOAN PROCEEDS		5.100	3.800	0.430													9.330
34	INVESTMENT		5.400	3.800	1.000												-0.500	9.700
35	EXPLORATION & DEVELOPMENT					0.017	0.215	0.194	0.312	0.137	0.182	0.144	0.412	0.100	0.100	0.100	0.100	2.013
36	WORKING CAPITAL		0.333	0.333	0.334												-1.000	0.000
37	LOAN REPAYMENTS					1.127	0.227	2.268	2.648	1.512	0.605	0.945						9.330
38	PROPERTY PAYMENTS		0.200															0.200
39	CASH FLOW 32+28+29+33-34-35-36-37-		-0.833	-0.333	-0.904	1.004	2.041	0.380	-0.003	0.275	0.577	0.157	1.052	1.404	1.637	0.934	2.074	9.461
40	CUM CASH FLOW		-0.833	-1.166	-2.070	-1.066	0.976	1.355	1.352	1.627	2.205	2.361	3.413	4.817	6.454	7.388	9.461	9.461
41	NET PRESENT VALUE @10	7.008																
	@15%	6.043																
42	CASH FLOW BEFORE TAX		-0.859	-0.308	-0.951	1.298	2.469	0.941	0.600	0.701	0.802	0.339	1.313	1.680	1.997	1.073	2.146	13.291
43	NET PRESENT VALUE @ 10	10.085																

PRICE X .90

Watts, Griffis and McOuat

APPENDIX B
MINE OUT PLAN

STOPE	QTR1	QTR2	QTR3	QTR4	QTR5	QTR6	QTR7	QTR8	QTR9	QTR10	QTR11	QTR12	QTR 13	TOTAL
54	9750	7616												17366
52	4189													4189
51	5472													5472
38	7780													7780
31	4268													4268
30	4235													4235
25	9776	11375	7315											28466
21		11375	5070											16445
14		11375	8482											19857
4		3759	11375	2714										17848
3			11375	11375	1453									24203
1			1883	11375	11375	4701								29334
2				11375	8146									19521
11				3535										3535
12				1428										1428
13				2853										2853
20				845	1943									2788
19					8514	896								9410
24					11189									11189
28					2149									2149
29					731	4921								5652
16						6942								6942
15						5784								5784
6						11375	628							12003
5						6561	8397							14958
27						4320	4984							9304
33							6974							6974
22							11375	11375	2343					25093
17							3313							3313
9							9829	4959						14788
7								11375	6748					18123
35								9166						9166
43								5498						5498
45								2984						2984
44								143	1632					1775
34									11375	11375	4993			27743
46									2222					2222
47									11375	4673				16048
48									6060					6060
55									3414					3414
56									331	1531				1862
58										2185				2185
59										2846				2846
60										2008				2008
61										716				716
62										8078				8078
63										6456	4745			11201
64										5208				5208
65										210	2281			2491
66										208	11375	11375	7859	30815
69											1419			1419
71											1124			1124
72											4112			4112
73											11375	3903		15278
74											1388			1388
75											2678	2369		5047
39												2975		2975
41												1840		1840
42												4836		4836
49												6059		6059
50												6876		6876
67												3287	1482	4749
	45500	45500	45500	45500	45500	45500	45500	45500	45500	45500	45500	45500	9341	555341
												546000	555341	

APPENDIX C

GOLD ROAD MINE
MOHAVE COUNTY, ARIZONA

Part I: The following patented lode mining claims and patented millsites comprising the Goldroad Mine, situate in Sections 2, 10, 11, 13 and 14, Township 19 North, Range 20 West; and Sections 7, 17 and 18, Township 19 North, Range 19 West, G&SRB&M, to wit:

Name of Claim	Survey Number	Book / Page
Billy Bryan	1699A	21/426
Billy Bryan Millsite	1699B	21/426
Climax	1699A	21/426
Comet	2240A	18/294
Eclipse	2240A	18/694
Fraction	2240A	18/694
Gold Road	1699A	21/426
Gold Dollar	1699A	21/426
Gold Dollar Extension	1699A	21/426
Gambler	1699A	21/426
Goldroad Millsite	1699B	21/426
Houghton	1699A	21/426
Iron Rod	2240A	18/694
Last Chance	2440	21/434
Line Road Millsite	1699B	21/426
Line Road	1699A	21/426
Railroad	2440	21/434
Robbie	1699A	21/426
Silver Dollar	1699A	21/426
Tip Top	1699	21/426
Tom Tit	2240A	18/694
Tom Tit Millsite	2240B	18/694

Part II: The following unpatented lode mining claims and millsites to-wit:

Name of Claim	Book/Page	Tnshp/Range/Sec. No.	BLM Serial Number
Houghton Annex	3T/274 3T/489	19N 20W 11	A-MC 35929
Houghton Annex No. 1	3T/504	19N 20W 11	A-MC 35930
Mabel Fraction	QQ/242	19N 20W 11	A-MC 35936
Lanite Frac. No. 1	3-U/449	19N 20W 11	A-MC 35934
Lanite Frac. No. 2	3-U/450	19N 20W 11	A-MC 35935
Lanite No. 4	3-U/452	19N 20W 11	A-MC 35931
Lanite No. 5	3-U/453	19N 20W 13	A-MC 35932
Lanite No. 6	3-U/454	19N 20W 13	A-MC 35933
G.R. 1	36/576	19N 20W 13	A-MC 35916
G.R. 2	36/578	19N 20W 13	A-MC 35917
G.R. 3	36/580	19N 19W 18	A-MC 35918
G.R. 4	36/582	19N 19W 18	A-MC 35919
G.R. 5	36/584	19N 19W 18	A-MC 35920
G.R. 6	36/586	19N 19W 18	A-MC 35921
G.R. 7	36/588	19N 19W 18	A-MC 35922
G.R. 8	109/411	19N 20W 13	A-MC 35923
G.R. 9	109/413	19N 20W 13	A-MC 35924
G.R. 10	109/415	19N 20W 13	A-MC 35925
G.R. 11	109/417	19N 20W 13	A-MC 35926
G.R. 12	109/419	19N 19W 18	A-MC 35927
G.R. 13	112/245	19N 20W 11	A-MC 35928
GR #16	416/183	19N 20W 13	A-MC 12799
GR #17	416/185	19N 20W 13	A-MC 12800
GR #18	416/187	19N 20W 13	A-MC 12801
GR #19	416/189	19N 19W 18	A-MC 12802
Bull Run Millsite	1/347	20N 20W 35	A-MC 35909
Climax Millsite	1/487	19N 19W 16	A-MC 35910
Gold Brook Millsite	1/348	19N 20W 2	A-MC 35911
Railroad Millsite	2/66	19N 19W 18	A-MC 35912
Surprise Millsite	1/343	19N 20W 11	A-MC 35913
Tip Top Millsite	1/409	20N 20W 34	A-MC 35914

Part III: Lease dated October 1, 1972, between Gold Road Red Top Mining Company and UV Industries, Inc. (Memorandum of Lease recorded January 12, 1973 in Book 83, Page 157, official records of Mohave County, Arizona, covering the following unpatented Lode Mining Claims, to-wit:

Name of Claim	Sec.	Tws.	Rng.	Certificate of Location Recorded in Book	Page	BLM Serial Number
Red Top	13	19N	20W	Q	8	A-MC 35951
Red Top Extension	13	19N	20W	AA	292	A-MC 35952
Red Top Extension No. 1	13	19N	20W	3-C	407	A-MC 35953
Red Top Extension No. 2	13	19N	20W	EE	186	A-MC 35954

Part IV: The following described waters and water rights, wells and well rights, springs and spring rights situated in the County of Mohave, Arizona, to-wit:

1. Well No. 632093 on file with the Arizona Department of Water Resources located in the NE1/4, Sec. 18, T19N, R19W, G&SRB&M.

2. All water appurtenant to or for use on the following described locations:

   i. Billy Bryan Mill Site located in the SE1/4, Sec. 7, T19N, R19W, G&SRB&M.

   ii. Goldroad Mill site, Little Meadows Well.

   iii. Lineroad Mill Site, water right.

   iv. Antelope Spring located in the SE1/4, Sec. 20, T19N, R19W, G&SRB&M.

   v. Bull Run Mill Site located in the SE1/4, Sec. 35, T20N, R20W, G&SRB&M.

   vi. Climax Mill Site located in the SW1/4, Sec. 16, T19N, R20W, G&SRB&M.

   vii. Surprise Mill Site located in the NE1/4, Sec. 11, T19N, R20W, G&SRB&M.

3. Little Meadows Well, Goldroad Millsite, Mineral Survey 1699-B and water placed to use on unpatented Railroad Millsite in Section 18, T19N, R19W, G&SRB&M., Mohave County, Arizona.

