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The following file is part of the Cambior Exploration USA Inc. records

Post-it® Fax Note 7671	Date 2/23	# of pages ▶ 5
To Randy	From	
Co./Dept.	Co.	
Phone #	Phone #	
Fax #	Fax #	

CAMBIOR USA, INC.

MEMORANDUM

TO: Gerald Veillette

FROM: Gary Parkison GAP

DATE: February 23, 1999

SUBJECT: PRELIMINARY EVLAUATION OF AMT MINNG CORP COPPER CREEK, AZ PROJECT

AMT Mining Corporation, formerly AMT International Mining Corporation, controls a copper resource in the area of Copper Creek, located some 12 miles east of the BHP San Manuel copper mine in south central Arizona. According to information received from AMT, most of the resource is on patented and unpatented claims which AMT owns subject to a 2% NSR to BHP and/or under which AMT is earning into a 51% AMT/49% Phelps Dodge joint venture.

Randy Moore has prepared a preliminary geologic evaluation on the property, which is attached. As indicated in Randy's report, the resources defined by AMT are contained within breccia pipes, usually containing 2 to 4 million tons each, with grades of 1% to 2% copper, with minor, but recoverable amounts of molybdenum. A speculative porphyry copper-type resource of several hundred million tons may be present at depth below the breccia pipes. The impact of this porphyry resource to the project was not considered here. While AMT may certainly enlarge the potentially mineable resources of the project, this increase will be incremental and drill intensive, and future development costs of each breccia pipe will be relatively expensive.

As development of the project will impact federal lands, permitting is likely to be fairly rigorous, based on our experience at Carlota. The proposal for underground and surface mining, milling, concentration, and SX-EW facilities and probable tailings disposal will likely require review and permit authorization from the State of Arizona, U.S. Bureau of Land Management, Corps of Engineers, and the Environmental Protection Agency.

A brief review of the economics associated with the development proposal detailed in the Feasibility Study (October, 1997) and the optimization study (October, 1998) was performed. A comparison was made between operating and capital costs, as estimated by AMT and its consultants as documented in the Feasibility Study, and analogous costs derived from the 1998 Mining Cost Service published by Western Mine Engineering. The comparison uses costs, tons, grade, and production rate from the AMT Feasibility Study with comparable estimates derived from the Mining Cost Service, with some modification to reflect the operating scenario stated in the optimization study. The difference in mining costs has the biggest impact on the overall contrast between the two operating cost estimates. Relating to the mining costs, the percentage of recovered tons is likely too high in both estimates, and conversely, the amount of dilution is likely too low.

the other areas of operating costs (processing, smelting, and refining) show less disagreement between the estimates. It should be noted that the AMT estimate employs a heavy media separation plant feeding a much smaller flotation concentration plant, while the Mining Cost Service estimate utilizes a more conventional and less risky larger flotation plant, without heavy media separation. For both estimates, smelting and refining costs are based on toll processing of the flotation concentrates.

Capital costs are estimated to be comparable between the two estimates, based on a capital cost/pound of recovered copper basis. These costs will decrease, assuming a larger reserve basis and longer mine life.

Based on the economic evaluation presented here, it is recommended that Cambior not pursue the opportunity presented by AMT. The costs presented by AMT appear to be unrealistically low, at least as compared to industry standard costs as presented by Mining Cost Service and based on Cambior operating experience. The overall cost per pound is very dependent upon the head grade of the ore and grades higher than the 1.30 to 1.50 percent assumed here will significantly lower the cost. However, based on the present knowledge, there does not appear to be a good chance for developing a significantly higher grade and tonnage than what AMT has already defined.

Given the concern over the operating costs, the rigorous permitting environment, and the current copper price, the AMT property does not represent an attractive project. Given a recovery in the copper price, there are likely to be better copper projects to pursue.

Attachment

cc: Randy Moore

Copper Creek
Operating Cost Evaluation

Mining Cost (from Mining Cost Service) $9.84/ton – sublevel longhole – Adit access (based on 8,800 tpd)
$30.70/ton – Cut and fill – Adit access (based on 2,200 tpd)

AMT estimates 7,500 tpd underground mining rate, mix of longhole stoping and cut and fill

Assume	5,500 tpd longhole stope	@	$ 9.84/ton
	2,000 tpd cut and fill	@	30.70/ton
	7,500 tpd	@	$15.40/ton

Compare with AMT estimate - $8.50/t – based on 5,000 tpd longhole stoping only

Processing Cost $4.55/ton – 1 product flotation concentrate (based on 11,000 tpd plant)
Compare with AMT estimate - $2.60/ton – heavy media followed by flotation concentration

Smelting Cost Based on 92% recovery, 1.5% Cu head grade, 40% concentrate grade
29/1 concentration ratio
$90/ton treatment charge

Refining Cost $2.76/ton – Based on 800 lbs recovered copper per ton of concentrate at $0.10/lb – 29 tons ore to 1 ton concentrate
Compare with AMT estimate - $2.36/ton

Copper Creek
Operating Cost Summary

	Mining Cost Service (7,500 tpd rate)		AMT Feas Study (5,000 tpd rate)	
	$/ton	$/lb	$/ton	$/lb
Mining	15.40	0.56	8.50	0.36
Processing	4.55	0.17	2.60	0.11
Smelting		0.11		0.09
Refining		0.10		0.10
	19.95	0.94	11.10	0.66

Based on 1.50% head grade, 92% Cu recovery, recovered 27.5 lbs copper/ton for Mining Cost Service estimate; 1.30% head grade, 92% Cu recovery, recovered 23.9 lbs copper/ton for AMT estimate

Capital Cost Evaluation

Capital costs for Mining Cost Service estimate are derived from factored cost per ton estimates provided by Mining Cost Service based on closest tonne per day rate provided. 7,500 tpd underground production rate and process rate as noted in optimization plan (10/15/98) provided by AMT.

Specific costs for AMT Feasibility Study available only for 5,000 tpd underground mining scenario. Costs from the Feasibility Study used here. Reserve basis used for the Feasibility Study provides for 6.5 years of operation, same mine life used to estimate reserve for 7,500 tpd case used for Mining Cost Service.

Copper Creek Capital Cost Summary		
	Mining Cost Service (7,500 tpd)	AMT Feas Study (5,000 tpd)
Mining	$33,000,000	$30,700,000
Processing (based on flotation plant)	37,000,000	17,000,000
Subtotal	70,000,000	47,700,000
Infrastructure Misc (10%)	7,000,000	0
Total	77,000,000	47,700,000
Reserve (6.5 yr life)	17.1 mm tons @ 1.50%	11.4 mm tons @ 1.30%
Recovered lbs Cu (92%)	472.0 mm lbs	272.7 mm lbs
Capital Cost Recovered Pound Cu	$0.16	$0.17

To:	Gerald Veillete
From:	Randy Moore
Date:	February 18, 1999
Subject:	AMT International Mining, Copper Creek Project

The Copper Creek Property is owned by AMT Inc. and is located approximately 65 miles northeast of Tucson, Arizona near the San Manuel porphyry copper operations of BHP. Property status of the project was not reviewed, but AMT reports that they control in excess of 6,000 acres of mineral rights within the Bunker Hill Mining District.

Copper Creek is situated within the porphyry copper province of the southwestern United States. Deposits within this region are associated with Laramide age plutons that are generally located at the intersection of northwest and east-northeast structural zones. These porphyry systems often have associated high level expressions in the form of breccia pipes.

The reported geology of the Copper Creek area is dominated by the presence of numerous breccia pipes bodies with more than 150 pipes having been mapped. The majority of the breccia pipes are aligned along two northwest trending structural corridors. These structural zones appear to control the emplacement of porphyry intrusives with numerous, small plugs also aligned within these corridors. The breccia bodies associated with the structural zones tend to contain copper mineralization in the form of chalcopyrite and span over a strike length of 3,500 meters and a width of 1,200 meters.

The district and the pipes in particular have seen extensive exploration efforts starting at the turn of the century. The property has seen limited production from underground drifting in the early 1900's and in-situ leaching conducted by Ranchers in the 1970's. AMT became involved in the property in 1995 and has conducted a number of drill programs designed to develop reserves within a number of the pipes. Their efforts have been successful in outlining 11,000,000 tons @ 1.3% Cu contained within three of the breccia pipes. In addition, AMT reports significant copper drill intercepts within another fourteen of the pipes. These intercepts contain similar grades as the current reserves with a few of the holes reporting thick intercepts of + 2% Cu. With the data provided it could not be determined if these represent pipes with the potential to contain overall graded above the reserve average developed to date. One hole reports a gold intercept of 24 meters. Unfortunately the wording of the report makes it impossible to understand the actual grade of this intercept, but significant gold credits would be unusual for the porphyry province.

The three pipes containing the reported reserves are separated by distances of up to 800 meters, with the other identified copper bearing pipes separated by similar distances. Pipe dimensions do not allow for the addition of reserves without a significant amount of drilling. The pipes are typically less than 100x100 meters in plan and range from 250 to 500 meters vertically. Thus, additional reserves will come only with a tightly spaced angle drill program designed to test the pipes vertically.

While there is excellent potential to increase the reserves at Copper Creek, there is no evidence, presented in the material reviewed, that would suggest that the grades of any additional reserves will be significantly different than what has been outlined to date. From the data reviewed, it is not possible to determine the potential of this district. With 17 known pipes containing ore grade material, three of which have been drilled out, an optimistic estimate of half the pipes developing reserves would place the potential at approximately 40,000,000 tons. It is impossible to assess the potential for any of the undrilled pipes to develop ore. That exercise would require a field visit and a detailed review of all data. Prior to any such visit it should be determined if it is possible to run a profitable operation at grades of 1.3% to 1.6% Cu on these narrow, vertical, pipe-like features given tonages of 3 to 6 million tons per pipe. Because of the separation of the breccais and the vertical pipe shaped geometry, the amount of development work to mine these bodies will be significant. It is unlikely that a reserve grade of 1.3% Cu can support this type of development. If an economic assessment determines that it is possible with a global tonnage of 40,000,000 than a detailed review and field visit would be warranted.

Originating Fax: (303) 773-0733
Facsimile Transmittal Sheet

CAMBIOR USA, INC.

TRANSMISSION TYPE: ○ NORMAL
○ PRIORITY
○ CONFIDENTIAL

NUMBER OF PAGES (Including Transmittal Sheet) 4

DATE Feb-18 TIME

TO Randy Moore/Mitchell COMPANY

FAX ORIGINAL TO BE ○ MAILED ○ FILED

FROM Gary Parkison

MESSAGE

Here some info I got from Charlie Millar at Tucson, Not much interest in this end - drill holes into the main SOL deposit reported ≈ .1-.2 % Co, with essentially no enriched cap. Please advise as to your impressions?

Gary

Please call (303) 694-4936 if you have problems with this transmission and ask for:

8101 East Prentice Avenue, Suite 800, Englewood, Colorado 80111
303-694 4936 Fax 303-773-0733

Charles Miller <milroc @ primenet.com>
02/18/99 11:28 AM

To: Gary Parkison/DEN/Cambior
cc:
Subject: Sol Dos Porphyry Copper Property, Graham County, AZ

Mr. Gary Parkison
Cambior (USA) Inc.
8101 E. Prentice Avenue
Suite 800
Englewood CO 80111-2937

Dear Gary:

Attached is a one page summary of the Sol Dos porphyry copper property in Graham County, Arizona. This is a significant copper prospect that can be acquired quite reasonably at this time. If this property is of further interest, I will forward a Confidentiality Agreement and thereafter a report and data outlining the significance of this property.

I staked the Sol Dos claim block in early January 1999. I am seeking a company that will explore the potential within this deposit. As noted in the summary sheet this is a very large mineralized body that has been controlled by a number of majors since discovery in the early 1970s.

I have compiled a rich data set that includes recent Enzyme leach and mesquite geochemical data outlining extensions of the original anomaly in areas where the system has not been drilled. These extensions, together with zones within the original anomalous zone, constitute the main exploration targets on the Sol Dos property.

I believe that you will find this property to be of great interest given its location in the broad northwest-southeast trending Safford mineral belt which includes the Dos Pobres, San Juan, Safford, Lone Star and Sanchez porphyry copper prospects of Phelps Dodge Corporation.

Please contact me at your earliest convenience in this regard. I look forward to speaking with you.

Sincerely,

Charlie

Charles P. Miller - Revised Sol Dos Summary-21299.doc

Charles P. Miller

PROPERTY NAME: SOL DOS

GENERAL LOCATION: The Sol Dos porphyry copper prospect is in the Lone Star Mining district in Graham County, Arizona.

DEPOSIT MODEL: Porphyry Copper

PROPERTY SUMMARY: The Sol Dos claims were staked by Charles P. Miller in January 1999 and consist of 95 unpatented federal lode mining claims, covering about three square miles.

Significant past programs on and adjacent to the Sol Dos claims include those of Amax/Phelps Dodge (1970 – 1974), Kennecott (1992) and Noranda (1996-1998).

SIGNIFICANT MINES IN VICINITY:

Dos Pobres porphyry copper deposit - Phelps Dodge Corporation
Dos Pobres is currently under development and is estimated to contain 330 million tons of millable ore at 0.65 percent copper and 285 million tons of leachable ore at 0.29 percent copper.

San Juan porphyry copper deposit – Phelps Dodge Corporation
San Juan lies between the Dos Pobres and Lone Star deposits and is estimated to contain 270 million tons of 0.28 percent leachable ore at 0.28 percent copper.

Sanchez porphyry copper deposit - Phelps Dodge Corporation
Sanchez is currently under development and estimated to contain 230 million tons of leachable ore at 0.29 percent copper.

Safford-Lone Star Porphyry copper deposit – Phelps Dodge Corporation
The Safford-Lone Star deposit contains in excess of 1 billion tons copper resource in two distinct environments. It is currently awaiting development.

Morenci mine complex - Phelps Dodge Corporation-Sumitomo Corporation
The Morenci complex, a world class porphyry copper deposit is estimated to contain 543 million tons of millable ore at 0.68 percent copper and 1628 million tons of leachable ore at 0.29 percent copper. Morenci is currently in production

EXPLORATION MODEL: The Sol Dos area lies within a completely post-mineral covered extension of the Safford mineral trend. The potential zone of porphyry copper mineralization at the Sol Dos property was initially defined in 1971 by a team of Amax Exploration, Inc. geologists and geophysicists headed by Charles P. Miller, Kenneth Lovstrom and Frank Fritz. A combination of regional gravity and mesquite geochemical surveys outlined a general anomalous zone; this zone was further enhanced by magnetic and induced polarization surveys and later confirmed by drilling. The zone of alteration and mineralization probably exceeds 4 square miles in area and the ultimate limits of mineralized and altered rock have not been determined.

GEOLOGY:

Pre-mineral rocks at Sol Dos consist of a lower series of Cretaceous black shale, sandstone and siltstone which are overlain by an thick upper series of Cretaceous andesitic breccias, tuffs and massive porphyritic andesite. The andesitic rocks are similar to the Safford andesitic rocks described at the Dos Pobres and Lone Star mineralized areas. These rocks are intruded by two phases of igneous rocks: an early hornblende quartz monzonite porphyry and a younger hornblende biotite diorite porphyry.

Post-mineral rocks consist of 250 – 1000 feet of lakebed sediments and alluvium.

ALTERATION/ MINERALIZATION:

The alteration and mineralization at Sol Dos as defined by the 16 drill holes form a classic porphyry copper pattern with a central core of potassic alteration surrounded by an intermediate shell of phyllic alteration and an outer shell of propylitic alteration.

Mineralization is characterized by chalcocite-covellite on pyrite-chalcopyrite, chrysocolla and 1 – 8 percent finely disseminated and veinlet pyrite.

All of the pre-mineral rocks at Sol Dos are altered and weakly mineralized. The most intense alteration and mineralization are related to the diorite porphyry and its contact zones primarily with the andesitic rocks.

RESOURCE POTENTIAL:

The Sol Dos prospect is along the broad northwest-southeast trending Safford mineral belt which includes the Dos Pobres, San Juan, Sanchez, Safford and Lone Star porphyry copper deposits of Phelps Dodge Corporation.

The mineralized system defined to date by 16 drill holes covers more than 4 square miles. Although the central part of the system has been tested, significant Enzyme Leach and mesquite geochemical anomalies occur on untested parts of the Sol Dos claim block.

Reinterpretation of early mesquite geochemical data coupled with recent ensyme leach and mesquite data have outlined extensions of the original anomaly in areas where the system has not been drilled. These extensions together with zones within the original anomalous zone constitute the main exploration targets on the Sol Dos property.

Charles P. Miller
February 2, 1999

7300 N. Leonardo Da Vinci
Tucson, AZ 86704-3127
520-575-8344
milroc@primenet.com

To: Gerald Veillete
From: Randy Moore
Date: February 18, 1999
Subject: AMT International Mining, Copper Creek Project

The Copper Creek Property is owned by AMT Inc. and is located approximately 65 miles northeast of Tucson, Arizona near the San Manuel porphyry copper operations of BHP. Property status of the project was not reviewed, but AMT reports that they control in excess of 6,000 acres of mineral rights within the Bunker Hill Mining District.

Copper Creek is situated within the porphyry copper province of the southwestern United States. Deposits within this region are associated with Laramide age plutons that are generally located at the intersection of northwest and east-northeast structural zones. These porphyry systems often have associated high level expressions in the form of breccia pipes.

The reported geology of the Copper Creek area is dominated by the presence of numerous breccia pipes bodies with more than 150 pipes having been mapped. The majority of the breccia pipes are aligned along two northwest trending structural corridors. These structural zones appear to control the emplacement of porphyry intrusives with numerous, small plugs also aligned within these corridors. The breccia bodies associated with the structural zones tend to contain copper mineralization in the form of chalcopyrite and span over a strike length of 3,500 meters and a width of 1,200 meters.

The district and the pipes in particular have seen extensive exploration efforts starting at the turn of the century. The property has seen limited production from underground drifting in the early 1900's and in-situ leaching conducted by Ranchers in the 1970's. AMT became involved in the property in 1995 and has conducted a number of drill programs designed to develop reserves within a number of the pipes. Their efforts have been successful in outlining 11,000,000 tons @ 1.3% Cu contained within three of the breccia pipes. In addition, AMT reports significant copper drill intercepts within another fourteen of the pipes. These intercepts contain similar grades as the current reserves with a few of the holes reporting thick intercepts of + 2% Cu. With the data provided it could not be determined if these represent pipes with the potential to contain overall graded above the reserve average developed to date. One hole reports a gold intercept of 24 meters. Unfortunately the wording of the report makes it impossible to understand the actual grade of this intercept, but significant gold credits would be unusual for the porphyry province.