EXCEPTIONS

1. Any rights of 3rd parties reflected of record in Mohave County, Arizona or determinable from a physical inspection of the Gold Road Properties.

2. Any rights evidenced by Mohave County records, or otherwise to a part of the Eclipse Patented Lode Mining Claim, believed to be a rectangle having sides of 130 feet and 147 feet.

3. Rights of others with respect to existing roads, fence lines, railroad facilities, and power, telephone and pipe lines and use of water.

4. All exceptions, conditions, stipulations, reservations, easements, restrictions and encumbrances pertaining to the premises and contained in the patents from the United States of America or in the conveyances to AEC and its predecessors in interest.

5. Rights and restrictions represented by existence of the BLM Mount Nutt Wilderness Area and the Warm Springs Wilderness Area portions of which lie within Townships 18 N through 21 N, and Ranges 19 and 20 W, G&SRB&M.

GOLD ROAD MINE
MOHAVE COUNTY, ARIZONA

Name of Claim	Book/Page	Tnshp/Range/Sec. No.	BLM Serial Number
Ruth 1	2059/878	19N 20W 11	AMC 322538
Ruth 2	2059/880	19N 20W 11	AMC 322539
Ruth 3	2059/882	19N 20W 11	AMC 322540
Ruth 4	2059/884	19N 20W 11	AMC 322541
Ruth 5	2059/886	19N 20W 11	AMC 322542
Ruth 6	2059/888	19N 20W 11	AMC 322543
Ruth 7	2059/890	19N 20W 11	AMC 322544
Ruth 8	2059/892	19N 20W 11	AMC 322545
Ruth 9	2059/894	19N 20W 11	AMC 322546
Ruth 10	2059/896	19N 20W 12	AMC 322547
Ruth 11	2059/898	19N 20W 12	AMC 322548
Ruth 12	2059/900	19N 20W 12	AMC 322549
Ruth 13	2059/902	19N 20W 12	AMC 322550
Ruth 14	2059/904	19N 20W 12	AMC 322551
Ruth 15	2059/906	19N 20W 13	AMC 322552
Ruth 16	2059/908	19N 20W 13	AMC 322553
Ruth 17	2059/910	19N 20W 13	AMC 322554
Ruth 18	2059/912	19N 20W 13	AMC 322555
Ruth 19	2059/914	19N 20W 13	AMC 322556
Ruth 20	2059/916	19N 19W 18	AMC 322557
Ruth 21	2059/918	19N 19W 18	AMC 322558
Ruth 22	2059/920	19N 19W 18	AMC 322559
Ruth 23	2059/922	19N 19W 18	AMC 322560
Ruth 24	2059/924	19N 19W 18	AMC 322561
Ruth 25	2059/926	19N 19W 18	AMC 322562
Ruth 26	2059/928	19N 19W 18	AMC 322563
Ruth 27	2059/930	19N 19W 18	AMC 322564
Ruth 28	2059/932	19N 19W 18	AMC 322565
Ruth 29	2059/934	19N 19W 18	AMC 322566
Ruth 30	2059/936	19N 19W 18	AMC 322567
Ruth 31	2059/938	19N 19W 18	AMC 322568
Ruth 32	2059/940	19N 19W 18	AMC 322569
Ruth 33	2059/942	19N 19W 18	AMC 322570
Ruth 34	2059/944	19N 19W 18	AMC 322571
Ruth 35	2059/946	19N 19W 18	AMC 322572
Ruth 36	2059/948	19N 19W 18	AMC 322573
Ruth 37	2059/950	19N 19W 18	AMC 322574
Ruth 38	2059/952	19N 19W 18	AMC 322575
Ruth 39	2059/954	19N 19W 18	AMC 322576
Ruth 40	2059/956	19N 19W 18	AMC 322577
Ruth 41	2059/958	19N 19W 18	AMC 322578
Ruth 42	2059/960	19N 20W 11	AMC 322579
Ruth 43	2059/962	19N 20W 11	AMC 322580
Ruth 44	2059/964	19N 20W 11	AMC 322581
Ruth 45	2059/966	19N 20W 11	AMC 322582

Name of Claim	Book/Page	Tnshp/Range/Sec. No.	BLM Serial Number
Ruth 46	2059/968	19N 20W 14	AMC 322583
Ruth 47	2059/970	19N 20W 11	AMC 322584
Ruth 48	2059/972	19N 20W 14	AMC 322585
Ruth 49	2059/974	19N 20W 14	AMC 322586
Ruth 50	2059/976	19N 20W 14	AMC 322587
Ruth 51	2059/978	19N 20W 14	AMC 322588
Ruth 52	2059/980	19N 20W 14	AMC 322589
Ruth 53	2059/982	19N 20W 14	AMC 322590
Ruth 54	2059/984	19N 20W 13	AMC 322591
Ruth 55	2059/986	19N 20W 14	AMC 322592
Ruth 56	2059/988	19N 20W 14	AMC 322593
Ruth 57	2059/990	19N 20W 13	AMC 322594
Ruth 59	2059/994	19N 20W 13	AMC 322596
Ruth 61	2059/998	19N 20W 13	AMC 322598
Ruth 62	2059/1000	19N 20W 13	AMC 322599
Ruth 63	2060/1	19N 20W 13	AMC 322600
Ruth 64	2060/3	19N 20W 13	AMC 322601
Ruth 65	2060/5	19N 20W 13	AMC 322602
Ruth 66	2060/7	19N 20W 13	AMC 322603

APPENDIX D

TABLE OF CONVERSIONS

From:	To convert To:	Multiply by:
Short ton (st)	tonnes (t)	0.9072
Ounces (oz)	grams (g)	31.103
ounces Au/short ton (oz Au/st)	grams Au/tonne (g Au/t)	34.285
feet (ft)	metres (m)	0.305
miles (mi)	kilometres (km)	0.621
inches (in)	millimetres (mm)	25.4
Degrees Fahrenheit (°F)	Degrees Centigrade(°C)	Subtract 32 then x 0.556
Cubic Feet/short ton (ft^3/t)	Cubic metres/tonne (m^3/t)	0.0312
Cubic metres/tonne (m^3/t)	grams/cubic centimetre (g/cc)	$1/m^3/t$

APPENDIX E

GLOSSARY OF MINING AND GEOLOGICAL TERMS

"alkali feldspar"	A common mineral composed of potassium silicate.
"alluvial"	Pertaining to alluvium.
"alluvium"	Uncolsolidated material of recent geological time.
"altered"	A rock that has undergone changes in its chemical and mineralogical structure since its original formation.
"andesite"	Fine grained dark colored igneous rock composed primarily of the plagioclase mineral andesine.
"argillized"	A rock in which the feldspars have been altered to clay minerals.
"arsenopyrite"	A mineral composed of iron and arsenic sulphide.
"auriferous"	A substance that contains gold.
"backfilling"	The process of placing mined, processed and stripped material back into completed excavations.
"basalt"	Fine grained, dark colored igneous rock composed principally of the minerals plagioclase and pyroxene.
"base metal"	Commonly copper, lead, zinc.
"bornite"	A mineral comprising copper and iron sulphide.
"breccia pipe"	Vertical or highly inclined oval or round opening in rocks which has been filled by angular rock fragments.
"breccia"	A rock consisting of highly angular and coarse fragments.
"calcite"	A mineral comprising calcium carbonate.
"chalcopyrite"	A mineral composed of copper and iron sulphide.
"chert"	A rock consisting of very fine-grained quartz.
"chip sampling"	A series of chips of ore or rock taken at regular intervals.

"chlorite"	A green flaky mineral which occurs in a variety of rock types.
"colluvium"	Loose material and/or rock fragments usually collecting at the base of slopes or on hillsides.
"cross-cutting"	Excavating a horizontal mine opening across the dominant structures.
"cyanidation"	A process whereby gold is selectively dissolved by a cyanide solution thereby being separated from the waste rock.
"decline"	An excavation sloping gently downward
"diamond core drilling"	A drilling method that uses a diamond studded, cylindrical drill bit to recover solid samples of rock.
"dilution"	Low grade or unmineralized material that must be mixed and processed with the ore for an efficient mining operation.
"dike"	(1) An artificial wall or levee. (2) A sheet-like igneous intrusion that cuts across the surrounding rocks.
"disseminated"	Carrying fine particles of minerals, usually sulphides, scattered throughout the rock.
"drifting"	Excavating a horizontal mine opening along a vein or structure.
"dump"	A deposit of rock or other material removed to gain access to mineralized material.
"epidote"	A calcium and iron-rich mineral.
"felsic"	A light colored fine grained, crystalline rock.
"flotation"	A concentrating process whereby metallic minerals may be separated from non-metallic minerals by contacting with air bubbles.
"garnet"	A mineral occurring in igneous and metamorphic rocks.

"geochemistry"	Analysis of the amounts of certain elements in soils, streams and rocks.
"gossan"	A ferruginous deposit filling the upper parts of mineral veins resulting from the oxidation and removal of sulfur as well as copper, etc.
"granodiorite"	A granite-like rock composed of plagioclase and quartz.
"graphite"	Naturally occurring crystalline carbon.
"hard rock"	A term used to describe those mineral deposits occurring in consolidated rocks.
"hornblende"	A common calcium and iron silicate mineral.
"host rocks"	The enclosing rocks of a mineral deposit.
"igneous"	Rocks that formed from molten magma, either at the surface (extrusive or volcanic), or at depth (intrusive).
"internal waste"	Unmineralized material included between layers or zones of mineralized material. Internal waste may or may not become dilution depending on the selectivity of the mining method.
"intrusion"	The process of emplacement of molten rock into pre-existing rocks.
"intrusive"	Various consolidated rock types formed by intrusion.
"jasper"	A red form of chert - usually iron-rich.
"kaolinization"	The alteration of feldspars or other minerals to form the clay mineral kaolin.
"lode"	A mineral deposit in consolidated rock.
"magma"	Molten rock.
"massive"	In mineralogy, without definite crystalline structure.
"metaquartzite"	A quartz-rich rock formed by metamorphism.

"metamorphosed"	Transformed, in the solid state, in response to pronounced changes of temperature, pressure and chemical environment which take place, in general, below the weathering zone.
"mill"	The processing plant where the desired components are recovered from the ore.
"monzonite"	A granite like rock with little quartz.
"native gold"	Gold occurring, in rocks or veins, in the pure state, not in combination with other elements.
"oxidised"	That portion of a deposit that has been exposed to air and water resulting in the alteration of sulphide minerals to oxides or carbonates.
"pay gravel, pay zone"	That part of a gravel layer which contains the bulk of the gold.
"phyllite"	A metamorphic rock composed of fine crystals of quartz, chlorite and sericite.
"placer"	A deposit of unconsolidated material containing particles of gold, tin, platinum or other heavy minerals.
"plagioclase"	A common mineral of calcium and sodium silicate.
"precambrian"	A geologic time period ending about 570 million years ago.
"pyrite"	Iron sulphide.
"pyroclastics"	Deposits resulting from volcanic eruptions into the air.
"quartz"	A very common mineral composed of silica.
"raising"	Excavating a vertical or upward directed mine opening.
"rhyodacite"	Fine-grained volcanic igneous rocks containing quartz, alkali feldspar, plagioclase and biotite.
"rhyolite"	Fine-grained volcanic igneous rock containing quartz and alkali feldspar.
"sericitization"	The development of the clay mineral sericite in schists and other rocks.

"schist"	A strongly foliated crystalline rock.
"silicified"	Made into silica.
"skarn"	Rocks composed of lime bearing silicates derived from nearly pure limestone by the introduction of large amounts of silica, aluminum, iron and magnesium.
"slate"	A compact fine-grained metamorphic rock.
"stock"	An igneous intrusion.
"stockworks"	A rock mass so interpenetrated by small veins of ore that the whole mass must be mined together.
"stope"	An excavation, underground, from which ore is mined.
"strike/striking"	The direction or trend of a rock boundary or structure.
"trachyte"	A volcanic rock composed of alkalic feldspar with minor biotite, hornblende or pyroxene.
"tuff"	A rock formed of compacted volcanic fragments usually smaller than 4 mm in diameter.
"volcaniclastic"	Sedimentary rocks composed of rock debris and ash derived from volcanic eruptions.
"winze"	An excavation sloping steeply downward.

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NM ROTHSCHILD & SONS (DENVER) LIMITED

REVIEW OF ADDWEST MINERALS, INC.'S GOLD ROAD PROJECT OATMAN, ARIZONA

SEPTEMBER 1993

MODIFIED OCTOBER 1993

PREPARED BY:

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2300-00235

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October 12, 1993

NM Rothschild & Sons (Denver) Limited
3020 Republic Plaza
370 Seventeenth Street
Denver, CO 80202

Gentlemen:

Behre Dolbear & Company, Inc. has completed a review of Addwest Minerals, Inc.'s (AMI) feasibility study relating to the Gold Road Mine property in the vicinity of Oatman, Mohave County, Arizona and technical data supporting AMI's in-house feasibility study. The review encompassed estimated reserves, mine and mill capital and operating costs, environmental aspects and an economic analysis of the proposed project. A site visit to a portion of the underground workings of the Gold Road Mine was also a part of Behre Dolbear's review.

While AMI's feasibility study and economic analysis is the result of a large amount of effort and work in the appraisal of an extensive data base, Behre Dolbear had reservations concerning several conclusions drawn by AMI which could have affected the resultant cash flow. The major differences relate to the total tons of minable reserves classified as proven and probable as determined by estimated costs of production, the amount of mine dilution that should be anticipated using the method of mining proposed by AMI and its effect on grade of ore to the mill, and certain differences related to personnel requirements and labor costs. With the concurrence and agreement of both AMI and Rothschild, Behre Dolbear made the modifications felt necessary and then completed cash flows and economic analyses based on three different production scenarios.

Behre Dolbear concludes that based upon the scenarios utilized, the Gold Road Project has proven and probable minable reserves at a $375 per ounce gold price of between 464,668 and 517,937 tons with an average grade of 0.302 to 0.318 ounces of gold per ton, containing a total of 138,277 to 147,264 ounces of gold after adjustment for mining and processing losses. The cash cost to produce an ounce of recovered gold ranges between $212.48 and $212.58. Direct operating costs total between $55.52 and $58.06 per ton of ore.

Behre Dolbear appreciates the opportunity to have been of service to NM Rothschild & Sons (Denver) Limited. Please call us if you have any questions.

Sincerely,

BEHRE DOLBEAR & COMPANY, INC.

Bernard J. Guarnera
Senior Vice President - Operations

Samuel Shaw III
Senior Associate

BJG:keu

23000-00235

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APPENDICES

1.0 EXECUTIVE SUMMARY

NM Rothschild & Sons (Denver) Limited (Rothschild) engaged Behre Dolbear & Company, Inc. to conduct a review of Addwest Minerals, Inc.'s (AMI) Gold Road Project near Oatman, Arizona. The review had as its objective:

- The confirmation of precious metal reserve estimates in accordance with U.S. Security and Exchange Commission (SEC) reporting requirements for proven and probable reserves;

- The confirmation of the suitability of the selected mining method;

- The review of the mine plan with particular attention to scheduling, labor, and equipment requirements;

- The review of mineral processing methodologies with special attention to reagent consumption and forecasted recoveries;

- The review of capital and operating cost projections for both mining and processing, commenting on the sources and validity of such cost estimates;

- The review of the status of all required permitting;

- A report on all environmental issues which may affect the project; and

- The development of a cash flow model (with appropriate sensitivity analyses) based on findings provided by AMI's feasibility study and Behre Dolbear's study.

Behre Dolbear's review allows the conclusion that based upon the scenarios utilized the Gold Road Project has proven and probable minable reserves at a $375 per ounce gold price totaling between 464,668 and 517,937 tons of ore with an average grade of 0.302 to 0.318 ounces of gold per ton containing between 147,716 and 156,398 ounces of gold. Adjusted for losses due to mining and processing, a total of 138,277 to 147,264 ounces of gold are estimated to be recoverable. The cash cost to produce an ounce of recovered gold ranges between $212.48 and $212.58. Direct operating costs total between $55.52 and $58.06 per ton of ore.

The project displays net present values at a 15 percent discount rate ranging between $4.67 and $6.35 million. The internal rate of return ranges between 45.1 and 62.3 percent.

1.1 PROJECT ECONOMICS

Utilizing the information developed, Behre Dolbear estimates project cash flows based on three scenarios as requested by Rothschild:

- **Case 1** - Mine productivity and the operating efficiency of the mill reaches design criteria at the start up of the operation. The minable reserves are based on an average direct operating cost of $55.52 per ton;

- **Case 2** - Mine productivity and operating efficiency of the mill is reduced at start up of the project. A start-up period of three quarters was anticipated by Behre Dolbear during which time the project could expect lower than design productivity on both the mine and the mill. Due to increased costs during start up, the minable reserves for this case is based on an average direct operating cost of $58.06 per ton. Case 2 constitutes the second scenarios requested by Rothschild and represents, in both Behre Dolbear's and

Rothschild's opinion, the most appropriate scenario for the project's development and operation; and

- Case 3 - Mine productivity and operating efficiency of the mill is reduced at start up identically to Case 2, but the mining schedule uses the reserves calculated in Case 1 which are based on an average direct operating cost of $55.52 per ton.