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To: Gerald Veillete
From: Randy Moore
Date: February 18, 1999
Subject: AMT International Mining, Copper Creek Project

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CAMBIOR

FAX TRANSMISSION

NO. OF PAGES ________

TO: Gerald

FROM: Randy

Cambior Exploration USA, Inc.
Tel: 702-856-5189
Fax: 702-856-4549

DATE: ____________________

SUBJECT: ____________________

MESSAGE: ____________________

Cambior Exploration USA, Inc.

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

CAMBIOR USA, INC.

MEMORANDUM

TO: Michael Gustin, Jerry Fountain

FROM: Gerald Veillette GV\RO

DATE: February 10, 1999

SUBJECT: COPPER CREEK, ARIZONA

Please review attached documents.

Randy should visit in case the property could be of interest.

J. Fountain and Gary will review technical aspects.

Attachment

cc: Gary Parkison

8101 E. Prentice Ave., Suite 800
Englewood, CO 80111
303-694-4936 Fax 303-773-0733

CAMBIOR USA, INC.

Fax

To:	Michel Gaucher	**From:**	Gerald Veillette
Company:	A/S Celine Roy	**Pages:**	1
Fax:	450-678-8087	**Date:**	2/5/99
Re:	AMT International Mining – Copper Creek Project	**CC:**	

☐ **Urgent** X **For Review** ☐**Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

I have looked into the company's recent press releases and spoken to our exploration people who know of the property. Here are my comments at this time:

1. The property was operating as an "in situ" copper leaching mine in the 1970s and produced small amounts of copper (10,000 tons). There are probably some environmental liabilities resulting from previous operations.
2. AMT recently reported some interesting drilling results on the property with some drill intersections ranging from 100 to 300 feet containing 0.5% to 2% copper with low gold values.
3. The deposit is composed of sub-vertical breccia pipes, which would limit tonnages and have to be mined with underground methods, except for a small portion by open pit. The location is excellent, being approximately 20 miles from BHP San Manuel smelter.
4. The reported mineable reserves are small at 11 million tons @ 1.5% Cu with low gold and silver credit.
5. We will review the information you sent to Henry (October 1997 document) in more detail and visit the property. We should give you more feedback in a few weeks.

Gerald

AMT INTERNATIONAL MINING CORPORATION

TSE:AAI

NEWS RELEASE

AMT ANNOUNCES EXPANSION/UPGRADE OF COPPER RESOURCES AT COPPER CREEK

(September 8, 1998 - Toronto, Canada) AMT Mining Corporation is pleased to announce that the extensive program of geological fieldwork and drilling carried out during the last twelve months at its Copper Creek (Arizona) project has enabled the Company to increase its estimate of the shallow sulfide (breccia) copper resources. The potential for expansion of the porphyry resource has also increased significantly. This drilling has also upgraded some of the breccia pipes from the inferred resource category to measured and drill indicated resources. The expanded resources have enabled AMT to increase its estimates of annual copper production and mine life from the breccia deposits by about 50%.

Total resources and reserves in the shallow breccia systems have now been increased from 40 to 43 million tons, of which:

- 10 million tons grading 1.73 % copper equivalent are now classified as proven and probable reserves;
- 5 million tons grading 2.00% copper equivalent are now classified as measured and indicated resources; and
- 28 million tons grading +2.00% copper equivalent are now classified as inferred resources.

In addition, five porphyry targets have now been identified by magnetic and geochemical data as well as by diamond drilling. One of these porphyry systems, the American Eagle-Lower Creek zone, hosts a total of 300 million tons of measured and inferred resources grading 0.80% copper equivalent grade.

The fieldwork that resulted in this increase/upgrade included ground magnetic, radiometric, geochemistry, orthophotos and detailed geological mapping, with particular emphasis on geochemical factor analyses. The first phase evaluation has produced over one dozen additional breccia pipes for expansion of the resource and reserve base. The most significant conclusions drawn from this program are:

1. To date, approximately 500 breccia pipes have been identified on land controlled by AMT within the Copper Creek district.

NOTE: Copper equivalent grades are expressed on the basis of a copper price of US$0.75 per pound and a molybdenum price of US$4 per pound. No credit has yet been given for contained gold or silver.

2. Drilling has so far identified twelve of the 500 breccia pipes as significant mineral resource targets.

3. Additional mineralized breccia pipes have been identified near the infrastructure planned for the initial stage production scheme.

4. The 1998 drilling program just completed has confirmed the effectiveness of AMT's geological analytical techniques using geochemical, radiometric and magnetic, together with detailed geological mapping.

AMT has to date developed six high priority targets (shown on the attached map) that have ore grade mineralization, confirmed by drilling. The Company will begin an expanded drilling program this fall with the objective of converting an additional 10 million tons of resources at these targets to the proven and probable reserve category within the next six to nine months.

Listed below are the results of the recent drilling program at the six highest priority targets:

KEEL

The Keel Zone is about 600 feet below the Mammoth (formerly Creek) breccia and has been intersected by seven diamond drill holes. The significant mineralized intercepts are 2.28 % copper equivalent over 160 feet in Hole NE-6 and 1.79 % copper equivalent over a 190 foot interval in Hole VIX28-2. A drill indicated resource estimate of 5 million tons grading 2.00% copper has been established for this deposit.

AMERICAN EAGLE BRECCIA COMPLEX

Copper mineralization has been intercepted in two holes; the significant intercept is Hole CU-2, which has an interval of 180 feet grading 2.58% copper equivalent. An inferred mineral resource estimate of approximately 3 million tons of 1.60 % copper equivalent has been established for this deposit.

MARSHA

This is an open pit resource tested by 4 drill holes completed in 1998. The significant intercepts were: 180 feet of 1.18 % copper equivalent in Hole MB-2, 170 feet of 1.10% copper equivalent in Hole MB-2a and 190 feet grading 0.83 % copper equivalent in Hole MB-1. A resource of 1.5 to 2 million tons grading +1.00% copper equivalent has been estimated for this deposit.

COPPER PRINCE, GIANT AND GLOBE

These breccias have been drilled by AMT during 1997 and 1998. The significant mineral intercepts are 320 feet of 2.60 % copper equivalent in Hole CP-3 (Copper Prince), 130 feet of 2.50 % copper equivalent in CP-1 (Copper Prince), 122 feet of 0.96% copper in Hole DH-11 (Giant) and 130 feet of 1.80 % copper equivalent in Hole G4 (Globe). An inferred mineralized resource of 2 to 4 million tons grading +1.50% copper equivalent has been estimated for these breccia pipes. The top of these three breccia pipes will be amenable to open pit mining.

OTHER TARGETS

Other important targets identified by factor analyses (geochemical, radiometric, magnetic and detailed mapping) and tested by drill holes are: North Childs (Drill hole CA-2R) intersected 60 feet grading 1.53% copper only, Rum (Drill hole Rum-1) intersected 90 feet grading 1.65% copper equivalent and West Mammoth target tested by two drill holes and a geophysical survey. Of importance, the Un Named breccia (Drill hole UB-4R) intersected 210 feet grading 1.01% copper equivalent, including 80 feet containing high gold values of 1.5 grams per ton (0.044 oz/ton). Other breccia pipes identified to date are Buzzard, HN-2(one drill hole intercepted 60 feet grading 2.22 % copper equivalent), Fred, Charles, and Michael.

MERCER RANCH PURCHASE

AMT also announces the purchase of the approximately 37,000 acre Mercer Ranch property in August 1998. The property is strategically located adjacent to land already owned or controlled by AMT for its Copper Creek Project in Pinal County, Arizona, 45 miles north east of Tucson. This acquisition will expedite the development of AMT's Copper Creek Project by providing alternative road and power line accessibility, additional water rights, new mineralized areas, and the potential future opportunity to trade certain portions of the ranch property for other mineralized areas owned by federal agencies.

COPPER CREEK PRODUCTION PLANS

AMT is focussed on becoming one of the lowest cost copper producers in North America. From the expanded resource and reserve of the shallow breccia pipes, the production plans and mine life are now being revised upward to between 75 and 80 million pounds of copper annually at (all-in) cash costs below 50 cents per pound over ten years of mine life.

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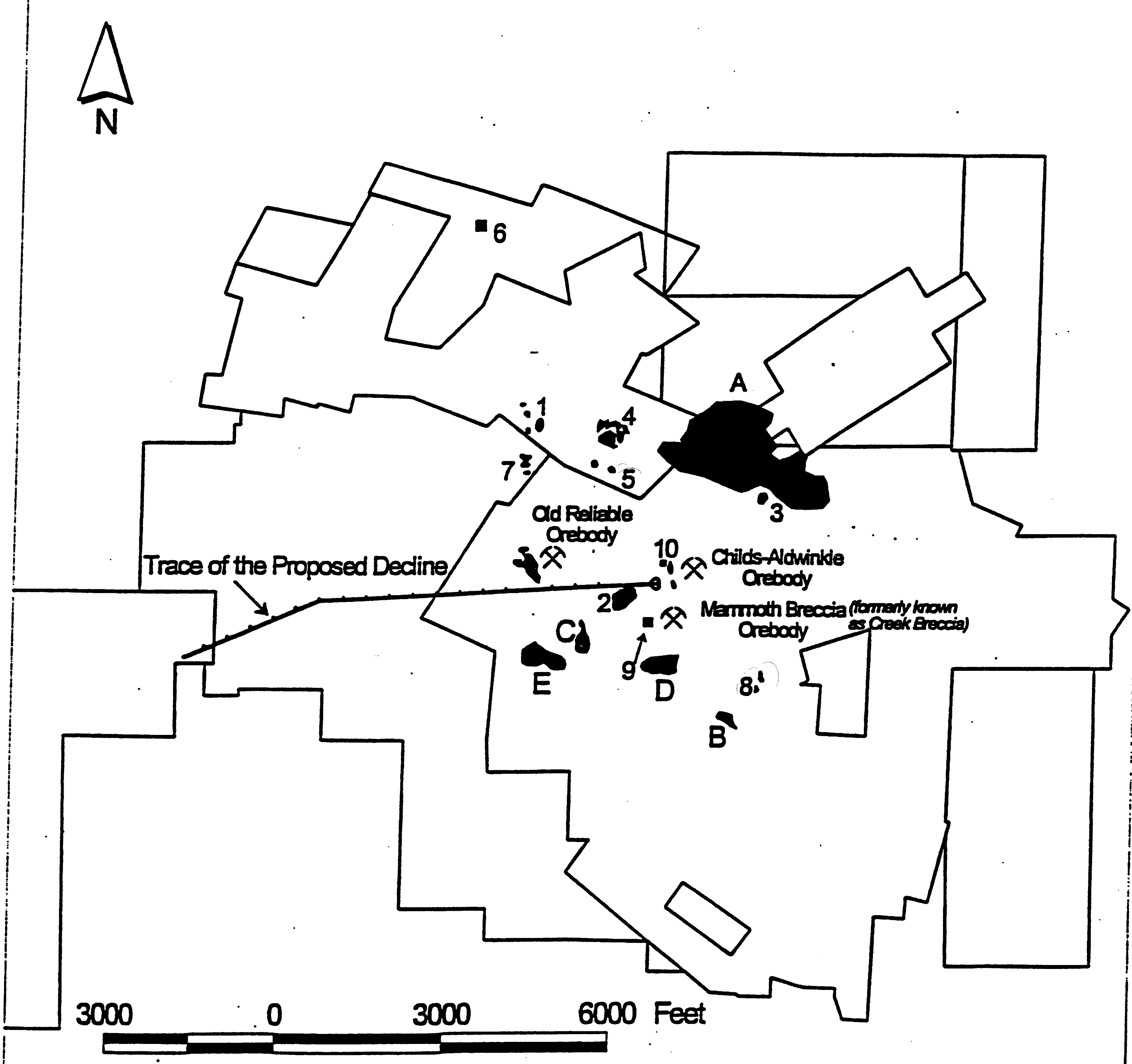
pr98-5

Copper Creek Project



Subject of this News Release

1 Globe - Glory Hole Breccia Complex
2 West Mammoth (formerly West Creek)
3 Marsha Breccia
4 Copper Giant Breccia
5 Copper Prince Breccia
6 Rum Target Area
7 Un Named Breccia
8 American Eagle Breccia
9 Keel Zone (vertically below Mammoth)
10 North Childs-Aldwinkle

Other Targets

A Buzzard
B HN-2
C Fred
D Charles
E Michael

September 1998

COPPER CREEK PERMITTING OVERVIEW

AMT (USA) Inc.'s (the Company) mission is to produce minerals from the Copper Creek project using state of the practice technologies and techniques. This mission applies to environmental permitting and directs the Company's permitting strategy. The objective, specifically, is to design a project that reduces the environmental impact of the project, thereby reducing the permitting burden on the project. This document outlines, in broad terms, the Company's permitting strategy, the major permitting requirements, and the Company's outside environmental permitting resources.

The Company is committed to developing, operating and ultimately closing a project that fully complies with all applicable environmental requirements and that takes advantage of the Company's resources (e.g., technical skills, land position, mineral resources) to achieve that objective as efficiently as practicable. In the development phase, this strategy involves designing a project that considers environmental permitting thresholds and does not trigger those thresholds if practicable. For example, the Company is focusing its mine development strategy on underground mining, thereby avoiding the extensive surface impacts associated with open-pit mining operations. To the extent that open-pit mining is contemplated, the mining is expected to remove an existing source of environmental contaminants that currently requires ongoing collection and management, thereby improving environmental conditions at the site.

Similarly, by locating necessary surface facilities on private land, the Company is optimistic that project approval from a federal land management agency, the Bureau of Land Management, will not be required. Facility locations also have been selected to avoid disturbance of streams and wetlands, which may require approval from the United States Army Corps of Engineers (COE). By proposing a project that does not require permits from these federal agencies, the Company expects to be able to permit the project without preparing an environmental impact statement (EIS) that can take from two to four years and can cost more than 1 million dollars to complete.

The project also does not involve the generation of materials that require extensive environmental review or management measures. For example, the Company proposes to return as much as one-half of all reject material from the on-site concentration process underground for use as backfill. The remaining material has been tested and has been determined to be suitable for use as road base. In addition, by transporting the concentrates off-site for smelting and refining at existing facilities, the Company is not required to permit those facilities as part of the project.

The most significant anticipated permitting requirements arise from the groundwater protection program administered by the State of Arizona. To obtain the needed State permit, additional data must be collected and engineering plans completed. Most of this work is now completed. The Company has initiated discussions with the State of Arizona's regulatory authorities to ensure that the required data is compiled in support of the Company's application and that the application satisfies the requirements of the regulatory program. The Company is confident that the State of Arizona's groundwater permit can be obtained prior to the scheduled start of construction in 1999.

The Company also is pursuing a phased permitting strategy that involves development of exploration facilities that will support mine development when the project is ready to proceed. For example, the Company is now securing permits to construct the exploration decline (Tunnel) from the surface to a point beneath the ore bodies. In fact, the plant facilities will not require a COE 404 permit. The Company strongly believes that a Determination of Non-Applicability will be obtained for the Tunnel, thus no Aquifer Protection Permit will be required. The Tunnel is designed and will be permitted in a manner that will enable it to support mine development and operations in the future. As a result, permitting of this facility is not expected to be a critical path item for ultimate mine start-up.

The Company has acquired a substantial land position in the vicinity of the project site which enables the Company to control the destiny of its project without the risk of opposition from or dependence upon third-party landowners. Site environmental surveys have been undertaken and no sensitive resources have been identified that would be expected to increase the time or cost required to obtain environmental permits for the project.

In addition to the Company's resources that are committed to successfully implementing the environmental strategy, the Company has retained an environmental attorney and environmental consulting firm both of whom specialize in and have extensive experience permitting mine projects. Both of these firms review the Company's strategy, plans and schedules. Oversight and suggestions from these firms will further ensure that the project permitting is completed in a timely and efficient manner. These two firms may be contacted for due diligence on the Company.

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AMT (USA) Inc.
Copper Creek Project - Optimization

The Copper Creek Project, owned by AMT (USA) Inc., is located in the Bunker Hill Mining District on the western slopes of the Galiuro Mountains, Pinal County, Arizona. It is situated in a rural desert area about 65 miles by road northeast of Tucson, and 12 air miles from BHP Copper's smelter at San Manuel. Copper Creek is connected by a ten mile graveled road to a paved highway and by a railroad at Mammoth, Arizona. The total Copper Creek Project covers approximately 6,000 acres.

As part of AMT's earn-in agreement with BHP Copper, AMT completed a positive feasibility study based on some 11 million tons of ore contained in three ore bodies. AMT plans to mine two of these ore bodies using underground techniques, and the third ore body by open pit mining. The projected mining rate from underground operations was 5,000 tons per day, with the ore being beneficiated using heavy media separation and then treated by flotation prior to toll smelting and refining. The open pit, which was to be mined simultaneously at 2,000 tons of ore per day, was to be heap leached and treated in a SX/EW plant at the site.

AMT submitted this study to BHP in October 1997 to complete its 50 percent earn-in requirement. However, since that time AMT has purchased the remaining 50 percent of BHP's interest in the property and has carried out both the optimization of the development plan for the project and further exploration to increase the resource base for the property.

The optimization of the feasibility study consisted of, firstly, revising the mining method for the Mammoth (formerly known as the Creek breccia) ore body, from long hole open stoping to a combination of long hole open stoping and cut and fill benching techniques. This change resulted in a better selective mining and helped increase the grade of the minable reserves, albeit for a somewhat reduced quantity of reserves. Secondly, open pit Old Reliable ore is now scheduled to be mined after the underground reserves are depleted, and this ore is to be processed using the flotation plant to be provided for the underground ore bodies. This will eliminate the capital cost of a heap leach and SX/EW plant which would have been otherwise required.

With continued exploration it has become clear that there exists additional resources on the property which, with further drilling, will be converted into reserves. Indeed, it is anticipated that some 10 to 12 million tons of additional reserves will be delineated over the next 12 months. The development plan for the Copper Creek Project assumes these additional reserves and, therefore, a mining rate of 7,500 tons per day for a ten year mine life has been incorporated into this current study.

The basic design criteria for the project remains similar to the one contained in the feasibility study of October 1997, except that no detail plan was prepared for the additional resources. Capital costs and unit cost projections are based on the detail work carried out for the proven reserves.

The resulting production rates, capital costs and operating cost information are attached herewith. Summarized project economics data follow hereunder:

Average annual copper production:	70 million pounds
By-products capital costs:	US$50 million
Cash operating costs net of credits:	$0.42/lb. copper

Project Economics

US$	***NPV @ 12% DCF***	***%***
Copper Price	***Million $***	***IRR***
1.00	50	32
0.90	33	24
0.80	22	20
0.75	15	17

AMT (USA) INC.