Table 1.1 presents the economics of the Gold Road Project.

TABLE 1.1
GOLD ROAD PROJECT - ECONOMIC PERFORMANCE

	CASE 1	CASE 2	CASE 3
NPV @ 15%	$6,348,590	$4,984,348	$4,667,145
NPV @ 10%	$7,565,404	$6,187,660	$5,871,250
NPV @ 5%	$8,954,310	$7,562,372	$7,252,010
IRR, %	62.3	47.7	45.1

Behre Dolbear performed sensitivity analyses on the project to determine the performance variability as a function of the following parameters:

- Reserves versus gold price;
- Reserves versus operating costs;
- Change in capital costs +15% to -10%;
- Change in operating costs +15% to -10%; and
- Change in spot gold price from $330 per ounce to $425 per ounce.

The results of the sensitivity analyses are presented in Tables 7.3 through 7.6. The sensitivities indicate that reserves are sensitive to direct operating costs and economic performance is most sensitive to operating costs.

1.2 RESERVES

Table 1.2 presents minable reserves at various gold prices for the three cases analyzed.

TABLE 1.2
GOLD ROAD PROJECT
SENSITIVITY OF RESERVES TO GOLD PRICE

Case 1 & 3 - Direct Operating Costs of $55.52/Ton			Case 2 - Direct Operating Costs of $58.06/Ton		
Gold Price	**Ounces**	**Tons**	**Gold Price**	**Ounces**	**Tons**
$350	147,100	461,055	$350	132,805	380,520
$375	156,398	517,937	$375	147,716	464,668
$400	158,913	533,729	$400	158,696	532,303

The Gold Road Mine produced over 600,000 ounces of gold until its closure in 1942. The vein on which the mine sits has produced ore over 60 percent of its length. Based upon the production history of the Gold Road Mine, the 60 percent pay ratio of the vein, and the continuity of mineralization displayed in underground workings, Behre Dolbear concludes that the reserves at the Gold Road Project would meet SEC classification standards for **Proven** and **Probable** reserves.

Behre Dolbear believes that the Gold Road Mine has the potential to produce additional ore beyond the reserves determined to date. The additional reserves, which could equal the present reserves, are most likely to be found along strike or at depth.

1.3 MINING

AMI has proposed a mining method of sublevel longhole shrinkage or vertical crater stoping for the Gold Road Project. The mining method has the advantage of high productivity but the disadvantage, in Behre Dolbear's opinion, of probable high dilution.

AMI originally proposed a 580 ton per day (tpd) operation. Due to dilution exceeding 25 percent, Behre Dolbear has increased the production rate to 722 tpd.

Capital costs for the mine are estimated by Behre Dolbear to be $5.88 million including approximately $2.0 million for mine equipment. Behre Dolbear's capital cost estimate represents an increase of $540,000 beyond AMI's proposed $5.34 million estimate.

Behre Dolbear also increased the mine labor force by 10 individuals and mine operating costs by $5.40 per ton from AMI's estimates. The increases were due to AMI's omission of unscheduled downtime and absenteeism and an addition by Behre Dolbear of three mechanics to compensate for AMI's use of used equipment. Labor rates were increased to reflect an unreasonably high required productivity at the higher production level of 722 tpd and below market wage rates utilized by AMI.

Behre Dolbear believes that a total of 121 personnel will be involved in the Gold Road operation. AMI had estimated a labor force of 107 individuals. The differences are the 10 personnel additions proposed by Behre Dolbear for the mining operation, the addition of a Safety Engineer, a Surveying Technician, a Sampling/Grade-Control Technician, and a Changehouse/Janitor.

1.4 MILLING

Behre Dolbear found the proposed processing methodology to be suitable for the project. Recoveries and reagent consumption are felt to be realistic.

Although AMI has received letters from contractors stating that the mill could be constructed for a $5.0 million capital expenditure, Behre Dolbear believes $6.3 million is more realistic. Behre Dolbear's estimate is based on the need to expand mill capacity to 625 tpd to complement the mine expansion. The $5.0 million figure has been used in Behre Dolbear's economic analysis at Rothschild's request.

Behre Dolbear believes that AMI's projected mill operating cost of $12.09 is realistic. Due to the lower grade mill feed resulting from Behre Dolbear's addition of dilution, a lower recovery averaging 94 percent has been estimated by Behre Dolbear.

1.5 ENVIRONMENTAL

Behre Dolbear assessed the environmental aspects of the Gold Road Project by conducting a site visit, reviewing available documentation, and interviewing appropriate regulatory officials by telephone. Behre Dolbear concludes that the project has no fatal flaws from an environmental viewpoint. Permitting requirements are straightforward, and there are no significant environmental liabilities associated with the property.

No significant environmental liabilities from previous operations appear to be associated with the property. Existing tailings appear to be geochemically innocuous. The presence of several open stopes might be considered a minor potential environmental liability due to possible safety issues and visual impact, but this is not considered a significant liability by Behre Dolbear.

2.0 INTRODUCTION

NM Rothschild & Sons (Denver) Limited (Rothschild) engaged Behre Dolbear & Company, Inc. to conduct a review of Addwest Minerals, Inc.'s (AMI) Gold Road Project near Oatman, Arizona. The review had as its objective:

- The confirmation of precious metal reserve estimates in accordance with U.S. Security and Exchange Commission (SEC) reporting requirements for proven and probable reserves;
- The confirmation of the suitability of the selected mining method;
- The review of the mine plan with particular attention to scheduling, labor, and equipment requirements;
- The review of mineral processing methodologies with special attention to reagent consumption and forecasted recoveries;
- The review of capital and operating cost projections for both mining and processing, commenting on the sources and validity of such cost estimates;
- The review of the status of all required permitting;
- A report on all environmental issues which may affect the project; and
- The development of a cash flow model (with appropriate sensitivity analyses) based on findings provided by AMI's feasibility study and Behre Dolbear's study.

The study commenced on August 10, 1993. Behre Dolbear personnel involved in the project were:

- **Samuel Shaw III** - Project Manager and Mining Engineer;
- **Richard Pliler** - Geologist;
- **Alva L. Kuestermeyer** - Processing;
- **Robert E. Cameron** - Mineral Economics;
- **Dorian L. Nicol** - Environmental Aspects; and
- **Bernard J. Guarnera** - Project Advisor and Editor of the report.

Behre Dolbear's review included:

- A site visit and tour of the accessible underground workings of the Gold Road Mine under the guidance of AMI personnel;
- Numerous interactive discussions with members of AMI's technical staff regarding their methodology, procedures, and assumptions;
- Perusal of the extensive historical and recent data bases, reports, and technical publications available in the files at the office of AMI;
- Review of the technical assumptions and standards utilized in AMI's feasibility study; and
- Internal review and confirmation of suppositions and development of technical information and costs by Behre Dolbear professionals.

During the course of the study, Behre Dolbear recognized areas of omissions and questionable findings. Subsequently, with Rothschild's consent, Behre Dolbear undertook

a more detailed analysis of the project and has utilized its assumptions and findings in the assessment of the project.

3.0 GEOLOGY AND MINERALIZATION

The Gold Road Project lies within the Oatman, or San Francisco, Mining District in Mohave County, Arizona. Since its discovery in 1863 this currently inactive district has produced in excess of 2.2 million ounces of gold and 800,000 ounces of silver from low sulfide quartz-calcite veins.

The area is underlain by a thick sequence of easterly dipping Tertiary volcanic rocks which are cut by a series of northwest-trending and steeply dipping faults. These structures host the district's productive auriferous quartz veins. Although at least 23 vein systems have been identified in the Oatman District, 90 percent of the production has been derived from two veins, the Gold Road Vein and the Tom Reed Vein.

The structure containing the Gold Road Vein is a normal fault system which strikes northwesterly and dips to the northeast 60 to 80 degrees. The Gold Road Vein in detail actually consists of two or more veins separated by host rock containing stringer veinlets. The vein tends to be lenticular and to pinch and swell from 1 to 25 feet. The average vein width which has been mined historically is approximately 4.7 feet.

The ore-bearing portions of the mineralized veins are primarily hosted in the Miocene volcanics of the Gold Road and the underlying Oatman formations which have approximate thicknesses of 800 and 1,000 feet respectively. The Oatman formation ("andesite") hosts the ore from the Tom Reed Vein and a portion of the ore produced from the Gold Road Vein. Ore deposits found in the Oatman andesite tend to be related to stockwork veining and brecciation with well-defined ore shoots having widths of 10 to 45 feet and grades in excess of 0.5 ounces of gold per ton (opt).

The Gold Road Vein is largely developed in the Gold Road Formation ("latite") where the vein tends to be long and narrow with widths averaging 3 to 6 feet, although the structural zone may approach 100 feet. The producing vein has averaged somewhat less than 0.40 opt.