COPPER CREEK PROJECT
FEASIBILITY STUDY

VOLUME I

SUMMARY REPORT

October, 1997

EXECUTIVE SUMMARY

Economic evaluation of the Copper Creek Project was carried out in three phases. Phase I examined the technical and economic viability of mining the currently outlined mineable reserves in the Old Reliable (a surface deposit of leachable material), the Childs-Aldwinkle, and the Creek Breccias (shallow sulfide deposits), which total 11.4 million tons with an average grade of 1.3 percent copper. This phase culminated in the completion of a positive feasibility study for the mining of these deposits. Underground mining of the two shallow sulfide deposits will commence first, and open pit mining of the Old Reliable leachable material will begin at a later date.

The strong potential for continued exploration to yield additional breccia pipe reserves over the next four years led to the evaluations contained in Phase II. The Phase II evaluation assumes an increase in the shallow sulfide production rate and continuation of the leaching operation for an additional four years. A definitive feasibility study for Phase II will be carried out prior to making a decision to increase the rate of production.

Phase III is a preliminary evaluation of the much larger copper resource that occurs in the Lower Creek and American Eagle hybrid porphyry mineralization zones. These deposits are anticipated to be amenable to development and production at a much higher mining rate.

Phase I

Feasibility Study Results

Case 1: The Base Case

The Childs-Aldwinkle and Creek Breccia orebodies will be mined underground using blasthole open stoping with Load Haul Dump (LHD) equipment. The scheduled rate of underground ore production is 5,000 tons per day. Ore will be transported via the main underground conveyor to AMT's Ryland Ranch area for processing.

The Old Reliable deposit will be mined as an open pit using contract mining at the rate of 2,000 tons of ore per day. Mined ore will be transferred through an ore pass to the main underground conveyor for transport to the Ryland Ranch area for processing.

The Old Reliable operation is independent of either of the underground deposits.

The Childs-Aldwinkle and Creek Breccia ore will be processed through a heavy media separation (HMS) plant located at the Copper Creek site. The ores will be initially screened to minus 28 mesh. The plus 28 mesh material will be processed through the HMS plant. The HMS sink (concentrate) product will be processed along with the fines (minus 28 mesh) through a flotation concentrator plant located at the Copper Creek site. The copper concentrate will be transported via truck to BHP's San Manuel smelter for toll processing. The flotation concentrator will have a molybdenum recovery circuit, and by-product molybdenum will be packaged and sold. Half of the HMS float material will be sold as road bed material and the other half used for underground backfill. The Old Reliable ore will be leached on-site, and the pregnant leach solution processed through a solvent extraction plant on-site. The rich electrolyte solution will be transported via tanker truck for toll processing.

Case 2:

Case 2 is identical to Case 1 except that AMT will construct a mill at BHP's San Manuel complex, rather than at the Copper Creek site. The fines and HMS sink material will be transported via truck to AMT's mill at San Manuel and concentrated via flotation through the mill circuit. The mill circuit will have a molybdenum recovery circuit.

The key elements of the feasibility study are:

1. Mineable ore reserves are:

Orebody	Ore (million tons)	Copper (%)	Gold (oz/t)	Silver (oz/t)	Moly (%)	Equiv. Copper (%)
Childs-Aldwinkle	2.80	1.59	0.008	0.282	0.066	2.03
Creek Breccia	5.66	1.34	0.004	0.100	0.005	1.46
Old Reliable	2.90	0.93	Not recovered	Not recovered	Not recovered	0.93

The Childs-Aldwinkle also contains valuable by-product Rhenium (up to 0.11% in MoS_2 concentrate). At the Old Reliable the ore is processed by leaching and only copper will be recovered.

2. Estimated overall recoveries for various commodities are:

Copper	89.3%
Gold	65.0%
Silver	65.0%
Moly	87.0%
Rhenium	45.0%

3. The underground ore concentrate for shipment to the smelter will contain 41 percent copper.

4. The initial capital cost required for the leaching operation is estimated at $10 million. This capital will be internally funded, because the Old Reliable operation will be phased in at a later date, following the onset of production at the underground deposits. The capital costs required for the sulfide mining and processing are estimated at $40 million and $34 million for Case 1 and Case 2, respectively.

5. Average operating costs for the project are summarized below:

Leaching:	Mining ore	$1.06 per ton
	Mining Waste	$1.10 per ton
	Processing	$4.19 per ton of ore
	Gen. & Admin	$0.39 per ton of ore
Sulfide (Case 1)	Mining	$8.31* per ton of ore
	Processing	$2.61 per ton of ore
Sulfide (Case 2)	Mining	$8.28* per ton of ore
	Processing	$2.92 per ton of ore

** includes Gen. & Admin.*

6. The smelting and refining charges per ton of ore used in the economic analyses are:

Smelting	$2.23
Refining	$2.36
Refining Charges for Gold	$6.00 / ounce
Refining Charges for Silver	$0.40 / ounce

These charges are applicable to underground ore only.

7. The float material (reject) from the Heavy Media Separation plant will be produced at a rate of 4,150 tons per day or 1,514,750 tons per year. This material has been laboratory tested and found to be suitable for road building material (chip and seal). The Arizona Department of Highways has indicated that there is a shortage of this material for road building in the area. Quotations from two local contractors indicate that this material would sell at prices ranging from $1.80 per ton to $4.50 per ton. In the economic analyses it is assumed that half of this

material will be sold commercially at $2.00 per ton. The other half will be used to back fill the mined out areas.

8. Commodity prices used in the economic analyses are:

Copper	$1.00 per pound
Molybdenum	$3.50 per pound
Gold	$350.00 per ounce
Silver	$5.00 per ounce
Rhenium	$90.00 per pound

9. Economic analyses for the combined leachable and shallow sulfide deposits yield the following after tax results:

	Case 1	**Case 2**
NPV @12%	$15 million	$18 million
IRR	24%	27%
Cumulative CF	$50 million	$53 million
Cash cost	$0.53/lb	$0.54/lb
Payback	2.8 Years	2.6 Years

10. Sensitivity analyses were carried out showing the response of the project economics to variations in price, ore grade, operating costs, toll processing, and capital costs. Some of the results are summarized below:

	Case 1			Case 2		
	Copper Price	Operating Costs	Capital Costs	Copper Price	Operating Costs	Capital Costs
Net Present Value @ 12% Discount Rate ($million)						
-10%	5.2	19.3	18.6	8.3	22.4	21.1
Base Case	14.9	14.9	14.9	17.9	17.9	17.9
+10%	24.3	10.6	11.1	27.3	13.6	14.6
After Tax Internal Rate of Return (%)						
-10%	16.24	26.81	27.66	19.39	30.83	31.57
Base Case	23.56	23.56	23.56	27.27	27.27	27.27
+10%	30.16	20.33	20.02	34.39	23.83	23.58
Cumulative Cash Flow ($million)						
-10%	33.0	58.0	54.4	36.0	61.0	56.6
Base Case	50.3	50.3	50.3	53.1	53.1	53.1
+10%	66.8	42.5	45.8	69.5	45.4	49.4

Phase II

AMT believes that the Copper Creek property has tremendous upside exploration potential. A continuing strong exploration program over the next four years should succeed in delineating sufficient mineable reserves to increase the life of the leaching operation by an additional four years, and to increase the sulfide production rate to 10,000 tons per day starting in year three (2003). Current exploration has identified a number of promising drill targets. These targets will be tested in 1998 and are expected to increase the reserve base significantly. Successful reserve delineation and implementation of the Phase II production plan enhance greatly the project merit.

The projected Phase II economics are:

Production Life	10 years
NPV @ 12%	$73 million
IRR (after tax)	36%
Cumulative Cash Flow (A. T.)	$245 million
Cash Cost	$0.48 per pound of copper

Phase III

Current geological evidence from the Copper Creek system suggests the presence of multiple large (150 million to 300 million-ton) hybrid porphyry copper systems at a depth of approximately 2,000 feet below the surface. The data examined by AMT also indicate that a substantial portion of these systems have the potential for copper grades exceeding 0.9 percent.

The deep copper sulfide mineralization comprises coarse-grained, disseminated blebs and veins within the Lower Creek zone, and coarse-grained, chalcopyrite-bearing veins and segregations in the American Eagle system. Both the Lower Creek and American Eagle zones have similar mineralization and alteration characteristics, and there is a strong possibility that these two zones coalesce into a single large zone that contains some 300 million tons of ore grade material.

In the current feasibility evaluation it is assumed that approximately 60 percent of an estimated resource of 300 million tons grading 0.75 percent copper (180 million tons) is present at an average grade of 0.9 percent copper.

An economic analysis (Phase III) for mining a resource of 180 million tons at an average grade of 0.9 percent copper at a rate of 36,000 tons of ore per day, and using block cave mining, provides the following results and conclusions:

1. The orebody can be mined economically with block caving;

2. If the ore can be preconcentrated underground using a water cyclone system, with the reject material sent as backfill into the cave areas, the economic returns on a capital investment of $265 million would be an after tax NPV @12% of $105 million and an IRR of 18 percent.

3. If the total ore production of 36,000 tons per day is pumped as a slurry to the surface, the returns on the total capital investment of $305 million would be an after tax NPV @12% of $53 million and an IRR of 15 percent;

4. Both cashflow analyses strongly indicate that further exploration expenditures on the deep resources are warranted. Following successful exploratrion preparation of a detailed feasibility study should proceed (with the expectation of moving to the production phase), based on the potentially good returns exhibited by the deposit in this preliminary feasibility study.

Economic results (after tax) for all three phases are summarized below:

	Phase I			
	Case 1	**Case 2**	**Phase II**	**Phase III**
NPV @ 12% (Million)	$15	$18	$73	$105
IRR (%)	24	27	36	18
Cumulative CF (Million)	$50	$53	$245	$680
Cash Cost / lb	$0.53	$0.54	$0.48	$0.33

Environmental Permitting

As with all mining projects, AMT will require permits to comply with the regulatory requirements. The permitting process for the project has already commenced, and it is anticipated that the permits will be obtained in a timely manner to allow the construction of the project to proceed as scheduled.

However, there always remain risks inherent in each major environmental permit category. AMT has carried out a risk analysis to examine delays in obtaining major permits. The result of the analysis, "Risk Matrix for Environmental Permits, Copper Creek Project", is presented in Section 11 of this report. It is AMT's intent to construct the Copper Creek project in a manner that will minimize environmental disturbance. The project design parameters illustrate this commitment graphically and should smooth the way for effective permitting within a reasonable time frame.

The Feasibility Report contains five volumes:

Volume I Summary Report

Volume II Feasibility Study

Volume III Appendix A through G

- A: Variograms Used in Resource Study
- B: Australasian Code for Reporting
- C: Detailed Mining Cost Calculations
- D: Ground Stability Analysis for Childs-Aldwinkle Mine
- E: Ground Stability Analysis for Creek Breccia Mine
- F: Slope Stability Analysis Old Reliable Mine
- G: Slope Stability Analysis for the Proposed Old Reliable Mine Waste Dump

Volume IV Appendix H through L

- H: Metallurgical Testing on Copper Sulfide Resources of The Copper Creek Property
- I: Investigation Sink-Float (HMS) Testing on Copper Sulfide Resources of The Copper Creek Property
- J: Metallurgical Testing on Copper Sulfide Resources Using Preconcentration-Flotation Option
- K: Capital and Operating Cost Estimates Three Stage Crush/Heavy Media Plant
- L: Capital and Operating Cost Estimates Three Stage Crush/Heavy Media Plant (Appendix)

Volume V Appendix M through S

M: Capital and Operating Cost Estimates for Flotation Plant

N: Addendum to Capital and Operating Cost Estimates forFlotation Plant

O: Capital and Operating Cost Estimates Old Reliable SX/EW Plant

P: HMS Float Testing and Potential Market

Q: Environmental Report

R: Financial Analysis of AMT's Copper Creek Project

S: Application of the Cathodoluminescence (CL) Petrographic Technique to Exploration at the Copper Creek Project

These volumes are available in AMT's offices for review.

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1.0 INTRODUCTION

AMT (USA) Inc., a wholly owned subsidiary of AMT International Mining Corporation (AMT), a publicly traded Canadian company, is earning a fifty percent undivided interest in BHP Copper's mineral properties at Copper Creek. Copper Creek is a porphyry Copper-Molybdenum mineral center that hosts more than 250 mineralized breccia bodies, an unknown number of which are ore-bearing pipes. The property is located in the Bunker Hill Mining District on the western slopes of the Galiuro Mountains, Pinal County, Arizona. It is situated in a rural desert area about 65 miles by road northeast of Tucson and 12 air miles from BHP Copper's smelter at San Manuel. Copper Creek is connected by a 10 mile graveled road to a paved highway and a railroad at Mammoth, Arizona (Figure 1-1).

The total Copper Creek Project is comprised of five contiguous properties covering approximately 6,000 acres. These properties include the joint venture property with BHP, a joint venture property with Phelps-Dodge Corporation, a 100% AMT-owned staked federal claims property, a purchase option on a 780 acre homestead ranch property and a prospecting permit on state lands.

It is the joint venture property with BHP, which is the subject of the current feasibility study.

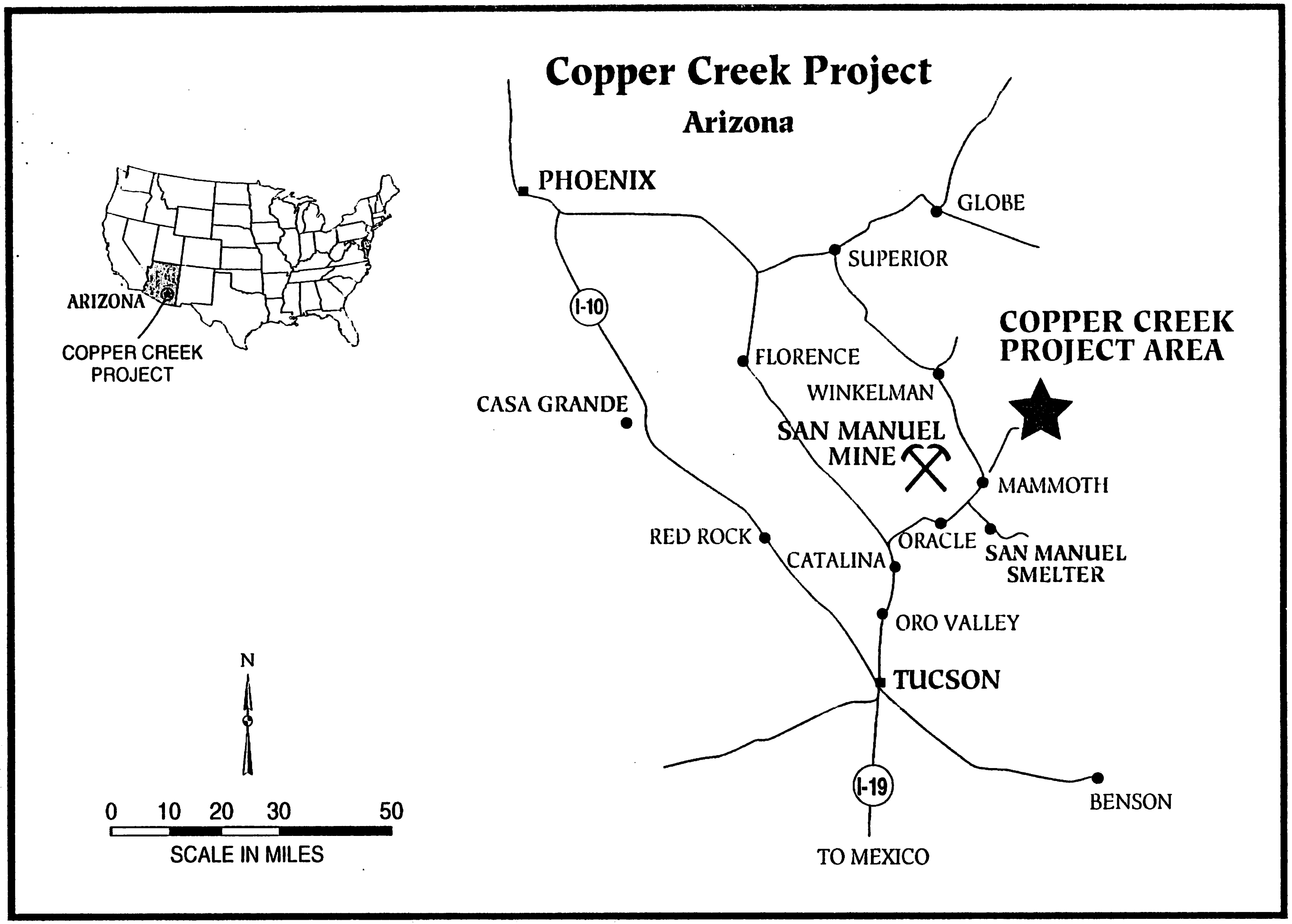
AMT's agreement with BHP requires it to spend US $3.0 million for exploration of the properties and to produce a feasibility study by February 1, 1998. AMT to date has spent more than $6.5 million in surface exploration, drilling to define reserves, and metallurgical test work. Preparation of this feasibility study is the final step for AMT to earn its interest in BHP's Copper Creek properties.

Although AMT has compiled most of this study, the following outside consultants have contributed to the design and cost estimates:

Mountain States R&D International	Metallurgical testing and flow sheet design.
The Winters Company	Processing, environmental permits and economic evaluations.
Western States Engineering	Engineering plans for the leaching project and heavy media separation plant, capital and operating cost estimates.
BLM Engineering	mine planning
Cella Barr Associates	roads, power, water
Water Management Consultants	water search, well field, regional water sampling
Golder Associates	underground rock mechanics
Westec	open pit and waste dump geotechnical review
Behre Dolbear	Mining, metallurgical and infrastructure review

Other consultants include Cella Barr Associates, Kilborn Inc., Redpath, Centennial Development Company, Henry Lebl (an independent underground mine design specialist) and others who have contributed to the evaluation of underground ventilation, the requirement for power and the surface infrastructure.