On the northwestern end of the Gold Road Mine workings the vein is hosted in a transition zone between the Gold Road and the Oatman formations where widths to 22 feet averaging approximately 0.6 opt were attained.

The mineralogy of the vein conforms with low-sulfide epithermal vein systems, and consists essentially of quartz, calcite, and minor amounts of adularia with free gold in the ore bodies. The gold is very fine grained and alloyed with silver at a ratio of about one to one. The vein filling appears to have been deposited in five recognizable stages or pulses with the gold content increasing with each successive stage.

Alteration related to the Gold Road Vein is relatively poorly developed and consists of widespread propylitic alteration surrounding illitic and silicic alteration. The Gold Road latite is silicified in immediate proximity to the vein. More intense silicification tends to be related to the better ore grades found in shoots within the vein.

Ore bodies in the vein systems of the Oatman District are lenticular in plan and irregular along their strike. The ore in the Gold Road Vein appears to be more continuous, both vertically and laterally, than that found in the Tom Reed Vein. To date, ore has been produced or identified along the Gold Road Vein system for more than 7,000 feet along strike and up to 1,300 feet vertically. The vein has produced ore grade material along 60 percent of its strike length on a historic basis.

The Gold Road Mine, since its discovery in 1903, has produced approximately 612,000 ounces of gold from 1,691,000 tons of ore containing gold at an average grade of 0.362 opt. The mine was owned, and for all practical purposes operated, by the United States Smelting, Refining and Mining Company (USSRM) since 1911. The mine has been idle since its closure by Government order in 1942.

3.1 RESOURCE ESTIMATES

AMI has in its possession a large amount of data generated by USSRM as well as a number of reports reviewing and analyzing the data by independent consultants and AMI. The database consists of extensive maps, production, and sampling records generated by USSRM, including stope records, car assays, and mill data. Of particular value were records of the systematic sampling of the mine's haulage levels on approximate 5-foot centers during the mine's operation by USSRM.

The primary basis of the resource estimates for the Gold Road Mine are USSRM's mining experience and historical sampling in this underground mine. During the operation of this mine, ore was defined by drifting along the vein system using visual and assay guides. The veins were sampled by channeling perpendicularly across the structure along the drifts. The samples were analyzed by fire assay procedures on site by USSRM. The grades, widths, and potential stope widths were thus estimated. These data in the form of assay sheets and level and projection drift maps are largely in the possession of AMI. In a similar manner the production stopes, muck piles, and ore cars were sampled, assayed, and recorded.

The large volume of channel sample data in the possession of AMI consists of more than 4,600 channel sets along the development drifts of the seven levels of the mine. Behre Dolbear has examined and analyzed a portion of the data and has found them to be acceptable for engineering purposes. No justification to question the veracity of the data was indicated by this review.

3.1.1 USSRM'S Resource Estimate - 1942

Upon the forced closure of the Gold Road Mine in September, 1942, USSRM compiled a reserve estimate for future planning purposes. Utilizing sampling data, the mineralized vein was divided into ore blocks and waste areas based upon a breakeven gold grade of 0.17 opt.

The vertical dimension of each block was projected 50 feet, unless information supported other distances. The width and horizontal length of each block were based upon actual measurements in the drifts. A tonnage factor of 13.0 cubic feet per ton of rock in place was used.

USSRM identified blocks of in-place ore totalling about 419,000 undiluted tons having an average thickness of 5 feet and a gold content of 0.325 opt for a total of 136,000 ounces. The blocks ranged in thickness from 2 to 12 feet. Approximately 40 percent of the ore tonnage was developed on three sides, 33 percent on two sides, and the remaining 27 percent on one side. USSRM did not classify the resources into reserve categories. Additionally, 9,500 tons of broken ore in stopes were identified. Also listed were 28,000 tons of "probable" ore scattered throughout the mine as small isolated blocks, or as ore grade material left in stopes or as mine support.

3.1.2 AMI's Reserve Estimates

AMI implemented a sampling program within selected accessible areas in the mines to develop confidence in the channel sampling conducted by USSRM. Rock chip samples were taken across the vein system from the Line Road 200-Level and the 100-Level. The resultant fire assays confirmed the areas of mineralization reported by USSRM.

AMI commissioned Western Services Engineering, Inc. (WSE) to complete an ore reserve evaluation of the Gold Road Project. The results of this study are summarized in the WSE report, The Gold Road Project Minable Reserve Evaluation, Mohave County, Arizona, dated January, 1993. The resources utilized in subsequent studies by AMI were derived from this report.

Utilizing a 0.10 opt cutoff AMI manually updated and modified the ore blocks previously defined by USSRM. Areas along drifts with gold in excess of 0.10 opt were combined with

similar areas along overlying and/or underlying drifts to define possible minable stopes. It was determined that minable widths of 5.0 feet and a 0.15 opt grade were appropriate for minable blocks. Applying these guidelines, WSE utilized the applicable data to develop resource models.

After a statistical analysis of the data base, WSE compiled the in situ gold resources within the areas designated by AMI. The PC-MINE mineral modelling system was used. According to WSE, the procedure included:

- Definition of the Sectional Model, including the zones of potential economic mineralization;
- Using the Inverse-Distance Squared method, estimating the ore grades; and
- Compilation of the in situ resource estimates.

Behre Dolbear reviewed the model methodology implemented by WSE and determined that it was applicable for this project and conformed to accepted engineering practices. For resource definition, WSE and AMI based their classification upon the definitions published by the U.S. Bureau of Mines in U.S. Geological Bulletin 1450A, published in 1976; not U.S. Security and Exchange Commission definitions.

3.1.2.1 Global Geological Resource Estimate

Utilizing the vein grades and widths reported by USSRM, WSE compiled an estimate of the in situ geologic resource within potentially minable stopes as determined by AMI personnel at various cutoffs. By applying an internal cutoff grade of zero, the total resource within all of these potentially minable areas were calculated to be approximately 519,600 tons

containing 177,200 ounces of gold. This undiluted material has an average grade of 0.34 opt and a thickness of 4.54 feet.

3.1.2.2 In Situ Minable Reserves (WSE)

AMI determined that minimum mining widths of 5.0 feet were realistic for the minable blocks due to their selection and design of the proposed mining system. WSE then computed the minable reserves at various cutoff grades within the potential stope areas which had been delineated manually by AMI. In the situations where ore grade vein width were less than 5.0 feet wide, the width was diluted to 5.0 feet using a grade for dilutant of 0.065 opt. The dilutant grade was justified by WSE as being the average below the 0.15 opt cutoff grade used to define the stopes.

WSE estimated the in situ minable reserve at a zero internal cutoff grade for the defined stopes to be 579,470 tons of minable material at a grade of 0.318 opt (184,000 ounces of gold); the increase in tonnage and ounces from the global estimate being a direct result of the dilution. The average minable thickness was 5.58 feet. Based upon the amount of underground development and the quality of the sample data, AMI and WSE considers the in situ reserves estimates to be in the proven and probable categories.

Comparison of the minable and geological resources compiled by WSE at a 0.15 opt cutoff indicate a tonnage dilution of 38 percent and a grade reduction of 25 percent. This equates to diluting to the minimum 5 foot mining width with material grading 0.026 opt, not the 0.065 opt indicated by WSE.

3.1.3 Behre Dolbear Reserve Estimate

Behre Dolbear's review of AMI's reserve procedures raised some areas of concern. Specifically:

- The tonnages of the minable resources defined by AMI did not include any dilution of the ore by mining overbreak and stope wall degradation during draw down for ore intervals 5.0 feet or greater in width. Support for this is supplied by Behre Dolbear's review of the historical production data and summary reports by USSRM and its consultants which indicate that the shrinkage stoping mining method employed at the Gold Road Mine, resulted in a 25 to 30 percent reduction in the grade of the ore. Historically, the vein thickness in the mined out areas has averaged 4.7 feet from stopes averaging 6.3 feet wide. The records also indicate the grade of the dilutant averages 0.027 opt, or the grade of dilutant material apparently included by WSE in their reserves statement. Mining overbreak in the Gold Road Mine has historically resulted in dilution averaging about 25 percent.

  Behre Dolbear reviewed a number of the stope production records to verify these figures and found that measured stope widths were consistently and uniformly larger than the ore vein widths. Veins greater than 5 feet in width resulted in measured stopes widths 30 percent wider. Based upon Behre Dolbear's experience under similar mining conditions, traditional industry experience, and upon the production history of the mine, Behre Dolbear recommends the application of the historical 24.6 percent mining dilution to the resource blocks defined by AMI;

- On the lower levels of the mine, AMI has identified minable blocks which have been sampled on one side along the lower-most drifts. In a number of cases, AMI extended this ore 100 to 200 feet below the drifts. The limited

testing by shafts and drilling in the Gold Road Mine did not encounter ore grade material below that elevation. While Behre Dolbear believes that ore grade material will likely extend to greater depths in the vein system, this has yet to be documented. Behre Dolbear concludes this extension should be limited to a 50-foot maximum. An examination of detailed sampling and production records covering several decades of ownership and operation by USSRM, demonstrates consistent grade continuity of 50 feet or greater along the strike of the vein and are also consistent with USSRM's practice of extending ore-grades a maximum distance no greater than 50 feet in the vertical direction below the lowest sampled level. WSE through their variography study confirms that horizontal continuity could be established for 50 feet or greater but could not rigorously establish continuity in the vertical direction with the limited data set; and

- At the southeastern end of the mine workings AMI limited the ore blocks to the end of the drifts. In keeping with Behre Dolbear's conclusions from examination of USSRM records, Behre Dolbear has extended the ore blocks 50 feet beyond the ends of the drifts, thereby increasing the total undiluted tonnage of the five blocks involved by 22,600 tons containing 9,400 ounces of gold.

Behre Dolbear, in addition to the above, conducted its own reserve calculation for selected ore blocks to confirm the figures utilized by AMI and WSE. Any differences found were not significant.

Based upon our findings, Behre Dolbear adjusted AMI's reserves for:

- Appropriate extensions and losses;
- Dilution;

- Losses due to mining and milling; and
- Economics based upon Behre Dolbear's determination of operating costs.

Utilizing a $375 per ounce gold price at Rothschild's request, Behre Dolbear believes that using AMI's original production scenario adjusted for the above listed factors, minable reserves at the Gold Road Project total 517,937 tons of ore with an average grade of 0.302 opt containing 156,398 ounces of gold. Adjusted for losses due to mining and processing, a total of 147,264 ounces of gold are estimated to be recoverable. Table 3.1 presents minable reserves at various gold prices.

TABLE 3.1
MINABLE RESERVES - GOLD ROAD PROJECT

Gold Price	Minable Ounces	Minable Tons
$350	147,100	461,055
$375	156,398	517,937
$400	158,913	533,729

Assumes a direct operating cost of $55.25 per ton and sales + royalty of 4.5 percent.

The detailed ore reserve calculations and statements for a gold price of $375 per ounce are contained in Appendix 1. The statements follow the same block designation and sequencing used by AMI, noted as Phase I, Phase II, and Phase III in AMI's mine planning.

3.1.3.1 Classification Of Reserves

The SEC has established definitions for reserves to be utilized in annual reports and other governmental filings:

- **Proven (Measured) Reserves:** Reserves for which (a) quantity is computed from dimensions revealed in outcrops, trenches, workings, or drill holes; grade and/or quality are computed from the results of detailed sampling and (b) the sites for inspection, sampling, and measurement are spaced so closely and the geologic character is so well-defined that size, shape, depth, and mineral content of reserves are well-established.

- **Probable (Indicated) Reserves:** Reserves for which quantity and grade and/or quality are computed from information similar to that used for proven (measured) reserves, but the sites for inspection, sampling, and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven (measured) reserves, is high enough to assume continuity between points of observation.

Based upon the production history of the Gold Road Mine, the 60 percent pay ratio of the vein, and the continuity of mineralization displayed in underground workings, Behre Dolbear concludes that the reserves at the Gold Road Project would meet the SEC classification standards for **Proven** and **Probable** reserves.

3.1.3.2 Potential Resources

The determination of reserves within a vein deposit is very difficult. Vein deposits by their nature are not compatible with the accurate delineation of the majority of their reserves prior to development. Exploration programs in underground vein mines are most often conducted concurrently with production. Behre Dolbear's experience is that many vein mines have profitably operated for years with less than a year of identified reserves at any given time. For this reason, Behre Dolbear believes that the currently estimated reserves at the Gold Road Project must be regarded as conservative with a significant probability that the eventual reserves will increase.

Because of the nature of the Gold Road Vein, little exploration has been undertaken in the mine area since the mine was closed in 1942. During 1973 and 1974 two core holes were drilled from the surface to intersect the extension of the vein system to the southeast. The two holes were spaced at approximately 600 foot intervals along strike starting about 600 feet from the face of the 500 Level. The first hole along the trend encountered 2.1 feet with a gold content of 0.53 opt (5 feet of 0.28 opt). The second hole intercepted 5.0 feet at 0.10 opt. These results, in Behre Dolbear's opinion, demonstrate legitimate potential for the extension of the mineralized vein system along strike for at least an additional 1,000 feet.

Behre Dolbear noted earlier that the downdip extension of the vein beneath the mine has not been explored and could contain substantial resources. There is also substantial untested potential along strike to the northwest where the vein, which contained an ore shoot with high grades and thicknesses, was apparently interrupted by a fault offset. The structural zone containing the identified ore shoots may reach widths of 100 feet and there is evidence that it may host parallel unevaluated shoots of gold mineralization.

Based on these factors and the historical production of the mine, Behre Dolbear is of the opinion that the Gold Road Project has the potential of yielding additional reserves equal to or greater than those currently identified. The additional reserves will most likely be developed along strike and at depth as further exploration is conducted.

4.0 MINING

AMI examined several potential methods for the development and the mining of ore reserves. Estimates were completed to evaluate the most economic method of gaining access to the reserves both from the standpoint of the initial capital investment required and also that of the resultant operational costs applicable to mine production. Similarly, detailed examination was completed in evaluation of the most appropriate mining method to be employed when considering criteria such as the thickness and attitude of the ore reserves, the relative strength of the ore and the adjacent country rock composing the hanging and footwalls, and the quantities of ore and waste required to meet anticipated production goals.

Behre Dolbear reviewed in detail AMI's mine plan and estimated capital and operating costs. Behre Dolbear agrees with the proposed entry by means of declines that will allow the use of large capacity rubber-tired equipment (loaders and trucks) for the handling and transportation of ore, equipment, materials and supplies as well as the transportation of personnel. When applicable, this method of access avoids a large part of the restrictions and costs inherent in the use of a vertical shaft and hoisting facilities. The country rock outside the immediate ore zone is competent and no difficulty is anticipated in the completion of the declines or the haulageways on the primary mine levels.

AMI proposes a modification of the shrinkage stope method previously employed by USSRM until the closure of the mine in 1942. The original method is still applicable, but developments in mining equipment and ground support offer opportunities for modification, resulting in higher productivities for both manpower and equipment with markedly lower mine production costs.

The method termed "Sublevel Longhole Shrinkage" by AMI is virtually the same as that known as "Vertical Crater Stoping". Behre Dolbear agrees that the method is applicable for the orebodies at the Gold Road Mine but has reservations concerning the degree of mine dilution.

AMI's mine plans are designed for an average mine production rate of 580 tons per day (tpd) of run-of-mine (ROM) ore. The 580 tpd is based on AMI's assumption that the required minimum mining width of 5 feet will be consistently achieved with no excess dilution from overbreak and stope wall degradation due to ventilation and stope draw down. In the instance where the vein width exceeds the minimum mining width, according to AMI's mine plans, only the width of the vein will be mined, again with no overbreak.

Behre Dolbear previously noted (Section 3.1.2.3) that through a review of sampling and stope production records of USSRM for the period of 1938 through 1942, it could conclude that the historic record of 24.6 percent mine dilution of USSRM will not be bettered in the mining method planned by AMI. Accordingly, Behre Dolbear at AMI's request increased the daily tonnage from 580 tpd to 722 tpd to account for the dilution. Adjustments were made in manpower requirements, increased daily costs for haulage, and other operational costs at both the mine and the mill. The adjusted costs for the 722 tpd production schedule were incorporated in Behre Dolbear's cash flow analyses. The economically minable reserves were in turn modified by the changed operational costs. Production schedules for the Case-1, Case-2, and Case-3 scenarios are contained as Appendix 2. The schedules show the planned sequencing of production from the reserve blocks that are economically minable, the diluted tonnage and grade for each block, and the anticipated tonnage produced from each on a quarterly basis.

AMI's mining plans contemplate gaining secondary access to the ore blocks by crosscutting from the declines rather than attempting to rehabilitate the original haulageways. Behre Dolbear believes this is a sound approach. During Behre Dolbear's site visit, it was apparent that failure of ground support in the main haulageways, especially in the upper workings, could be a source of considerable rehabilitation and cost. Although the timber supports in the lower workings that have been under water since the mine closure might still be in sound condition, Behre Dolbear believes the approach proposed by AMI appears to be the lowest risk and most cost effective. Further, the declines outside the shear zone will

provide the means for detailed longhole drilling of suspected mineralized areas within the main shear zone that were not detected in the earlier mining operations.