AMT PROPERTY LOCATION MAP



AMT INTERNATIONAL MINING CORPORATION

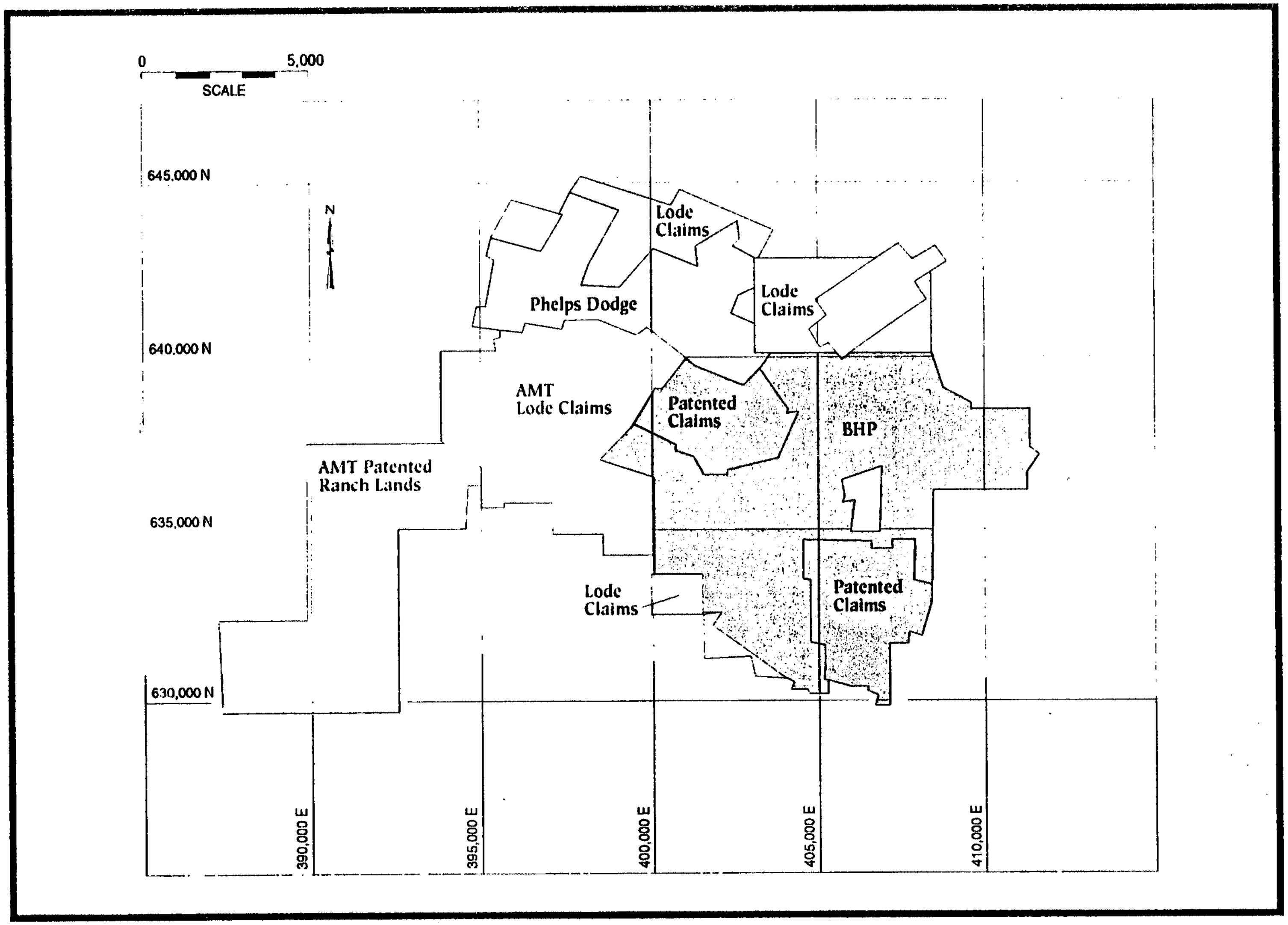
Figure 1-1

2.0 WORK BY AMT (USA) INC.

AMT commenced field investigations at Copper Creek in the spring of 1995. In conjunction with this work 48 lode claims were staked to cover open Federal land along the west side of BHP's claim group, and a prospecting permit was obtained for State land in the south half of Section 2 (Township 8 South, Range 18 East, Gila and Salt River Baseline and Meridian System). AMT negotiated an agreement to purchase the Ryland ranch (780 private acres), and it later executed an agreement with Phelps Dodge Exploration Corporation to acquire an interest in claims along the north side of the BHP Copper claim group (the Old C&A property; Figure 2-1).

AMT's geological mapping, geochemical sampling, and geophysical surveys are ongoing at Copper Creek, although the February 1, 1998 deadline to produce a feasibility study required AMT to concentrate the bulk of expenditures on drilling to define a minable reserve. Most of AMT's drilling has been directed toward definition of three pipe-like copper deposits: (1) the Old Reliable, (2) the Childs-Aldwinkle, and (3) the Creek. AMT has drilled 95,832 feet with diamond core drills and 33,629 feet with reverse circulation hammer drills in testing mineral occurrences on BHP Copper's claim group.

Copper Creek Project Property Map



AMT International Mining Corporation

Figure 2-1

3.0 REGIONAL GEOLOGY

Copper Creek is situated within the porphyry copper metallogenic province of the southwestern U.S. Basin and range topography is reflected in the north-northwesterly trending, volcanic-capped, Galiuro Mountain range, which rises above basin fills along the eastern side of the San Pedro Valley.

The San Manuel Mine exploits a major porphyry copper orebody in the foothills west of the San Pedro River graben. The San Manuel deposit was rotated by extensional tectonics during late Tertiary time, and the upper parts have been removed by erosion. In contrast, the porphyry copper system at Copper Creek (12 miles eastward) is upright, and only its upper parts have been removed by erosion.

At Copper Creek a granodioritic pluton of Laramide age and comagmatic porphyries intrude Cretaceous sediments and volcanic rocks, as well as older strata. The Laramide pluton appears to be localized by intersecting northwest and east-northeast trending crustal breaks.

4.0 GEOLOGY OF THE COPPER CREEK MINERAL DEPOSITS

Pipe-like breccia bodies form prominent outcrops at Copper Creek, where more than 150 have been mapped, and many others have been identified during reconnaissance exploration. Although these breccia bodies are found throughout the district, the majority cluster along two northwest-trending bands which are loci for multiple plug-like porphyry intrusions. Breccias in both of these N30°W-elongate clusters are mineralized. The most westerly alignment formed within volcanic walls, and breccia bodies there are pyritic at the present level of erosion. The eastern zone of northwesterly-aligned breccias extends through the center of the mineral district and hosts all of the known deposits with significant copper and molybdenum. These include the American Eagle pipe at the southeast end of the trend, the 'blind' Creek stockwork breccia, the Childs-Aldwinkle pipes, and the mineralized pipes on the Phelps Dodge claims (Copper Prince, Globe, and Copper Giant). This trend extends at least as far northwestward as the copper-mineralized Rum stock, a distance of more than 11,000 feet. The Old Reliable pipe is located somewhat west of the axis of these productive trends. However, it is among four pipes with copper-stained outcrops and northwest elongation that cropout in easterly alignment along the north side of Copper Creek. These pipes, from the Old Reliable on the west through the White Bear and Childs-Aldwinkle, to the Railroad pipe on the east span 4,000 feet, which is the minimum width of the productive trend at the latitude of Copper Creek.

5.0 RESOURCES AND RESERVES

5.1 OLD RELIABLE DEPOSIT

5.1.1 Deposit History and Previous Production

Government reports and records of prior operators, as well as AMT's various drilling programs, were used to generate a comprehensive database for geological modeling and resource evaluation at the Old Reliable deposit. A brief history of work at the Old Reliable follows.

Between 1908 and 1919, the Minnesota-Arizona Mining Company (later known as Copper State Mining Company) developed a small underground operation. Horizontal level development was driven from two portal sites at the '100 Level' (3835' elevation) and the '200 Level' (3735' elevation). A reported 700,000 pounds of copper were produced during this period.

In the early 1940's Siskon Corporation purchased the Old Reliable Mine. They drilled three underground holes from the 100' level.

In 1960, Bear Creek Mining Company (Kennecott) optioned the property from Siskon, including the areas surrounding the Old Reliable. Bear Creek drilled one deep angled hole beneath the Old Reliable (Cu-10) that failed to return a significant copper intercept.

Between 1968 and 1970 Occidental Minerals Corporation optioned the property from Siskon. As part of their work program, Occidental drilled six core holes from the surface and 40 short holes from both underground levels. In addition they washed and sampled walls of some parts of the underground entries.

In 1970 Ranchers Exploration and Development Company acquired the Old Reliable Mine. They drilled three core holes initially to confirm the presence and style of copper mineralization down to the 200 Level. Ranchers concluded that sufficient acid soluble copper was present in the upper levels of the deposit to justify an in-situ leaching operation.

In 1971 Newmont Exploration targeted one vertical diamond drill hole to explore for a deep mineral deposit below the Old Reliable as part of their regional deep drilling program. The hole failed to intersect the Old Reliable breccia pipe.

In late 1971 Ranchers joint venture partner, the Dupont Company, engineered a blast with 3,994,000 pounds of ANFO to effectively fracture the ground above the 200 Level in preparation for in-situ leaching.

Ranchers reportedly produced almost 11,000,000 pounds of copper during the period between 1973 and 1981.

5.1.2 AMT's Drilling Programs

AMT initially drilled the Old Reliable deposit in 1995 to determine the effectiveness of the Ranchers' leaching operation. The initial positive results led to two further drill programs, in 1996 and early 1997. AMT's drilling strategy for the Old Reliable was:

a) to determine the effect of the previous in-situ leaching on the copper distribution within the upper rubblized portions of the pipe.
b) to test the depth extent of the copper deposit and the distribution of newly recognized molybdenum mineralization.
c) to delineate the mineral deposit in preparation for a resource estimate and open pit mine plan.

5.1.3 Database

Pre-AMT drilling and sampling data are listed below:

Pre-AMT Drilling and Sampling Data

Data Type	Footage	Holes / Drifts	Data Source
Channel Samples 100 Level	1,701 ft	24 drifts	Copper State Mining
Channel Samples 200 Level	740 ft	5 drifts	Copper State Mining
U/G drill holes collared in 100 Level	5,249 ft	42 holes	Occidental Minerals (40) Ranchers (2)
U/G drill holes collared in 200 Level	2,304 ft	19 holes	Occidental Minerals
Raise samples	490 ft	2 walls	Copper State Mining
Surface drill holes	4,962 ft	8 holes	Occidental Minerals (6) Bear Creek (1) Ranchers (1) Newmont Exploration (1) *
Totals	**15,446 ft**		

* *the results of the Newmont core hole were not used by AMT.*

AMT drilling statistics for the Old Reliable are summarized below:

AMT Drilling Statistics for the Old Reliable

Year	Footage	# of Holes	Type of Drilling	Data Source
1995	3,239 ft	9	RC	AMT
1996	3,240 ft	7	RC	AMT
1996	2,388 ft	4	Core	AMT
1997	9,680 ft	16	RC	AMT
Totals	**18,547 ft**	**36**		

A total of **33,993 ft.** of drilling and sampling has been carried out to date at the Old Reliable deposit.

The total number of individual assays resulting from all data sources (pre-AMT and AMT) for four assay categories is summarized as follows:

Total Cu	4,041
Mo	1,717
Acid Soluble Cu	3,014
Cyanide Soluble Cu	1,373

Prior to deposit modeling and resource evaluation, AMT carried out a detailed statistical and spatial analysis of all available data to determine whether the pre-AMT data could be combined with AMT's recent drilling data to form a single database for use in all other work.

Basic statistics show a higher mean copper grade in the pre-AMT data set, owing to the very high density of the earlier sampling within high grade zones. AMT's drilling sampled a much broader area of the deposit, both laterally and vertically. AMT's drilling results verify the zones of high grade copper indicated by the earlier sampling.

The current geological understanding of the Old Reliable deposit indicates that the zones with higher grade copper are related to a chalcocite blanket that extends from above the 100 Level to below the 200 Level.

AMT's analysis concludes that the pre-AMT data can be integrated with the assay data generated from the recent AMT drilling programs. These data have been combined into one database for use in all further work.

During the deposit modeling stage, local areas deemed affected by the in-situ leaching were removed from the deposit model. These areas are all restricted to the upper portions of the deposit.

5.1.4 Specific Gravity

Specific gravity measurements were made on drill core samples taken from the Old Reliable. The average tonnage factor determined in this study is 12.8 ft^3/ton.

A lower density is expected within the zone of rubblization owing to post-blast open space development. For this reason AMT defined the zone of rubblization using the following method.

A 10 foot extension zone of influence surrounds the lateral extents of underground workings at the 200 and 100 levels. Surface mapping of lateral extents of the visibly shattered rock defines the upper zone of influence. A solid model was generated by linking these three perimeters together. All rock within this volume was assigned a lower density to account for an estimated 10% swell factor (tonnage factor of 14.1 ft^3/ton). Rocks outside of this volume were assigned the bulk tonnage factor of 12.8 ft^3/ton determined from the lab work.

5.1.5 Deposit Interpretation and Modeling

Upon completion of the last drilling program, AMT prepared the final geological model used in the resource estimate.

Cross sections, long sections and level plans were generated at a spacing of 50 feet. Separate geological interpretations were made on all three views. The breccia boundary and a ten foot composited assay cut-off of 0.2% Cu were the main criteria for defining the boundaries of the mineral deposit. These boundaries were digitized into the computer system and linked together to form a 3D solid model.

The results of the interpretation and modeling work define two distinct mineralized zones, referred to as the Upper and Lower zones. The interface between these two zones is generally coincident with the transitional boundary from mixed oxide and finely disseminated chalcocite grains to dominantly chalcocite coatings on pyrite and chalcopyrite.

Copper within the smaller Upper zone is characterized by much more erratic geometry, compared with that of the larger Lower zone. AMT interprets this feature as an artifact of the previous in-situ leach mining. Within the Upper zone, sub-vertical volumes with distinctly lower grade are observed in several places and are interpreted as solution channels that resulted from the leaching. AMT's drilling also confirmed that only small remnants of Cu oxide minerals remain in the upper part of the deposit.

The Upper and Lower zone models were treated independently of one another in the final resource estimation.

Two views of the Old Reliable deposit are shown in Figure 5.1-1.

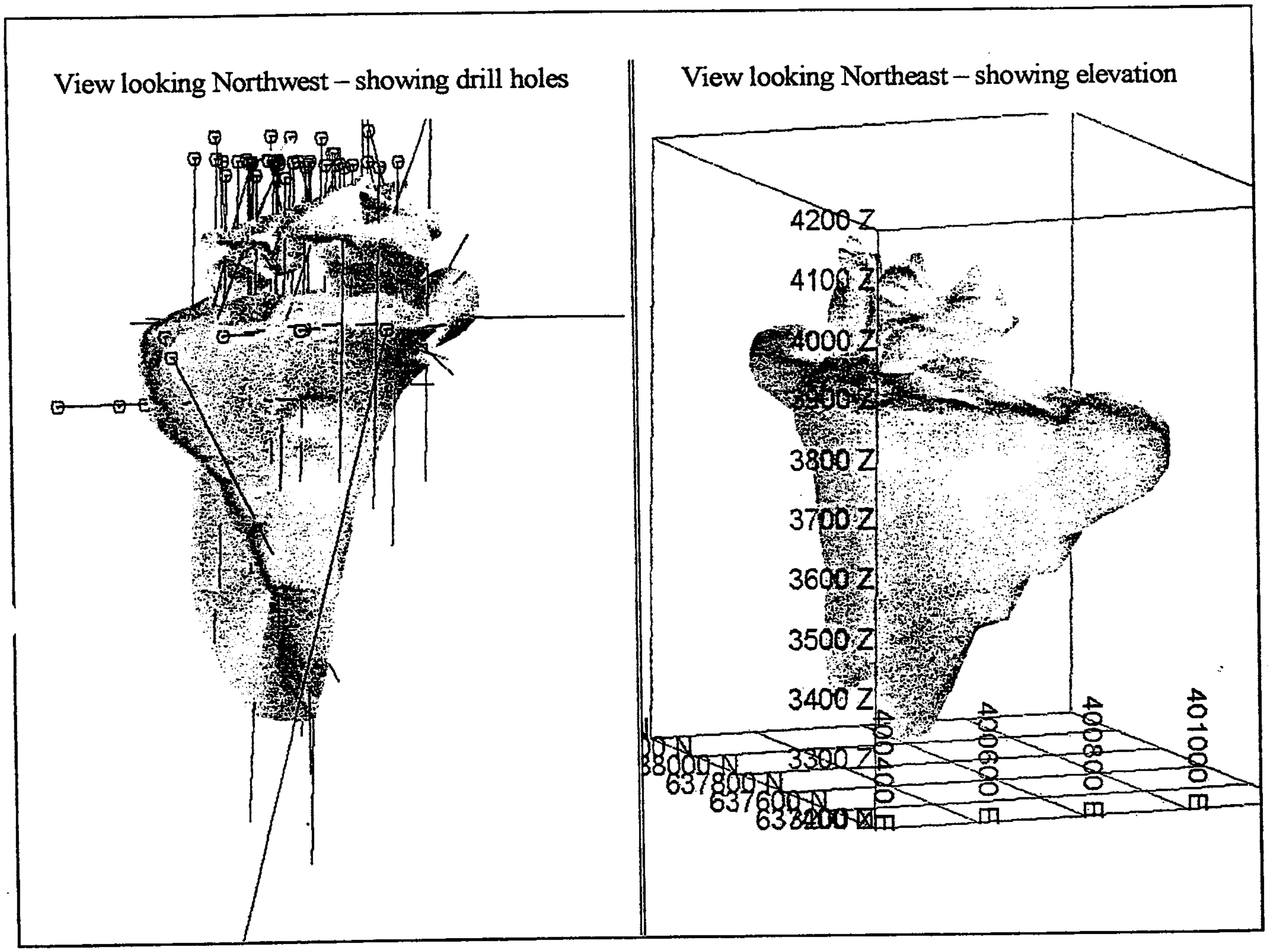
5.1.6 Population Statistics

The two solid models were used to constrain the assay data for all further processing. A new database was created that contains only the assay data inside each model. All sample data falling within the confines of each solid model were composited over ten foot down-hole intervals. In this process a valid composite was considered to be a minimum of 7.5 ft. (75% of the overall length). Basic statistics were performed on both data sets and are shown in the table below.

Basic Statistics for %Cu Composites in Upper and Lower Zones - Old Reliable

Data Set	Number of Composites	Min.	Max.	Mean	Variance	Coef. of Variation
Inside Upper Zone	220	0.04	11.96	0.85	2.66	1.913
Inside Lower Zone	1,773	0.02	8.43	0.95	0.91	1.007

Figure 5.1-1 Old Reliable Views



The Old Reliable deposit has been defined by drilling and underground sampling. A total of 33,993 feet of samples have been collected.

The 'Upper' zone model of the Old Reliable deposit is shown above in green, whereas the 'Lower' zone model is magenta.

A small outlier population occurs in the Cu assay data for both the Upper and Lower zones. AMT does not believe it necessary to 'cut' or 'cap' any of the assays within the population, since the outliers represent less than 5 % of the overall sample set.

5.1.7 Geostatistics

A full set of directional variograms were computed and evaluated for both the Upper and Lower zone data sets. In addition, the average variogram (isotropic) was computed and used to compare against results from the directional sector variograms (anisotropic).

The criteria used to select the 'best' variogram were a combination of:

- sill approximation closest to or below the population variance.
- variogram most closely related to the shape of the 'spherical' model.
- sufficient number of pairs used at each significant lag.

The results of the variography for the Upper zone indicate that the direction of best continuity is along azimuth 325°, plunging -70°. This coincides in general with the long axis of the overall zone.

The variogram model determined for the Upper zone is 'spherical' with a nugget (C_0)= 0.618, sill (C_1) = 2.105, and a range (A_1) = 40'.

The results of the variography for the Lower zone also indicate that the direction of best continuity is along azimuth 325°, plunging -70°.

The variogram model determined for the Lower zone is 'spherical' with a nugget (C_0)= 0.116, sill (C_1) = 0.782, and a range (A_1) = 123'.

The results of the cross validation exercise for both the Upper and Lower zones give favorable statistical results and justify the use of the individual variograms in subsequent block model grade estimation using ordinary kriging.

5.1.8 Block Modeling and Resource Estimation

A block model was created by AMT in-house using the SURPAC 2000 mining software program. The model space was made large enough to enclose the entire mineralized zone as defined by the two solid models, and to accommodate the extents of various open-pit mining scenarios.

Once the block model space was defined, various constraints were used to assign key attributes to blocks within the model.

Surface topography was generated by the creation of a digital terrain model (DTM). AMT's topographic maps over much of the Copper Creek property are accurate to 10 feet (Newmont 1969). These maps were digitized and DTM's created over all of the primary study areas. The terraced surface area above the Old Reliable was surveyed by AMT using a GPS instrument. These data were leveled using known survey stations and the surveyed drill collars. The GPS data were merged with the original topography, and a DTM of the area was produced. This DTM was used to define the blocks of 'air' contained in the block model. A tonnage factor of zero was assigned to all blocks of air.

In the next pass all blocks in the model falling below the surface of the DTM were assigned a tonnage factor of 12.8 ft^3/ton and a rock code of 'host'. A solid model created to define the extent of the zone of rubblization was used to assign the tonnage factor of 14.1 ft^3/ton to those blocks inside it. This value is based on the assumption that a swell factor of 10% can be used for this material.

The Upper and Lower solid models (3DM) were used to assign a zone code to each block inside as either 'upper' or 'lower'.

By default, all grade fields in the model are initially set to a value of -9.

A check was made by evaluating the tonnage contained within the Upper and Lower zones of the block model for comparison with the individual solid models that were used to define these zones in the model. The match was remarkably close and emphasizes the benefit of the sub-blocking feature in resolving accurate tonnage.

Ordinary kriging was used to estimate the copper grades within the constraints of each mineralized zone. Independent kriging runs were made using the variogram models, search radii, and anisotropy factors listed in the preceding section. The input Cu grade data supplied to each kriging run were the 10 foot composites wholly contained within each model.

Upon the completion of grade estimation, the block model was cut into level plans every 40 feet. The estimated grades were plotted for each block and sub-block for each level. In addition, drill hole and other sample composites used in the estimation process were plotted on top of the kriged estimates. These drawings were carefully studied to assure that no erroneous results had become part of the estimated resource. The zones of higher grade, particularly in the areas of previous mining, were inspected to ensure that the estimated grade had not been 'smeared' over larger areas, either laterally or vertically.

Grade trends were studied by the AMT geologist most familiar with the deposit. The grade estimation defined geologically verifiable trends within the mineralized body.

The tables below list the results of AMT's resource estimate for copper in both zones, and for the total Old Reliable Deposit.

Upper Zone Resources - Old Reliable

Cu %	Tons	Average Cu %
0.00 - 0.20	10,284	0.16
0.20 - 0.50	168,935	0.33
0.50 - 1.00	38,928	0.77
1.00 - 2.00	77,902	1.42
Above 2.00	38,369	2.69
Total	**334,420**	**0.90**

Lower Zone Resources - Old Reliable

Cu %	Tons	Average Cu %
0.00 - 0.20	74,698	0.14
0.20 - 0.50	1,158,657	0.37
0.50 - 1.00	1,397,159	0.71
1.00 - 2.00	629,779	1.36
Above 2.00	163,306	2.49
Total	**3,423,600**	**0.79**

Total Resources - Old Reliable

Cu %	Tons	Average Cu %
0.00 - 0.20	84,982	0.14
0.20 - 0.50	1,327,593	0.37
0.50 - 1.00	1,436,088	0.71
1.00 - 2.00	707,654	1.37
Above 2.00	201,647	2.53
Total	**3,758,020**	**0.80**

5.1.9 Classification of Mineral Resources

AMT's model of the Old Reliable deposit used geological boundaries that were clearly established from the interpretation of the geological database. Assay data, which is sufficiently closely spaced, demonstrates good copper grade continuity within the deposit.

AMT has elected to use the guidelines of the 'Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves' (AusIMM) 1996, for the purpose of mineral resource classification.

Based on both geological evidence and the definitions set out in the code, AMT classifies the copper resources of the Old Reliable deposit as follows:

Classification	Tons	Av. Cu Grade (%)
Measured	3,758,000	0.80
Total	3,758,000	0.80

The term '<u>Measured Mineral Resource</u>' means a Mineral Resource intersected and tested by drill holes, underground openings or other sampling procedures at locations which are spaced closely enough to confirm continuity and where geoscientific data are reliably known. A Measured Mineral Resource estimate will be based on a substantial amount of reliable data, interpretation and evaluation of which allows a clear determination to be made of shapes, sizes, densities and grades. (AusIMM) 1996

It is important to note that the mineral resources as stated in the tables above are wholly based on the current geological model for the Old Reliable. There is geological evidence that suggests extensions of mineralization both laterally (northwest and southeast) and at depth. These extension zones have not yet been adequately investigated by AMT, and as a result estimates of additional resources are not included in this report.

Drill hole intercepts which reflect these potential extension zones are listed in the table below.

Intersections in Indicative of Potential Extension Zones – Old Reliable Deposit

Area	Drill Hole	Length (feet)	Av. Cu Grade (%)
Northwest	EH11	75	0.84
Northwest	EH22	75	1.88
Northwest	OR_4R	180	0.61
Northwest	OR_8R	70	0.88
Northwest	UG7	100	0.44
Northwest	UG8	174	0.65
Southeast	OR_5R	140	0.64
Southeast	OR4	72	0.81
Southeast	OR18	67	0.21
Southeast	EH7	70	0.21
Southeast	SP1	510	0.59

5.1.10 Mineable Reserves

An ultimate open pit was designed to mine the Old Reliable deposit. The main design criteria call for 40-foot benches to be mined using mobile equipment. Overall pit wall slope varies from about 45 degrees to 57 degrees with an average slope of about 52 degrees. The ultimate haul ramp has about a 10 percent grade, although the ramp is steeper locally. The pit bottom elevation is 3,520 feet above sea level.

The mineable reserves within this pit are calculated to be:

Ore	2,900,000 tons
Grade	0.93 percent copper
Waste	9,601,800 tons
Stripping Ratio	3.31 tons of waste for each ton of ore

Total ore recovery from the resource base is 77 percent.

In keeping with the guidelines of the 'Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves' (AusIMM) 1996 for use in ore reserve classification, AMT classifies 100% of the ore reserve for the Old Reliable as 'Proved'.

> *The term '<u>Proved Ore Reserve</u>' means an Ore Reserve stated in terms of mineable tons/volume and grades where the corresponding Identified Mineral Resource has been defined in three dimensions by excavation or drilling (including minor extensions beyond actual openings and drill holes), and where the geological factors that limit the ore body are known with sufficient confidence that the Mineral Resource is categorised as 'Measured'. (AusIMM) 1996*

5.2 CHILDS-ALDWINKLE DEPOSIT

5.2.1 Deposit History and Previous Production

The original discovery of molybdenite beneath Childs-Aldwinkle breccia pipe outcrops was in 1915.

During 1917-1918 the claims were partially developed for production, and they were patented in 1919.

In 1933 Arizona Molybdenum Corporation acquired the property, sank a winze, and proceeded to develop the molybdenite orebody to 520 feet below the main haulage level.

About 329,000 tons were milled on site between 1933 and 1938.

At some time prior to 1957, the Childs-Aldwinkle winze was extended to 680 feet below the haulage adit, the 680 level was developed, and six short holes were drilled there by Inspiration Consolidated Copper Company.

Various companies worked the mine again between 1957 and 1965.

In 1966 Newmont Exploration Limited and co-venturer Magma Copper Company (80.3 percent owned by Newmont) optioned the Childs-Aldwinkle patented claims. Humble Oil (Exxon) joined Magma and Newmont in 1971. Humble Oil assumed project management during 1971-1972. Humble-Newmont drill hole HN-12 discovered the "North Finger" of the Childs-Aldwinkle pipe.

5.2.2 AMT's Drilling Programs

AMT drilled 37 core holes between March and September 1996 to delineate the Childs-Aldwinkle deposit. This drilling was planned to intersect a vertical plane through the deposit on a regular grid spacing of 100' along strike and 200' vertically.

Five reverse circulation holes were drilled into the upper portions of the North Finger of the breccia pipe to provide information on vertical grade continuity within the high grade zone. Three reverse circulation holes tested peripheral ground.

5.2.3 Database

Pre-AMT drill holes that have been incorporated into the current database are summarized below.

Pre-AMT Drill Holes Incorporated into the Current Database

Data Type	Footage	# of Holes	Data Source
Underground drilling	746	6	Inspiration Consolidated Copper Co.
Surface drilling	6,133	4	Newmont
Surface drilling	5,405	2	Exxon
Surface drilling	1,670	2	Magma
Total	**13,954**	**14**	

AMT's drilling at the Childs-Aldwinkle deposit is summarized as follows.

AMT's Drilling at the Childs-Aldwinkle Deposit

Type of Drilling	Footage	# of Holes
Reverse Circulation	3,350	8
Core	40,106	37
Total	**43,456**	**45**

Information from a total of **57,410 ft.** of drilling in **59** drill holes is incorporated into AMT's database for purposes of resource calculation.

The totals of individual assays in four assay categories are:

Total Cu	2,573
Mo	2,081
Au	284
Ag	314

5.2.4 Specific Gravity

Specific gravity was determined on core from two drill holes (Ca 34+4 and CaTech). The mean calculated tonnage factor of forty boxes of core representing 359 feet of well mineralized breccia is 12 ft^3/ton.

5.2.5 Deposit Interpretation and Modeling

Upon completion of AMT's drilling program at Childs-Aldwinkle cross-sections and level plans were created at regular increments through the mineralized zones (every 50ft. in section and 25ft. intervals for plans). An initial geological interpretation was made on cross-section to define the limits of mineralization. This interpretation is based on a combination of geology and an equivalent copper grade boundary.

The equivalent copper grade is based on copper and molybdenum only. In computing a value for equivalent copper (Eq Cu) AMT assumed the price of copper at $1.00/lb. and the price of molybdenum of $3.45/lb.. A separate field was created in the assay database to store these values.

The interpretations are largely based on the boundaries of the breccia pipe. These boundaries are well defined by the current density of drilling. Additional consideration is given to certain areas within the overall deposit where elevated Mo values do not appear to be strictly confined to the primary breccia pipe. Therefore, both breccia boundaries and a threshold of 0.5% Eq Cu (25ft. composites) are used to generate the overall shape and extents of the Childs-Aldwinkle deposit model.

These boundaries were digitized into the computer system and linked together to form a single 3D solid model. Horizontal slices were cut through this model at regular 25ft. increments. The geology and 25ft. Eq Cu composites were plotted with each respective model slice.

Adjustments to the external shape of the model were made in areas where necessary to constrain the boundaries more closely to the geology and composite grade threshold.

The refined boundaries (outlines on levels) were linked together to form a new solid model. The model is terminated at an elevation of 2800 ft., since mineralization below this level is defined currently by a single drill hole.

This 3D solid model was used in all further processing as a 'constraint' for the data selections and to contain block model boundaries. This ensures that no information outside of the interpreted deposit limits is used in the estimation of mineral resources.

Two views of the Childs-Aldwinkle deposit are shown in Figure 5.2-1.

5.2.6 Deposit Population Statistics

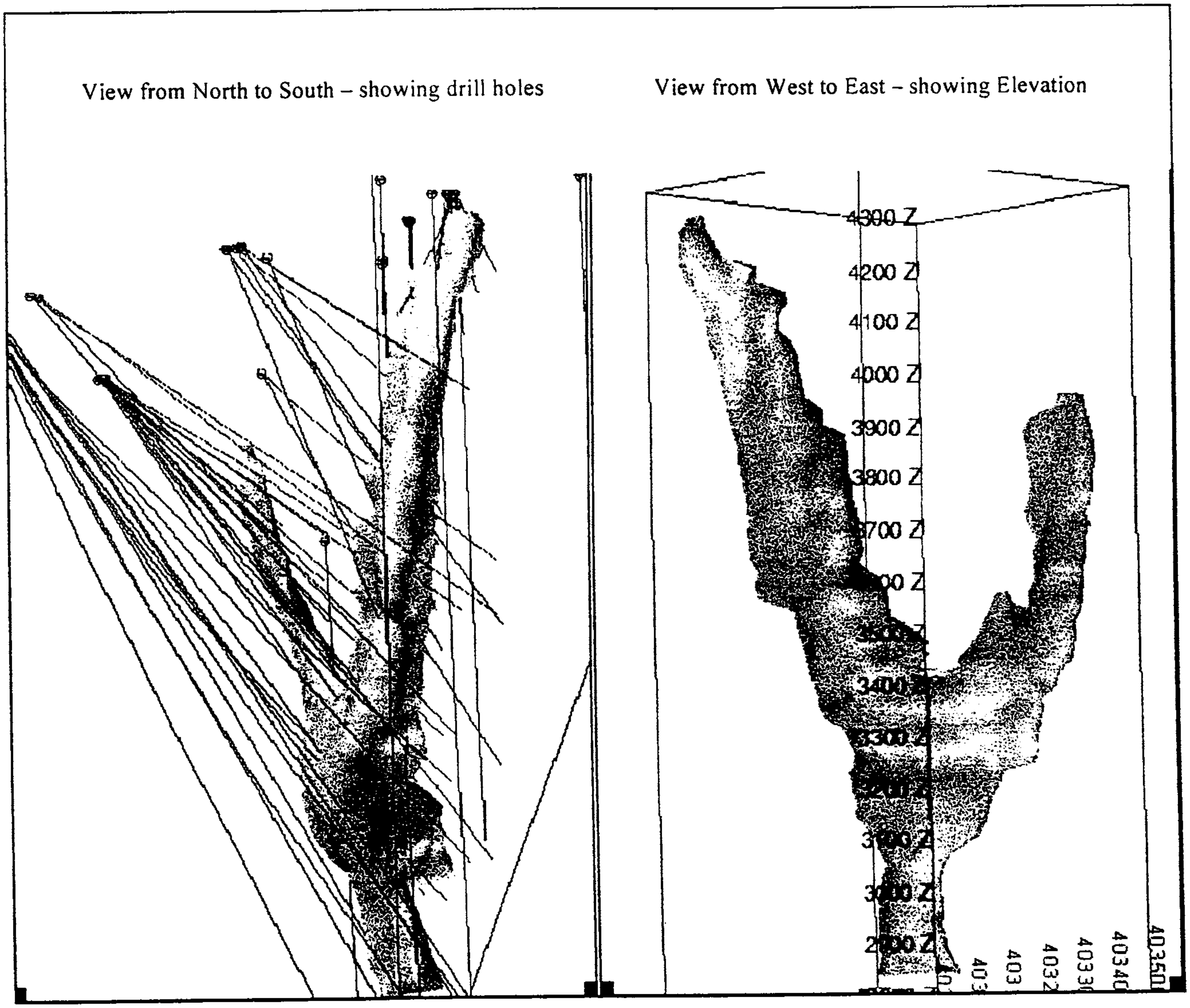
The entire drill hole assay database was composited (de-composited) to one foot intervals. All drill holes were intersected with the solid model. Results of this procedure identify the exact intercept(s) in all holes that penetrate the solid model. These intercepts were used to create a new database consisting of only the one foot composites contained entirely within the interpreted deposit volume. These data were then re-composited to 25ft. down hole intervals wholly contained within the solid model. A valid composite was considered to be a minimum of 18.75ft. (75% of full length). This final database was used in all further resource evaluation procedures.

Basic population statistics of the 25ft. assay composites inside the model are provided in the table below.

Basic Statistics for Copper & Molybdenum Composites Inside Model

Population	Number of Composites	Min.	Max.	Mean	Variance	Coeff. of Variation
Copper	230	0.13	7.92	1.92	2.41	0.81
Molybdenum	165	0.002	1.039	0.065	0.015	1.89

Figure 5.2- 1 Views of the Childs-Aldwinkle



The Childs-Aldwinkle deposit has been defined by 59 drill holes. The total drill footage is 57,410 feet.

Measured resources for the Childs-Aldwinkle deposit lie between elevation 4,750 and 2800 feet above mean sea level.

Both copper and molybdenum populations show log normal distributions, with only a relatively small number of higher grade outliers. AMT believes that 'cutting' or 'capping' of the high grade outliers is not necessary for the resource evaluation.

The table below demonstrates the range of average gold and silver grades within different sample populations. This analysis demonstrates the insensitive nature of the precious metal average grade. The average grade may be interpreted as a background value for the Childs-Aldwinkle deposit.

Precious Metal Statistics

Metal	# of samples	Av. Grade	Comments
Au – inside	234	**0.008 opt**	samples distributed inside 3D model
Au – overall	284	0.007 opt	samples inside and outside 3D model
Au comp*	44	0.007 opt	weighted by composite length
Ag – inside	260	**0.282 opt**	samples distributed inside 3D model
Ag – overall	314	0.245 opt	samples inside and outside 3D model
Ag comp*	45	0.221 opt	weighted by composite length

*note: Composite samples assayed in the lab were of varying lengths (from 14' to 70'). The average grade values above have been weighted by length.

Geostatistical continuity for gold and silver mineralization was not established, and a rigorous resource estimation for gold and silver was not undertaken.

AMT believes that precious metals contained within the Childs-Aldwinkle deposit will average 0.008 opt gold and 0.282 opt silver.

5.2.7 Geostatistics

A full set of directional variograms was computed and evaluated for both the copper and molybdenum composite data. In addition, the average variogram (isotropic) was computed and used for comparison against all directional sector variograms (anisotropic).

The criteria used to select the 'best' variogram were a combination of:

- sill approximation closest to or below the population variance.
- variogram most closely related to the shape of the 'spherical' model.
- sufficient number of pairs used at each significant lag.

The results of the variography for copper indicate that there is no preferred direction of continuity. The average variogram (isotropic) was interpreted to give the best grade continuity.