4.1 CAPITAL COSTS

Table 4.1 provides a summary of AMI's estimate (corrected by Behre Dolbear) of the total capital costs for the Gold Road Project of $5,348,845 including both the pre-production and post-production requirements. The pre-production costs total $3,333,295 and post-production costs total $2,015,550.

TABLE 4.1
AMI CAPITAL COST ESTIMATE - GOLD ROAD PROJECT

PRE-PRODUCTION CAPITAL BUDGET	
Decline and Crosscuts	$ 764,970
Level and Stope Development	1,153,400
Underground Shops	36,225
Mine Equipment	1,021,600
Mine Inventory	100,000
Site Engineering, Construction Admin.	257,100
Total Phase 1	**$3,333,295**
POST-PRODUCTION CAPITAL BUDGET	
Decline Extension and Crosscuts	$ 574,750
Level Development and Rehabilitation	450,000
Mine Equipment	634,550
Total Phase 2	**$1,659,300**
Decline 700 to 900 Level	$ 356,250
TOTAL MINE CAPITAL COST	$5,348,845

AMI's estimated capital budget does not include any contingency. Behre Dolbear's experience in such projects indicates an allowance of at least 10 percent would be applicable

for a project of this nature. Behre Dolbear's review indicates total mine capital cost is $5,883,700.

Behre Dolbear also reviewed the quantity, type, and capabilities of the mining equipment scheduled by AMI and determined that despite the increased production, the proposed equipment type and quantity is appropriate for production rate of 722 tpd with minor modifications. Capital costs for mining equipment total $1,656,125, again exclusive of any contingency allowance. AMI's costs for mining equipment are those of used, but rebuilt, units and are based on written vendor quotations and familiarization with the current used-equipment market.

Since the purchase of only used equipment is contemplated by AMI, Behre Dolbear recommends that an additional capital expenditure in the range of $150,000 to $180,000 should be considered to provide a measure of equipment backup. Backup for loading and trucking of ore are especially critical as it may be assumed that availability will be markedly lower than that for new equipment. The recommended additions would consist of those listed in Table 4.2.

TABLE 4.2
ADDED EQUIPMENT REQUIREMENTS

ITEM	UNITS	COST ($)
Underground Truck	1	35,000
Loader	1	75,000
Jackleg Drills	5	6,250
Stoper Drills	5	5,000
Slushers	2	10,000
Power Center	1	12,000
	Total =	$143,250
	Contingency @ 15% =	21,490
	Total =	**$164,740**

The capital cost for mine equipment will then range from $1,821,738 to approximately $2,000,000.

4.2 OPERATING COSTS

AMI estimated the total direct cost of mining not including preproduction development to be $29.61 per ton as presented in Table 4.3. Table 4.3 differs from AMI's feasibility study in that Behre Dolbear has corrected their figures for mathematical errors.

TABLE 4.3
AMI'S OPERATING COSTS
GOLD ROAD PROJECT

ITEM	$/TON
Labor	18.05
Equipment Repair	1.57
Materials	4.79
Supplies	3.13
Services	0.21
SUBTOTAL	27.75
Contingency @ 6.7%	1.86
TOTAL	**29.61**

The unit-cost of $29.61 per ROM ton is that estimated for an average mine production rate of 580 tons per day (tpd). The estimated cost of $9.88 per ton for equipment repair, mining supplies, materials and services are judged low based on Behre Dolbear's experience. Behre Dolbear also believes that the labor requirements, labor rates, and contingency used in AMI's study are low and require adjustment.

4.2.1 Personnel Requirements

For the original planned production of 580 tpd, not including the handling of 50 to 100 tpd of development waste, AMI scheduled 77 production and service-related personnel. This

manning schedule averages a productivity of 7.53 tons per manshift (tpms). Behre Dolbear concludes this productivity would be realistic for the proposed mining method. If an additional 100 tpd of waste is included, the estimated productivity would be 8.83 tpms; still a reasonable level in Behre Dolbear's estimation.

The production schedule was changed by Behre Dolbear, at the request of AMI from 580 tpd to 722 tpd to include the handling of an additional 24.6 percent mine dilution. The required productivity would then increase to 9.38 tpms for ore only and 10.7 tpms with the 100 tpd of development waste included at AMI's manpower schedule. Behre Dolbear believes this level of productivity is higher than can be expected for the mining method used.

Behre Dolbear believes that mine production and support service staffing should be increased by 10 people consisting of three miners, three utility miners, three mechanics, and one toplander. The additional miners are warranted in the original AMI manpower schedule which apparently makes no allowances for unscheduled downtime and for absenteeism. Also, under AMI's 580 tpd scenario, Behre Dolbear felt that with use of used equipment, the staffing of only four mechanics is marginal. Since an approximate 25 percent increase in tonnage is to be loaded and hauled, Behre Dolbear believes an additional three mechanics is also warranted.

In addition to the increase in underground staffing, AMI's plan to run three full production shifts per day with attendant large quantities of materials and supplies to be transferred underground, Behre Dolbear believes that a toplander is required on each shift rather than on two shifts as noted in AMI's estimate.

Using Behre Dolbear's adjustments, the productivity level for production and service related personnel under the 722 tpd schedule would be 8.30 tpms, or 9.45 tpms including a possible 100 tpd of development waste. The level of 9.45 tpms is about the maximum that can be expected at the Gold Road Mine.

Table 4.4 summarizes the comparative staffing of underground production and service related personnel.

TABLE 4.4
COMPARATIVE PRODUCTION STAFFING SUMMARY
GOLD ROAD PROJECT

UNDERGROUND	AMI	BEHRE DOLBEAR
Miner	26	29
Utility Miner	26	29
Truck Driver	11	11
Toplander	2	3
Mechanic	4	7
Oiler	3	3
Electrician	2	2
LH Driller	3	3
TOTAL	**77**	**87**

Behre Dolbear's experience with operations similar to the Gold Road Mine on the scale planned by AMI indicates the addition of several support and service personnel is justified. In our estimation, a safety engineer and two technical support people are required. The technical support personnel are in anticipation of what Behre Dolbear feels will be critical grade-control tasks as well as those related to surveying control of numerous development headings. A minimum of two technicians are mandatory to provide help to the engineering and geological staff for these efforts due to the variability in grade demonstrated in WSE's variography study.

Grade-control at Gold Road will be extremely important and must be addressed. USSRM's sampling records show that they took channel samples at close intervals (5-feet in most instances) in the development headings, in the backs of the active stopes on an almost weekly basis, muckpile samples in the stopes, plus chute and car samples. Accordingly,

Behre Dolbear has added a technician to the manpower requirements specifically committed to sampling and grade control. Behre Dolbear believes that the employment of only one geologist is insufficient for the requirements of adequate grade-control in addition to his other responsibilities.

Behre Dolbear believes a safety engineer is warranted in consideration of the federally mandated periodic training requirements, records and report filings, and the ongoing underground safety inspections necessary for the site. The safety engineer could also assist in other engineering tasks on an "as available" basis, and possibly serve as a shift boss when required by absences of regular personnel.

Behre Dolbear noted that no provision was made in AMI's estimate for daily maintenance of surface facilities, mainly the miners' changehouse. We have included an hourly employee for maintenance of the changehouse, lamp maintenance and repair, and possibly janitorial service of the administrative offices. Table 4.5 summarizes the total personnel requirements at the Gold Road Mine including the additions recommended by Behre Dolbear.

TABLE 4.5
COMPARATIVE PERSONNEL ROSTER

Classification	Addwest	Behre Dolbear
Mine Manager	1	1
Mine Superintendent	1	1
Mill Superintendent	1	1
Maintenance Superintendent	1	1
Mine Shift Boss	3	3
Mine Foreman	1	1
Mine Engineer	1	1
Mine Geologist	1	1
Safety Engineer	0	1
Technician/Drafting	1	1
Technician/Surveying	0	1
Technician/Sampling	0	1
Assaying/Refining	1	1
Office Manager	1	1
Clerk	1	1
Changehouse/Lampman/Janitor	0	1
Miner	26	29
Utility Miner	26	29
U/G Truck Driver	11	11
Toplander	2	3
Mechanic	4	7
Oiler	3	3
Electrician	2	2
Longhole Driller	3	3 - Explosives
Mill Operator	4	4
Mill Labor	4	4
Crusher Operator	2	2
Mill Maintenance	3	3
Assay Labor	2	2
Parts Runner	1	1
TOTALS	**107**	**121**

4.2.2 Labor Costs

Labor rates determined by AMI are presented in Table 4.6 and indicate a weighted average salaried wage rate of $19.36 per hour and a weighted average hourly wage rate of $10.42 per hour. Behre Dolbear has reviewed these rates and concludes they are not in keeping with present levels in the mining industry because:

- It is the usual practice in the mining industry to include a pay differential for hourly employees working on other than the day-shift. No shift differential is included in AMI's estimate. Similarly, no allowance for unscheduled overtime has been included. When considering the relative complexities of the mining method proposed, the necessity for numerous production and development crews, plus the use of used equipment, Behre Dolbear believes such an allowance must be included, and has added to labor costs an allowance of 5 percent of the base rate applicable only to the hourly underground production and support personnel;

- In addition, although a large number of underground mines have closed in the past decade, there is a shortage of skilled miners having experience in the mining of narrow veins as will be required at the Gold Road Mine; and

- The U.S. Bureau of Labor Statistics, Table C-1, Mining, notes an average hourly rate of $13.65 per hour in 1990. If the Bureau's figure is escalated at 3 percent per year for the years of 1991 through 1994, the corresponding figure for 1994 is approximately $15.36 per hour, i.e., an increase of about 12.5 percent. Accordingly, Behre Dolbear increased the wage rates for hourly personnel by 12.5 percent.