The variogram model determined for copper is 'spherical' with a nugget (C_0) = 0.636, sill (C_1) = 1.46, and a range (A_1) = 216'.

The results of the variography for molybdenum also indicate that there is no preferred direction of continuity. The average variogram (isotropic) was interpreted to give the best grade continuity.

The variogram model determined for molybdenum is 'spherical' with a nugget (C_0) = 0.003, sill (C_1) = 0.021, and a range (A_1) = 153'.

The results of the cross validation exercise for copper and molybdenum give favorable statistical results and justify the use of these individual variograms in the subsequent block model grade estimation using ordinary kriging.

5.2.8 Block Modeling and Resource Estimation

A block model for the Childs-Aldwinkle deposit was created by AMT in-house using the SURPAC 2000 mining software program.

Once the block model space was defined, various constraints were used to assign key attributes to blocks within the model.

Surface topography was generated by the creation of a digital terrain model (DTM). AMT's topographic maps over much of the Copper Creek property are accurate to 10 feet (Newmont 1969). These maps have been digitized and DTM's created over all of the primary study areas. The DTM was used to define the blocks of 'air' contained in the block model. A tonnage factor of zero was then assigned to all blocks of air.

In the next pass all blocks in the model falling below the surface of the DTM were assigned a tonnage factor of 12.0 ft^3/ton and a rock code of 'host'.

The solid model (3DM) was used to assign a zone code to each block inside called 'ore'.

By default, all grade fields in the model are initially set to a value of -9.

A check was made by evaluating the tonnage contained within the block model for comparison with the volume of the original solid model. The match was remarkably close and emphasizes the benefit of the sub-blocking feature in resolving accurate tonnage.

Ordinary kriging was used to estimate the copper and molybdenum grades within the constraint of the mineralized zone. Independent kriging runs were made for each metal. The input copper and molybdenum grade data supplied to each kriging run were the 25ft. composites wholly contained within the solid model. After the grade estimation was complete each block was assigned a computed Eq Cu grade value for checking purposes. Eq Cu was calculated using a copper price of $1.00/lb. and a molybdenum price of $3.45/lb.

The block model was cut at every 25ft. level. The computed Eq Cu grades were plotted for each block and sub-block. In addition, the drill hole composites (Eq Cu grade) were plotted on top of the computed Eq Cu block entries. These drawings were carefully studied to ensure that no erroneous results became part of the estimated resource. The zones of higher grade, particularly in the upper parts of the North Finger, were inspected to ensure that the estimated grade was not 'smeared' over larger areas, either laterally or vertically.

Grade trends were studied by the AMT geologist most familiar with this deposit. The grade estimation defined geologically verifiable trends within the mineralized body.

The tables below list the results of AMT's resource estimates for copper and molybdenum in the Childs-Aldwinkle deposit to an elevation of 2,800ft.

Copper Resources - Childs-Aldwinkle Deposit

Cu %	Tons	Average Cu %
0.00 - 0.75	458,332	0.56
0.75 - 1.50	1,371,414	1.17
1.50 - 2.50	730,303	1.87
Above 2.50	359,862	3.69
Total	**2,919,911**	**1.56**

Molybdenum Resources - Childs-Aldwinkle Deposit

Mo %	Tons	Average Mo %
0.00 - 0.05	1,541,498	0.029
0.05 - 0.10	689,776	0.069
0.10 - 0.20	426,105	0.137
Above 0.20	108,072	0.297
Total	**2,765,451**	**0.066**

5.2.9 Classification of Mineral Resources

AMT's interpretation of the Childs-Aldwinkle deposit used strict geological controls to define the boundaries of the deposit. The density of the drilling data within the deposit is sufficient to give a high level of confidence in the definition of the 3D shapes during the deposit modeling procedure. Good grade continuity is apparent in the cross sections through the deposit.

AMT used the guidelines set out in the 'Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves' (AusIMM) 1996 for purposes of mineral resource classification.

Based on the geological information and interpretations and using the definitions set out in the code guidelines, AMT classifies the copper resources of the Childs-Aldwinkle deposit as follows:

Classification	Tons	Av. Cu Grade (%)
Measured	2,919,900	1.56
Total	2,919,900	1.56

AMT classifies the molybdenum resources of the Childs-Aldwinkle deposit as follows:

Classification	Tons	Av. Mo Grade (%)
Measured	2,765,500	0.066
Total	2,765,500	0.066

The term '<u>Measured Mineral Resource</u>' means a Mineral Resource intersected and tested by drill holes, underground openings or other sampling procedures at locations which are spaced closely enough to confirm continuity and where geoscientific data are reliably known. A Measured Mineral Resource estimate will be based on a substantial amount of reliable data, interpretation and evaluation of which allows a clear determination to be made of shapes, sizes, densities and grades. (AusIMM) 1996

It is again important to note that the mineral resources as stated in the tables above are wholly based on the current geological model for the Childs-Aldwinkle deposit to an elevation of 2,800 feet above mean sea level. There is geological evidence and assay data from several deep intersections that suggest significant extensions of mineralization at depth. These extension zones have not yet been adequately investigated by AMT, and estimates of additional resources are not included in this report.

The Childs-Aldwinkle breccia has four drill holes outside or below the 2,800 ft. level which indicate potential expansion to the system. The table below lists these intercepts.

Mineralized Drill Intercepts Outside the Current Resource – Childs-Aldwinkle Deposit

Area	Drill Hole	Length (feet)	Av. Cu Grade (%)
Below 2800	Ca28+3a	180	0.46
Below 2800	Ca28+4	180	1.40
Below 2800	Ca30+4	200	0.39
Below 2800	Ca32+5	130	0.81

In addition, a small ten ft. diameter breccia immediately north of the North Finger of the Childs-Aldwinkle deposit suggest additional exploration potential for the shallower system. Drilling results from the 'Donut breccia' south of the South Finger returned grades on the order of 0.4 – 0.5% copper. A connection with this breccia may indicate additional potential to the southwest.

5.2.10 Mineable Reserves

The Childs-Aldwinkle deposit will be mined using underground blasthole open stoping with Load Haul Dump (LHD) equipment. The blasthole stoping will use five inch diameter blastholes, with sublevels located at 150 feet intervals connected by a spiral ramp located in the footwall of the ore zones. Average Childs-Aldwinkle stope dimensions will be 100 feet long, 60 feet wide, and 150 feet in height. Mineable diluted reserves calculated for the Childs-Aldwinkle deposit are:

Ore	2,795,000 tons
Grade	1.59 percent copper

The undiluted ore reserve recovery is 85 percent of the resource base.

In keeping with the guidelines of the 'Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves' (AusIMM) 1996 for use in ore reserve classification, AMT classifies 100% of the ore reserve for the Childs-Aldwinkle deposit as 'Proved'.

> *The term '<u>Proved Ore Reserve</u>' means an Ore Reserve stated in terms of mineable tons/volume and grades where the corresponding Identified Mineral Resource has been defined in three dimensions by excavation or drilling (including minor extensions beyond actual openings and drill holes), and where the geological factors that limit the ore body are known with sufficient confidence that the Mineral Resource is categorised as 'Measured'. (AusIMM) 1996*

5.3 CREEK BRECCIA DEPOSIT

5.3.1 Deposit History and Previous Production

Between 1976 and 1986 the Newmont-Exxon (NE) joint venture drilled two core holes (NE-6 and NE-10) south of the Childs-Aldwinkle deposit as part of their exploration program for deep porphyry style copper deposits. These holes were collared south of Copper Creek, and both intersected copper mineralization at depth. NE-10 also intersected strong copper mineralization at shallow depth, beginning 180ft. down the hole. The shallow mineralization is related to a breccia zone and represented the initial discovery of what AMT now calls the 'Creek Breccia'.

5.3.2 AMT's Drilling Programs

AMT carried out an extensive diamond drilling program between late 1996 and early 1997 to delineate the Creek Breccia deposit.

The initial holes in AMT's 1996 drilling program were designed to follow up the original mineralized intercept in NE-10 (180ft. to 790ft. down the hole, including a high grade section between 490ft. and 730ft.).

During 1996 most of the drill holes were collared from two drill pads at the 4,180ft. and 4,185ft. (NE-6) elevations, some 500 horizontal feet from the target. This drilling identified the southern and western edges of the mineralized breccia body. Preliminary geological interpretations for the Creek Breccia define an elongate zone of copper mineralization trending 335° azimuth.

Early in 1997 a new baseline was established along azimuth 335°, and a series of vertical holes were drilled from the main road that parallels Copper Creek. These holes were spaced 50 ft. apart. Additional angled holes were drilled, where possible, from those same collar locations to test specific areas of the deposit.

It was AMT's intent to get a regular fan of drill holes along each of the 50ft. section lines with vertical spans within the mineralization of between 100 to 150 feet. Unfortunately, the steep canyon walls adjacent to the drill sites made certain drilling angles impossible on some section lines. AMT was forced to probe the northern edge of the Creek Breccia deposit with three holes from another location, drilled along azimuths of 291°, 294° and 279°.

All of AMT's drill collars were surveyed and tied into the property coordinate system. Down-hole directional surveys were done for all drill holes using a Sperry-Sun single-shot camera. For confirmation purposes, numerous drill holes were re-surveyed by Strata Data (Casper, WY) using a down hole gyroscopic instrument. Where necessary, the gyro surveys were used in preference to the magnetic surveys.

The geological interpretation resulting from drilling program defined the southern and eastern edges of the zone and partially constrained the northern edge.

Additional drilling is necessary to close out the north-western edge of the Creek Breccia deposit.

5.3.3 Database

AMT gathered data from the previous drill holes in the form of drill logs, assay sheets, and down hole directional surveys. The drill hole collars for the old holes were located in the field and re-surveyed by AMT.

Pre-AMT holes are summarized below.

Pre-AMT Drill Hole Data for Creek Breccia

Data Type	Footage	# of Holes	Data Source
core	6,519	2	Newmont-Exxon

The following table lists the number of holes and total footage drilled by AMT in 1996 and 1997.

AMT Drill Hole Data for Creek Breccia

Type of Drilling	Footage	# of Holes
core	33,761	27

The information from a total of **29** drill holes **(40,280ft.)** was used by AMT in the creation of the Creek Breccia database for the purposes of resource calculation.

The totals of individual assays in four assay categories from all data sources (pre-AMT and AMT) are:

Total Cu	2,429
Mo	2,332
Au	301
Ag	301

5.3.4 Specific Gravity

Specific gravity determinations were made on drill core taken from one drill hole (Ck33+1y). ACTLABS-SKYLINE Labs in Tucson performed the analysis. AMT submitted samples of the key lithologies - granodiorite, breccia, and massive chalcopyrite.

The results of the analysis yield tonnage factors for the various lithologies as follows:

Lithology	**Tonnage Factor (ft^3/ton)**
Granodiorite	12.1
Breccia	12.3
Chalcopyrite	8.1

AMT used a bulk tonnage factor of 12 ft^3/ton for the purpose of resource modeling.

5.3.5 Deposit Interpretation and Modeling

AMT created a final geological interpretation for the Creek Breccia deposit upon completion of the 1997 drill program.

Copper composites and geology were plotted on cross sections and long sections spaced every

50ft. throughout the mineralized zone. The margins of the deposit were easily drawn and correlated between sections. The edges of the deposit closely follow the contact between breccia and granodiorite.

Internal mineralized trends were also interpreted on the cross or long sections. Higher grade zones can be identified between sections, though there is little lithological variation inside the breccia body. Grade contouring on sections was done and continuous zones defined.

Detailed geological investigations were made during core logging by the senior project geologist and geological concepts with respect to style of mineralization were incorporated into the modeling process.

An important aspect of the geologic controls to the high grade copper mineralization within the Creek Breccia deposit is summarized by the project geologist as follows:

> 'High-grade zones within the Creek Breccia are distributed within:
>
> 1) dilated subhorizontal sheets between thick, low-grade slabs of the collapsed roof span of the breccia pipe.
>
> 2) steeply-dipping sheeted veins forming a shell around the perimeter of the breccia pipe.
>
> Contouring of copper grades in cross section shows that subhorizontal high grade regions can be correlated between drill holes across distances of 200 feet, and vertical high grade regions along the breccia margins can be correlated across distances of 400 feet or more.'

The next step was to prepare a set of level plans spaced every 25ft. through the deposit. The copper composites and geology were plotted on each section. The outer 'shell' that defines the extent of the Creek Breccia was defined by enclosing all mineralized breccia intercepts. Three grade ranges were chosen to define the internal zones within this shell. This determination was made based on inflection points observed in the cumulative frequency distribution of the data set.

The ranges are as follows:

0.0 - 0.75%	Sub Grade
0.75% - 2.50%	Medium Grade
2.50% - max	High Grade

Using these three thresholds, contours were drawn on each of the level plans. Based on the current geological understanding of the formation of the high grade copper mineralization, the 2.50% + contours were taken out to the edge of the breccia. Sufficient drill hole data close to the margins of the breccia substantiate this interpretation.

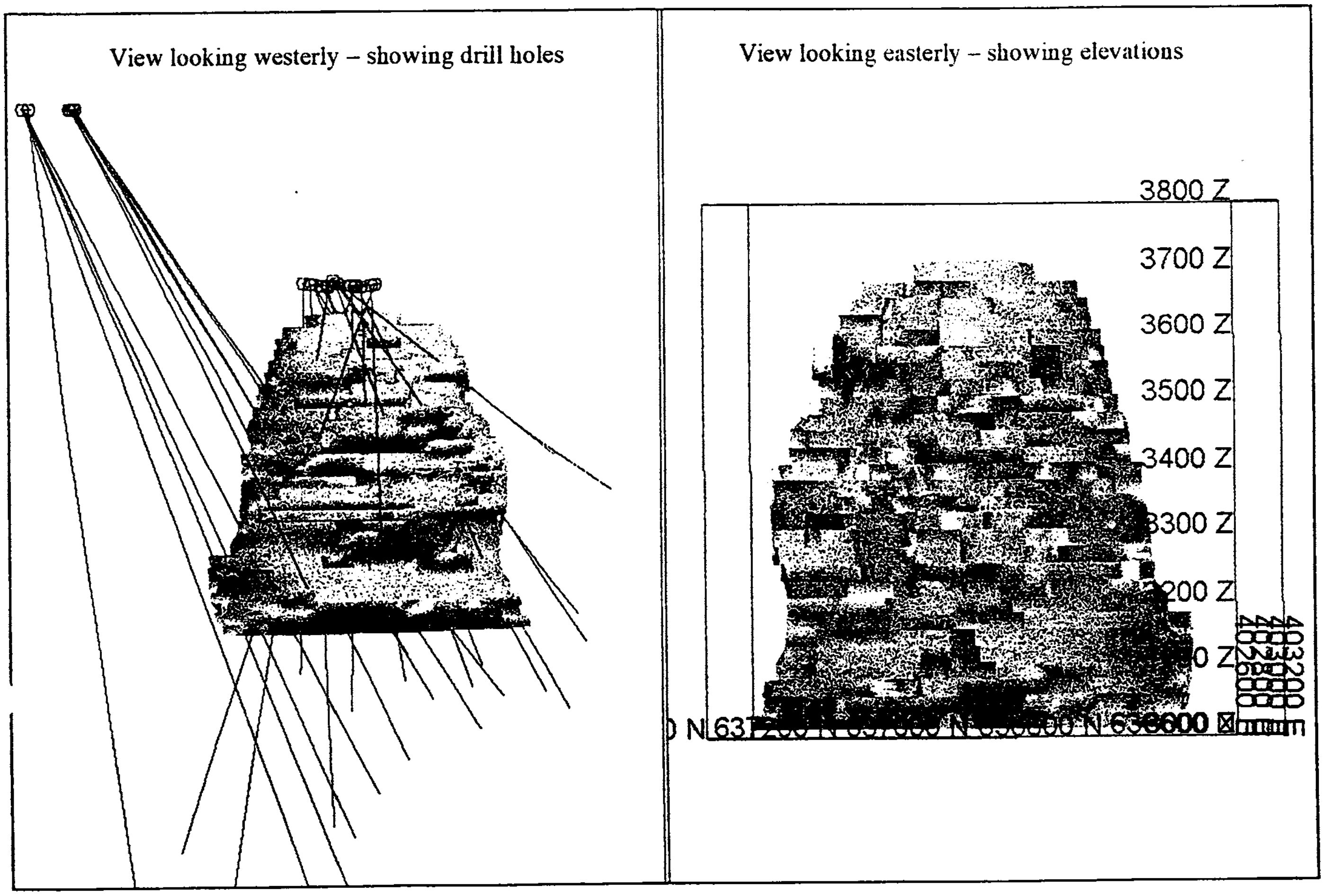
By contouring the sub grade and high grade on each level, it became clear that internal grade distributions form complex, but continuous zones. The individual zones were linked together to form numerous individual solids inside of the gross breccia volume. The third zone (medium grade) is the volumetric difference between the shell and the two modeled zones (sub grade and high grade). The Creek Breccia solid model comprises the 3 separate solid models. Each model can be treated separately with respect to drill hole composite data segregation and for purposes of constraining a block model. Figure 5.3-1 shows two views of the Creek Breccia deposit model.

5.3.6 Population Statistics

The final 3-D solid models were used to constrain the composite data for all further processing.

The entire drill hole assay database was composited (de-composited) to one foot intervals. All drill holes were intersected with the individual solid models. The exact intercept(s) in all holes that penetrate each solid volume were identified. These intercepts were used to create a new database of only the one foot composites contained entirely within the interpreted deposit volume. These data were then re-composited to 20ft. (down hole) intervals, wholly contained within the solid models. This final database was used in all further resource evaluation procedures.

Figure 5.3- 1 Views of the Creek Breccia



The Creek Breccia deposit is currently defined by 40,280 ft. of drilling in 29 holes.

This is a view inside the deposit, to demonstrate the spatial distribution of the three individual grade zones. (green - high grade; yellow – medium grade; magenta – sub grade)

Basic population statistics of the 20ft. assay composites inside the model are provided in the table below.

Basic Statistics for Copper Composites Inside Models - Creek Breccia

Population	Number of Composites	Min.	Max.	Mean	Variance	Coeff. of Variation
High Grade	75	0.14	9.27	2.83	3.50	0.66
Medium Grade	185	0.06	4.58	1.43	0.65	0.56
Sub Grade	224	0.07	4.27	0.53	0.33	1.09

Examination of the population frequency distributions for copper composites inside the various grade zones lead AMT to conclude that 'cutting' or 'capping' of the outliers is not necessary for any of the zones prior to the resource evaluation.

5.3.7 Geostatistics

A full set of directional variograms was computed and evaluated for copper composite data in all three grade zones. In addition, the average variogram (isotropic) was computed and used for comparison against all directional sector variograms (anisotropic). For each of the azimuths selected (335°, 20°, 65° and 110°) the major axis plunges of +45°, 0°, -45° and -90° (all sectors cover +/- 22.5°) were assessed.

The criteria used to select the 'best' variogram were a combination of:

- sill approximation closest to or below the population variance.
- variogram most closely related to the shape of the 'spherical' model.
- sufficient number of pairs used at each significant lag.

Cross validation was performed for each selected variogram.

High Grade Zone

The results of the variography for copper grades in the high grade zone indicate that there is a preferred direction of continuity along azimuth 335° with a plunge of -45°.

The anisotropic variogram model determined for the high grade zone is 'spherical' with a nugget (C_0)= 1.098, sill (C_1)= 2.308 and a range (A_1)= 43'.

Medium Grade Zone

The results of the variography for copper grades in the medium grade zone indicate that there is a preferred direction of continuity along azimuth 335° with a plunge of +45°.

The anisotropic variogram model determined for the medium grade zone is 'spherical' with a nugget (C_0)= 0.166, sill (C_1)= 0.405 and a range (A_1)= 136'.

Sub Grade Zone

The results of the variography for copper grades in the sub grade zone indicate that there is a preferred direction of continuity along azimuth 335° with a plunge of -45°.

The anisotropic variogram model determined for the sub grade zone is 'spherical' with a nugget (C_0)= 0.046, sill (C_1)= 0.286, and a range (A_1)= 51'.

The results of cross validation exercises for all three zones of the Creek Breccia give favorable statistical results and justify the use of these individual variograms in the subsequent block model grade estimation using ordinary kriging.

5.3.8 Block Modeling and Resource Estimation

A block model for the Creek Breccia deposit was created by AMT in-house using the SURPAC 2000 mining software program.

Once the block model space was defined, various constraints were used to assign key attributes to blocks within the model.

Surface topography was generated by the creation of a digital terrain model (DTM). AMT's topographic maps over much of the Copper Creek property are accurate to 10 feet (Newmont 1969). These maps were digitized and DTM's created over all of the primary study areas. The DTM was used to define the blocks of 'air' contained in the block model. A tonnage factor of zero was then assigned to all blocks of air.

In the next pass all blocks in the model falling below the surface of the DTM were assigned a tonnage factor of 12.0 ft^3/ton and a rock code of 'host'.

Each solid model (3DM) was used to assign a 'zone' code to each block inside as follows:

High Grade Zone	hg
Medium Grade Zone	mg
Sub Grade Zone	sg

By default, the copper grade field in the model is initially set to a value of -9.

A check was made by evaluating the tonnage contained within the block model for comparison with the volume of the original solid model. All matches are remarkably close and emphasize the benefit of the sub-blocking feature in resolving accurate tonnage.

Ordinary kriging was used to estimate separately the copper grades within each zone. The input copper grade data supplied to each kriging run were the 20ft. composites wholly contained within each of the solid models.

The block model was cut at every 25ft. level. The estimated Cu grades were plotted for each block and sub-block. In addition, the drill hole Cu composites were plotted on top of the estimated Cu block entries and the drawings studied carefully to ensure that no erroneous results became part of the estimated resource.

Grade trends were studied by the AMT geologist most familiar with this deposit. The grade estimation defined geologically verifiable trends within the mineralized body.

The tables below list the copper resource tons and average estimated grade within the various zones at the Creek Breccia deposit.

Copper Resources - Creek Breccia Deposit - High Grade Zone

Cu %	Tons	Average Cu %
0.00 - 0.50	0	0.00
0.50 - 1.00	0	0.00
1.00 - 2.00	18,951	1.87
2.00 - 3.00	525,776	2.59
Above 3.00	301,196	3.22
Total	**845,924**	**2.80**

Copper Resources - Creek Breccia Deposit - Medium Grade Zone

Cu %	Tons	Average Cu %
0.00 - 0.50	0	0.00
0.50 - 1.00	122,625	0.92
1.00 - 2.00	3,642,290	1.39
2.00 - 3.00	82,303	2.16
Above 3.00	0	0.00
Total	**3,847,218**	**1.39**

Copper Resources - Creek Breccia Deposit - Sub Grade Zones

Cu %	Tons	Average Cu %
0.00 - 0.50	712,821	0.38
0.50 - 1.00	827,044	0.63
1.00 - 2.00	13,249	1.23
2.00 - 3.00	0	0.00
Above 3.00	0	0.00
Total	**1,553,115**	**0.52**

Copper Resources - Creek Breccia Deposit - Total Resources

Cu %	Tons	Average Cu %
0.00 - 0.50	712,816	0.38
0.50 - 1.00	949,715	0.67
1.00 - 2.00	3,674,490	1.39
2.00 - 3.00	608,079	2.53
Above 3.00	301,196	3.22
Total	**6,246,257**	**1.37**

5.3.9 Classification of Mineral Resources

AMT completed a very rigorous modeling exercise that defines the three separate zones within the Creek Breccia deposit. Good continuity within the selected copper grade ranges enhances the definition of these individual zones. AMT recognizes that certain portions of the deposit require additional drilling.

A 'distance from drill hole' method (based on geostatistical range) was used to classify the resources into 'measured' and 'indicated' categories.

AMT used the guidelines of the 'Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves' (AusIMM) 1996 for mineral resource classification.

According to these definitions AMT classifies the copper resources of the Creek Breccia deposit as follows:

Classification	Tons	Av. Grade (%)
Measured	4,302,800	1.36
Indicated	1,943,500	1.38
Total	6,246,300	1.37

The term '<u>Indicated Mineral Resource</u>' means a Mineral Resource sampled by drill holes, underground openings or other sampling procedures at locations too widely spaced to ensure continuity but close enough to give a reasonable indication of continuity and where geoscientific data are known with a reasonable level of reliability. An Indicated Mineral Resource estimate will be based on more data, and therefore will be more reliable, than an Inferred Mineral Resource estimate.

The term '<u>Measured Mineral Resource</u>' means a Mineral Resource intersected and tested by drill holes, underground openings or other sampling procedures at locations which are spaced closely enough to confirm continuity and where geoscientific data are reliably known. A Measured Mineral Resource estimate will be based on a substantial amount of reliable data, interpretation and evaluation of which allows a clear determination to be made of shapes, sizes, densities and grades.

It should be noted that the mineral resources as stated in the tables above are wholly based on the current geological model for the Creek Breccia deposit as contained by the breccia intercepts identified to date. There is geological evidence that suggests extensions of mineralization at depth and adjacent to currently defined mineralization boundaries to the west. These extension zones have not yet been adequately investigated by AMT, and estimates of additional resources are not included in this report.

On the western side of the Creek Breccia deposit a mineralized intercept in drill hole Vix34+1 gave 520 feet @ 0.30% copper beyond the current deposit edge. This intercept includes multiple shorter intervals of +1.0% copper. The geophysics, geochemistry, surface structure, and a small breccia 'blow out' to the northwest indicate a likely extension of the deposit to the west and northwest of the Creek Breccia system.

5.3.10 Mineable Reserves

The Creek Breccia orebody will be mined using the blasthole open stoping technique. Owing to the need to prevent caving, longitudinal blasthole stoping with hydraulically transported fill will be used. The primary stopes will be mined using the same methods as the Childs-Aldwinkle, with 100 feet secondary stopes left between the primary stopes. In addition a 120 feet wide barrier between stoping areas will be left in the middle of the orebody. The diluted mineable reserves calculated for the Creek orebody are:

Ore	5,657,000 tons
Grade	1.34 percent copper

The recovery of undiluted ore reserves represents 81 percent of the resource base.

In keeping with the guidelines of the 'Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves' (AusIMM) 1996 for ore reserve classification, AMT has classified the diluted mineable reserves for Creek Breccia as follows:

Classification	Tons	Av. Grade (%)
Proved	3,846,800	1.34
Probable	1,810,200	1.33
Total	5,657,000	1.34

The term '<u>Probable Ore Reserve</u>' means an Ore Reserve stated in terms of mineable tons/volume and grades where the corresponding Identified Mineral Resource has been defined by drilling, sampling or excavation (including extensions beyond actual openings and drill holes), and where the geological factors that control the ore body are known with sufficient confidence that the Mineral Resource is categorised as 'Indicated'.

The term '<u>Proved Ore Reserve</u>' means an Ore Reserve stated in terms of mineable tons/volume and grades where the corresponding Identified Mineral Resource has been defined in three dimensions by excavation or drilling (including minor extensions beyond actual openings and drill holes), and where the geological factors that limit the ore body are known with sufficient confidence that the Mineral Resource is categorised as 'Measured'. (AusIMM) 1996

5.4 ADDITIONAL RESOURCES

5.4.1 Leachable Resources

AMT's initial drilling program was carried out during 1996 and 1997. The program targeted nine breccias and was designed primarily to test for the presence of near surface (open pit) leachable copper deposits (copper oxide and secondary chalcocite enrichment). The program was successful in identifying low-grade, leachable copper resources with grades of 0.3% - 0.4% copper. High-grade chalcocite mineralization was identified on the AMT-Phelps Dodge property at the Globe-Glory hole breccia pipe complex, where grades ranged to ±3% copper at shallow depth.

During the past 18 months, the cumulative results from AMT's exploration program suggest that presence of surface oxide copper alone is an insufficient primary guide to leachable copper reserves. Once formed, copper oxide may reside in the oxide state for only a short time prior to dissolution and redeposition downward as a supergene chalcocite enrichment blanket perhaps 50-100' beneath the ground surface. The secondary chalcocite enrichment blanket may extend at depth to the present ground water table and have thicknesses of 100-600 feet. Supergene enhancement on the order of three times the primary copper grades has been demonstrated at the North Finger of the Childs-Aldwinkle, the Old Reliable, and the Globe-Gloryhole breccia pipes.

AMT is confident that its exploration will identify another 3-8 million tons of leachable copper ore with grades of from 0.3% to >1% copper over the next two to four years.

5.4.2 Shallow Sulfide Resources

Of the approximately 250 breccia (bx) pipes recognized today in the Copper Creek district, AMT's management and geological staff believe that at least 10% (±25) will host economic copper mineralization. Average size and geological grade of these deposits should be on the order of 4 million tons at a grade of 2% Cu, based on the size and grade of existing deposits. Successful discovery and development of these pipes would yield perhaps one hundred million tons of ore with a geological grade of 2% Cu. AMT has eight first priority breccia pipe exploration targets (Figure 5.4-1) scheduled for drill test in 1998, and three or four are expected to host ore bodies (totaling in excess of 9 million tons of ore). Additional breccia pipe deposit discoveries during Phase II exploration are expected to increase the project reserve base by an additional 20-25 million tons of high-grade breccia ore and allow the project mining rate to increase from 5000 tons/day to 10,000 tons/day over a ten year period.

AMT is confident both in the ore potential of its high priority targets, and in the exploration methods its geological staff will use to realize the discoveries. Geological work to date has identified a number of strong geological, geophysical, and geochemical signatures common to strongly mineralized breccia pipes in the district, and exploration targets are prioritized based on their collection of favorable attributes. These attributes are being incorporated into a deposit model and include, but are not limited to:

1. Known presence of ore grade mineralization (five of the eight priority targets have ore grade drill hole intercepts, and two have ore grade underground sampling).

2. Favorable geological, structural and alteration-mineralization features identified through detailed mapping at known deposits.

3. Strong geochemical signature for mineralized breccia pipes, that includes anomalous values for Cu, Mo, Au, W, K Te, and B. The entire property is being covered by a grid

AMT (USA) Inc.
Phase 1 Exploration Targets

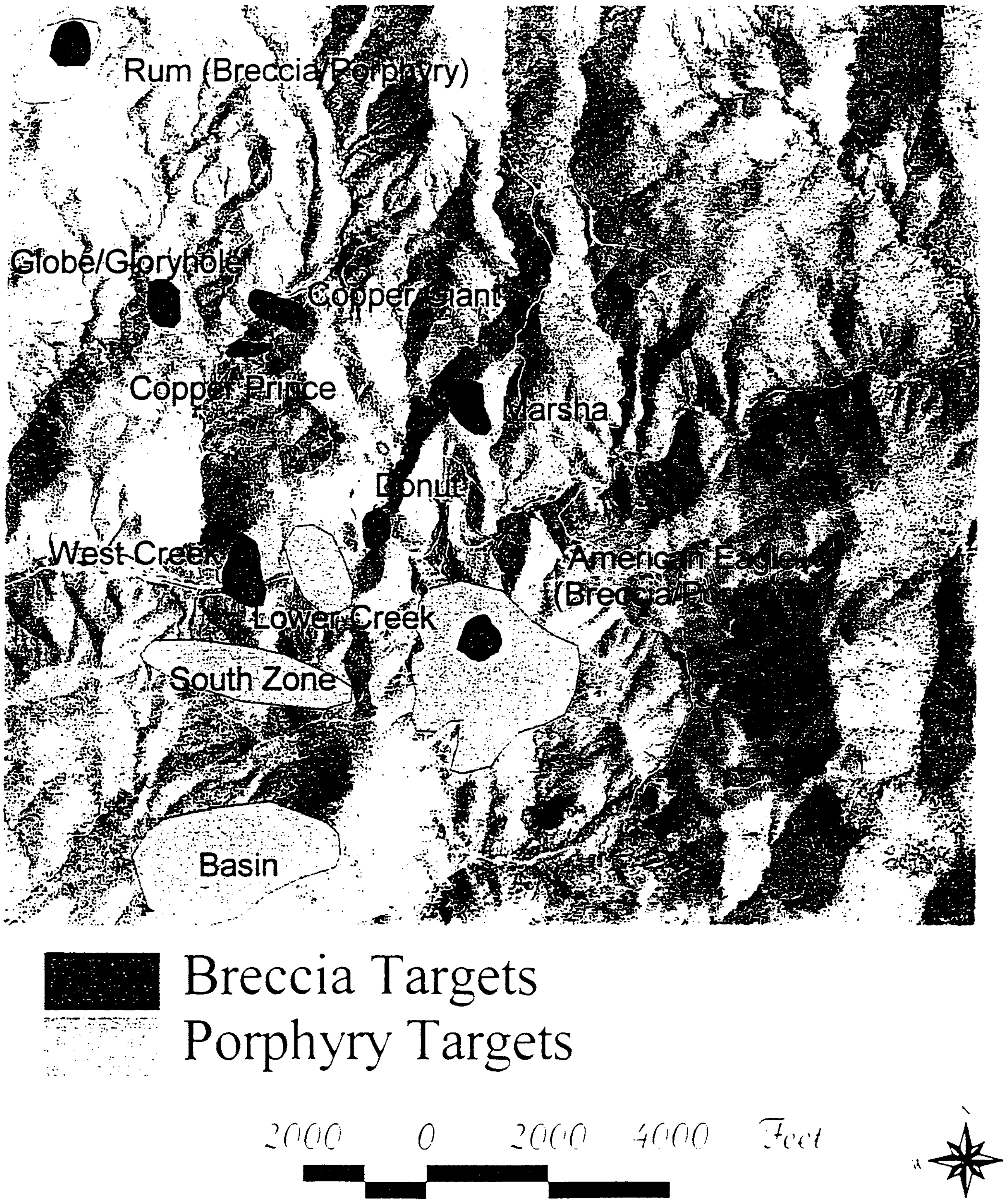


Figure 5.4-1

geochemical survey that has already highlighted new targets.

4. Magnetic low anomalies. Hypogene magnetite destruction during breccia pipe formation and subsequent mineralization is a strong identifying signature for breccia pipes. AMT's ground magnetic survey is complete, and data are in the process of evaluation.

5. Positive radiometric anomalies. All mineralized breccia pipes examined on the property have strong positive radiometric anomalies from isotopes of K and U. A detailed ground radiometric survey is underway currently and has identified several promising target areas.

6. Transmitted light and cathodoluminescence (CL) petrography. An initial petrographic/CL study of mineralized Copper Creek occurrence identified late magmatic and hydrothermal mineralizing events, with the latter giving rise to the strongest mineralization. CL observation identifies a pulse of hydrothermal Ksp and Qtz that accompanies and haloes high-grade Cu mineralization. The technique may prove to be a powerful tool in discriminating the most likely ore-hosting breccias.

Systematic exploration techniques that have been or may be successful at Copper Creek in delineating shallow porphyry related, breccia hosted sulfide orebodies are summarized in Tables 5.4-1 and 5.4-2.

To achieve it objectives, AMT plans an expenditure of $3.5 million annually over the period from 1998 –2002. The proposed expenditure schedule is presented in Table 5.4-3.

Table 5.4-1. Exploration Targets and Potential Size - AMT/BHP Joint Venture Area

Priority	Target	Easting	Northing	Tons	Cu Grade	Basis
1	Lower Creek	403000	637000	41.5 Mt	0.70 %	Intersections of disseminated cp-bn-mo in NE-6, NE-10, VIX28-2, and VIX24-2 2000'-3000' below surface, bounded by lower grade cp-bn-mo in EN-1, NE-5, and HN-14. Intense N80E sheeted veins. Underlies 4 Mt of 2% Cu in 600'x300' Creek Breccia. Coincident low in ground magnetics.
2	Basin	402000	633000	50 to 100 Mt	0.8 %	Multi-element geochem anomaly, sericite-andalusite alteration, quartz stockwork veining, N60W -N80E-N25W structural intersection, coincident low in ground magnetics.
3	Donut Breccia	403700	637400	2 Mt	2 %	Cp-bn breccia in hole PC-1. Multi-element geochem anomaly, including 2500 ppm Mo. Coincident low in ground magnetics. Proximity to south finger of Childs-Aldwinkle.
4	Saddle	403500	636600	2 Mt	2 %	Multi-element geochem anomaly, intense sericitic alteration of gray porphyry plug, strong Cu oxide in N80E-striking sheeted vein zone.
5	West Creek	401700	636700	2 Mt	2 %	Multi-element geochem anomaly, intense sericitic alteration in N80E-striking sheeted vein zones.
6	Marsha	404900	639300	2 Mt	2 %	Geochem anomaly with 1500 ppm Mo, quartz stockwork breccia with strong sericitic alteration, limonite molds after cubic pyrite to 1.5 inches wide.
7	Cu Porphyry	404000	637400	2 Mt	0.5 %	Cp-bearing porphyry at surface and in PC-1.
8	Railroad	404400	637600	2 Mt	2 %	Cu-oxide stained breccia pipes with strong potassic to sericitic alteration, multi-element geochem anomaly.