TABLE 4.6
AMI - LABOR RATE SUMMARY

Administrative & Supervision	Number	$/Day	Total - $/Day
Manager	1	240	240
Mine Superintendent	1	220	220
Shift Boss	3	180	540
Geologist	1	140	140
Engineer	1	140	140
Tech/Draftsman	1	80	80
Mechanic Supt	1	204	204
Office Manager	1	80	80
Clerk	1	60	60
Totals	**11**		**1,704**
Weighted Average - $19.36/Hour			

Hourly Production	Number	$/Hour
Miner	26	11.50
Utility Miner	26	9.50
Truck Driver	11	9.50
Toplander	2	9.00
Mechanic	4	12.00
Oiler	3	10.00
Electrician	2	12.00
LH Driller	3	10.50
Totals	**77**	
Weighted Average - $10.42/Hour		
Weighted Average Salaried & Hourly - $11.54/Hour		

Table 4.7 presents a comparison of AMI's and Behre Dolbear's estimate of total labor requirements for the operation. Behre Dolbear finds that labor costs will total $145,367.58 per day, or $19.90 per ROM ton versus $14.50 per ton as calculated by AMI.

TABLE 4.7
COMPARATIVE ESTIMATED MINE LABOR COSTS

	Addwest		Behre Dolbear	
Surface	**Number**	**Cost - $/Day**	**Number**	**Cost - $/Day**
Mine Superintendent	1	301.40	1	399.08
Shift Boss	3	739.80	3	832.28
Mechanic Superintendent	1	139.74	1	157.21
Geologist	1	191.80	1	215.78
Engineer	1	191.80	1	215.78
Safety Engineer	0	-	1	215.78
Tech/Draft	1	115.08	1	129.47
Tech/Survey	0	-	1	129.47
Tech/Sample	0	-	1	129.47
Dryhouse/Lampman	0	-	1	110.97
Total	**8**	**$1,679.62**	**12**	**$2,586.26**
No unscheduled overtime				
Underground				
Miner	26	3,277.04	29	4,112.05
Utility Miner	26	2,707.12	29	3,396.91
Truck Driver	11	1,145.32	11	1,288.49
Toplander	2	197.28	3	332.91
Mechanic	4	526.08	7	1,035.72
Oiler	3	328.80	3	369.90
Electrician	2	263.04	2	295.92
LH Driller	3	345.24	3	388.40
Total	**77**	**$8,789.92**	**87**	**$11,220.30**
Add unscheduled overtime at 5% base rate = 561.02 **Total = $11,781.32**				
Total Labor per Day	**$10,469.54**		**$14,367.58**	
Total Labor	**$14.50**		**$19.90**	

4.3 MINE DILUTION

As noted earlier, Behre Dolbear has concern about the anticipated degree of potential mine dilution resulting from unplanned breakage during stoping. The use of the planned stope development equipment requires a minimum width of 5 feet for completion of the sublevels from which the ore is to be drilled and blasted. AMI believes that the necessary minimum width can be maintained with little if any sloughing of the country rock from the hanging and footwalls. Behre Dolbear, however, believes that on the basis of (1) examination of historical data from the operations of USSRM, (2) the alteration of the country rock adjacent to the mineralized zone observed in some parts of the mine during the site visit, and (3) the method of drilling and blasting of the ore blocks planned by AMI, that the probability of inadvertent dilution beyond the planned mining width must be considered. Support for this is demonstrated by:

- USSRM, with its great experience in the mining of the narrow width vein, had an average dilution of 24.6 percent and a nearly corresponding reduction in mine grade at Gold Road. USSRM internal correspondence reviewed by Behre Dolbear, notes the company's concern and desire to lower the dilution at the Gold Road Mine. When evaluating the historic experience of USSRM with the use of conventional shrinkage stoping methods in comparison with the modified method to be employed by AMI, Behre Dolbear concludes that mine dilution will continue to be a significant problem. There is no evidence in Behre Dolbear's opinion that it will be any less than the historic figure of 24.6 percent, and if not carefully controlled, the proposed method of drilling may result in a higher figure with resultant grade control problems;

- A second factor is that in Behre Dolbear's experience, alteration of the country rock adjacent to the vein will contribute to mine dilution in those areas. Care will be required in the blasting of the long drill holes even in areas where both the wall rock and the ore are competent. It may be

necessary to vary the hole spacing and/or the powder-factor from one stope to another or even within the same stope. Obviously, such procedures are not labor cost-effective; and

- A critical factor will be the correct alignment of the 22-foot long drill holes that are required for blasting. Correction has to be made for the varying dip of the vein and this will probably require a stope-by-stope adjustment. Almost perfect alignment of the drill must then be observed by the miners and under the pressure of production requirements, a requirement which may prove difficult to achieve.

Control of the direction of the drill hole is also complicated by the necessity of using jointed drill steel. The height of the sublevels is to be 8 feet and therefore, a drill hole 20 feet to 22 feet in length will require the use of four 6-foot lengths of drill steel. The inherent slackness in even new drill-rod couplings and the increase in slackness with wear, will contribute to the difficulty of maintaining the critical alignment of the hole. Behre Dolbear believes that maintaining the desired location of the bottom of any one drill hole within 6 to 8 inches will be problematic, aside from the difficulty of assuring the correct alignment of the drill by the miner.

In the original shrinkage stoping method used by USSRM at the Gold Road Mine, the procedure was to drill 6-foot holes with a handheld drill (stoper). This procedure, although much less productive than that of using wagon-drills as planned by AMI, allowed great flexibility in modifying the drill pattern, the powder-factor, and the location of the drill holes with respect to the contact of the vein with the hanging and footwalls. Thus, at least some degree of control in attempting to correct problems such as variances in vein width or the competency of the country rock adjacent to the vein was achieved in the past. This flexibility in modifying factors critical to minimizing dilution will

be largely lost with the drilling method to be used by AMI. While the use of the wagon-drills will markedly increase productivity, Behre Dolbear believes the consideration of other important factors could be sacrificed.

Behre Dolbear has accordingly applied a dilution factor of 24.6 percent in the estimation of reserve tonnages, the grade of ROM ore to the mill, and in the mine production costs.

5.0 MILLING

The processing plant for the Gold Road Project would consist of a standard cyanide leach/CIP plant. The basic process consists of crushing, grinding, cyanide leaching of the ground product, and absorption of the dissolved gold on activated carbon. The gold is recovered from the carbon in a deabsorption process where it is deposited on stainless cathodic screens in an electroplating process. Gold sponge is washed from the screens, filtered, dried, smelted and cast into bars. Anticipated recovery is 95 percent of the gold content and 50 percent of the silver content.

5.1 CAPITAL COSTS

Behre Dolbear reviewed the data from the metallurgical and mineral dressing work completed by International Compliance Technologies (ICT) on bulk samples from the Gold Road Mine and the estimated capital costs completed by a consultant retained by AMI. The estimate was not as detailed as is required in a feasibility study as it was based largely on factored costs. Total capital costs for a 500 tpd capacity mill were estimated by AMI's consultant to be $4,930,000 for the mill proper plus an additional $800,000 for construction of a tailings disposal facility. AMI plans to purchase used equipment and anticipates savings of approximately $650,000, yielding a net cost of the mill to AMI of $4,280,000.

On the basis of the information available in the AMI study, Behre Dolbear estimated the cost of the required mill on the basis of new equipment as $6,281,370. Accepting AMI's estimate that approximately 13 percent can be saved through the purchase of used equipment, the capital cost of the mill as estimated by Behre Dolbear would be approximately $5,464,500. Behre Dolbear also noted that AMI did not include a contingency allowance in the mill capital costs and believes that a minimum 10 percent contingency fee is applicable for an estimate of the level provided.