Table 5.4- 2 Exploration Targets and Potential Size - AMT/PD Joint Venture Area

Priority	Target	Easting	Northing	Tons	Cu Grade	Basis
1	Copper Prince/Giant	402000	639800	X Mt	2%	High-grade breccia intersected in holes CP-1 through CP-5. High grade copper from old underground samples. Strong CuOx in outcropping breccia, proximal to gray porphyry plug.
2	Globe/Gloryhole	400700	640400	X Mt	2%	High-grade breccia intersected in holes G-2 (120'@1.62% Cu) through G-5. Three to eight percent Cu in underground samples in breccia.
3	Rum	399500	643900	X00 Mt	2%	Two 25-foot intercepts carrying greater than one percent Cu in porphyry beneath exposed CuOx-stained gray porphyry plug.
4	Superior	401200	641700	X Mt	2%	Phelps-Dodge Mo surface geochem anomaly, cp-, bn-, and mo-bearing veinlets in drillholes adjacent to outcrop of breccia.
5	Single Malt	397400	643000	X Mt	2%	Shallow drill intercept of 5' at 1.79% Cu in breccia, proximal to porphyry plug.

Table 5.4-3 AMT Copper Creek Project 5 Year Exploration Plan - Proposed Budget

Budget Category	1998	1999	2000	2001	2002
Salaries + Overhead (4.5 geologists + 2.5 core techs)	$ 449,000	$ 449,000	$ 471,000	$ 471,000	$ 471,000
Travel	$ 66,000	$ 66,000	$ 66,000	$ 66,000	$ 66,000
Supplies and services	$ 21,000	$ 18,000	$ 18,000	$ 18,000	$ 18,000
Equipment	$ 55,000	$ 55,000	$ 55,000	$ 55,000	$ 55,000
Geochemical Assays (Est. 750 spls/yr @ $20/spl)	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000
Consultants	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
Geophysics		$ 50,000			
Drilling					
Direct drill costs	$2,400,000	$2,353,000	$2,381,000	$2,381,000	$2,381,000
Drill core assays	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000
Roads and sites	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000
Sub-total	$3,181,000	$3,181,000	$3,181,000	$3,181,000	$3,181,000
10% Contingency	$319,000	$319,000	$ 319,000	$319,000	$ 319,000
TOTAL	$3,500,000	$3,500,000	$3,500,000	$3,500,000	$3,500,000

6.0 MINING

6.1 OPEN PIT MINING

The Old Reliable is a near surface deposit in which the ore body configuration is largest on top and tapers with depth. General topography of the ore body area slopes from north to south, from an elevation of about 4120 feet above sea level to about 3850 feet above sea level, a configuration which will provide easy access to various mining levels on the upper benches. The deposit is ideally suited to open pit mining.

Following main criteria were assumed in designing the open pit:

- The open pit will be mined using mobile equipment i.e., front-end loader and truck.
- The mining benches will be 40 feet high with a bench face slope of 70 degrees.
- Consideration will be given to stacking two benches together with an overall two-bench slope of 70 degrees.
- The overall pit slope angle will be between 45 degrees and 55 degrees. In localized areas, the slope may be steeper or flatter.
- The ultimate haul ramp will have a grade of 10 percent, although some portions of it may be steeper.
- The ore mined from the pit will be trucked to the ore pass location, south-east of the ultimate pit, for transportation via the main conveyor to the Ryland Ranch leaching area.
- The waste from the pit will be trucked to the north side of the pit for disposal.

An ultimate open pit has been designed to an elevation of 3520' based on these parameters. The reserves within the pit are:

Waste	9,602,000 tons
Ore	2,900,000 tons
Grade	0.93 percent

Although the pit is small and the total mining can be easily completed in less than two years, a detailed annual mining schedule has been devised to mine and process this ore over a four year period in order to minimize leaching and plant capital costs. The Old Reliable ore body alone justifies the capital expenditure, but it is highly likely that additional leachable resources will be found on the property, and these can be processed through the plant without incurring additional capital cost. The mining schedule for the Old Reliable deposit is presented in Table 6.1-1.

Table 6.1-1 Old Reliable – Mining Schedule (Leaching)

	-1	1	2	3	4	TOTAL
(1) Leaching Options						
Waste Mined (000T)	4,000*	2,000	2,000	1,500	100	9,600
Ore Mined (000T)		725	725	725	725	2,900
Ore Grade (%)		1.10	1.04	0.83	0.75	0.93
Stripping Ratio		2.76	2.76	2.07	0.14	3.31**

*Pre-Stripping

**Includes pre-strip waste.

6.2 UNDERGROUND MINING

6.2.1 Introduction

The proposed mining method for the Childs-Aldwinkle and Creek Orebodies is blasthole open stoping with LHD mucking. Daily production will be 5,000 tons. Production will initially originate from the Childs-Aldwinkle orebody. As development reaches the Creek Breccia orebody, production will start there to meet the 5,000 tons per day capacity.

The mine will have ramp access, and mobile, rubber tired, diesel-operated mining equipment will be used for mining and to move all men and materials in and out of the mine. Figure 6.2-1 shows a three dimensional representation of the mine with the orebodies and infrastructure development.

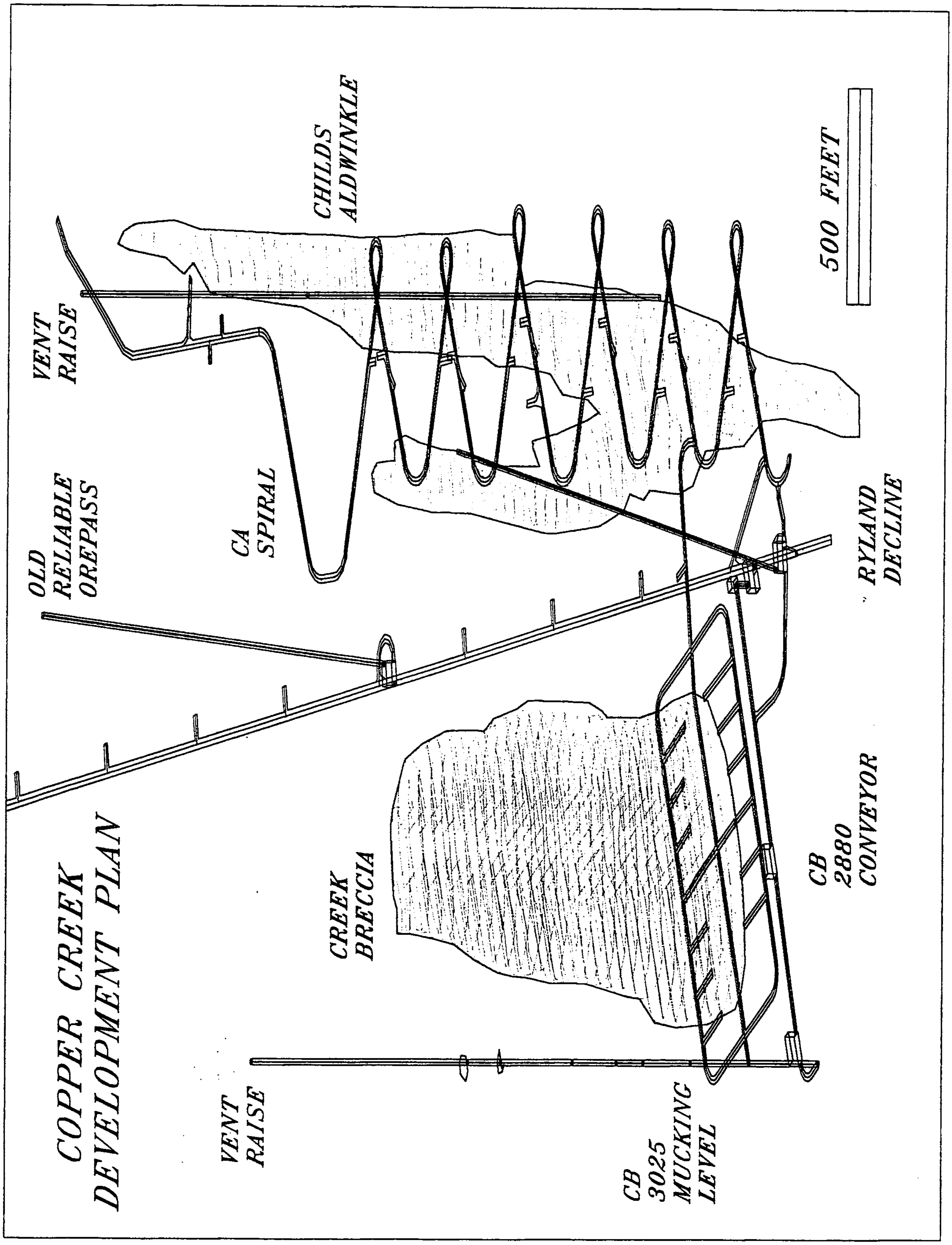
6.2.2 Mine Access and Infrastructure

The main access/conveyor decline will have its portal located on the Ryland Ranch in proximity to the processing plant. The conveyor decline will be 8,300 feet long and connect to a spiral ramp located adjacent to the Childs-Aldwinkle orebody.

The Ryland Ranch decline will have a conveyor suspended from the back, approximately five to six feet from the floor to one side of the decline, and a travelway acting as the main access for equipment, men, and materials to the underground mine. The conveyor decline will contain the main mine service feeds from surface for compressed air, water, electrical power, communications, and blasting line.

All ore from the stopes will pass through a grizzly into ore passes, with oversize broken by a mobile rockbreaker. The ore passes from the mining areas will feed the inclined conveyor,

Figure 6.2-1 Isometric View of Mine Plan



located in the Ryland Ranch Decline. The inclined conveyor will remove all ore from the mine to the processing plant site.

Two ventilation raises will exhaust air from the mine, one each located at the extremities of the two orebodies. Fresh air will enter the mine through the Ryland Ranch Decline and the spiral ramp.

Other underground infrastructure will include a maintenance shop complex, main dewatering sumps and pump station, and an electrical distribution system.

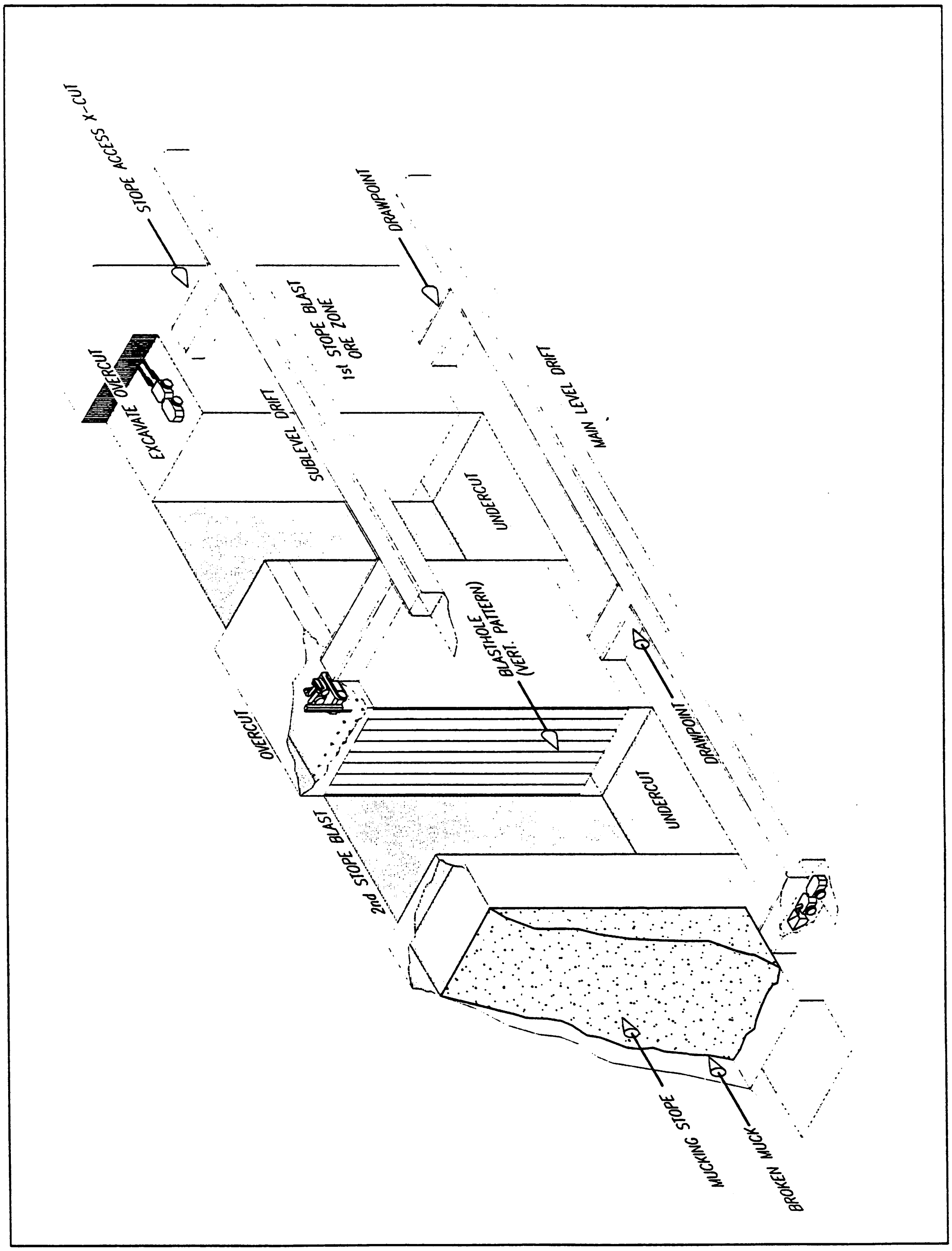
Underground preproduction development will be performed by an underground mining contractor. The contractor will not be undertaking level and stope preparation development work.

6.2.3 Mining Method

Blasthole open stoping will use five inch diameter blastholes, with sublevels located at 80 to 150 feet intervals. Levels will be connected by a spiral ramp located in the footwall of the ore zones. Figure 6.2-2 shows an isometric drawing of a typical blasthole stope. Main level drifts will be developed off the spiral ramp, 50 to 100 feet from the edge of the orebody, to provide access to stoping blocks and from which drawpoints can be driven for the stopes. Sublevels will be developed similarly, but would only be used to provide stope access for drilling and blasting. The main mucking level drifts will also provide access to ore passes, located to allow for the six yd. LHD's to directly tram ore to the ore passes. Ore pass dump points will be equipped with grizzlies to size the ore to minus 14 inch.

Stope undercuts and overcuts will primarily be opened out to the full length and width of the stope. This would be accomplished by developing a pilot drift and slashing to full width. In

Figure 5.2-2
Isometric of Typical
Transverse Blasthole Stope



situations where stope widths are excessive and a full width overcut and undercut is untenable, parallel drill drifts equally spaced within the stope would be developed and used to drill the stope. In this situation fan drilling of blastholes would be required to remove the pillars between the drill drifts and to reach the limits of the stope boundaries.

Blastholes will be drilled by ITH drills and blasted with ANFO. Drawpoint mucking will be performed by six yd. LHDs tramming ore directly to ore passes in the footwall. Main drawpoint mucking levels will be located at between 675 and 750 feet apart (750 feet apart in the Childs-Aldwinkle orebody and 675 feet apart in the Creek orebody). Stopes between main drawpoint levels will be mined in sequence from the bottom up, with no sill pillars left in place. The blasted ore will drop through the mined out stopes below to the main drawpoint level for mucking. A sill pillar will be left below each main drawpoint level and will be mined out at the end of the orebody life.

Rock mechanics studies by Golder Associates confirm that the Childs-Aldwinkle Zones will not cave, even without backfill. Similar studies for the Creek Breccia indicate that backfill will be required because of the larger lateral extent of the Creek Breccia. Modification of the mining method to ensure stope stability, and mining with filled stopes are described for the Creek Breccia in section 6.2.3.2.

6.2.3.1 Childs-Aldwinkle Orebody

The blasthole stoping method described above would be applied to the Childs-Aldwinkle orebody. Stopes would not be systematically backfilled after mining, though waste development rock will be dumped into mined out areas.

The mining recovery would be 95 percent and mining dilution 10 percent in the Childs-Aldwinkle blasthole stopes.

6.2.3.2 Creek Orebody

Stopes in the Creek orebody will be backfilled with hydraulic backfill. In the Creek orebody the primary stopes will be mined using the same methods as the Childs-Aldwinkle with 100 feet secondary stopes left between the primary stopes. The primary and secondary stopes will be parallel to the long axis of the orebody. In addition a 120 feet wide transverse barrier between stoping areas will be left in the middle of the orebody.

As with the Childs-Aldwinkle orebody, the primary stopes in the Creek orebody will be mined from one main mucking level to the next in 150 foot high stopes, with mucking of the stopes from the main mucking levels only. Once a primary stope is mined out it will be filled with hydraulic backfill. With two primary stopes mined, the secondary stope can be developed and mined. Broken ore would be mucked off the fill of the filled stope below. Drilling would be laid out to attempt to leave a small skin approximately three feet on either side of the stope to help delay the inflow of the backfill. The drill and drawpoint drifts would retreat along their length to the barrier pillar in the center of the orebody.

The barrier pillar would be mined in a similar manner to the secondary stopes though greater pillar crushing and deterioration can be expected with all the open stopes around it. Costs in this pillar for ground support would therefore be higher than in the primary or secondary stopes. Lower ore recoveries are also predicted for this pillar.

Mining recoveries in the stopes are expected to be 95, 85, 80, and 70 percent in the primary, secondary, barrier pillar, and sill pillar below mucking levels, respectively.

6.2.4 Mine Layout

6.2.4.1 Level Development

Main drawpoint levels will be located on the 2800 and 3550 Levels of the Childs-Aldwinkle orebody and on the 3025 Level of the Creek orebody. Sublevels will be located at 80 to 150 feet intervals between the main drawpoint levels and be used for drilling and blasting of blasthole benches.

A waste pass system will not be developed, but waste will be taken by LHD or truck to the nearest mined out open stope for disposal. Before the first open stope is mined out, all waste will be transported to surface by 40 ton truck for placing on waste dumps.

6.2.4.2 Stope Preparation

From the main level footwall drifts, stope access crosscuts will be developed to and across the ore body, from a central point in each stope. A pilot drift will be developed from this access drift along the footwall of the ore zone for the full length of the stope. The pilot drift will be slashed out to the full width of the orebody to create the undercut. Drawpoints at 50 feet centers along the stope will also be driven. The sublevels above the main drawpoint levels will have a single stope access drift developed to provide access for overcut development and production drilling and blasting, but not drawpoint mucking. Overcut development will proceed in the same manner as the undercut development.

6.2.4.3 Blasthole Stoping

An ITH drill will drill five inch downholes from the overcut to the undercut below. These drills can accurately drill down holes in excess of 200 feet in competent ground of the type found at the Copper Creek Project. The majority of longhole drilling will use a rectangular drill pattern with parallel holes. Fan drilling will be undertaken in stopes where full overcuts and undercuts are not developed.

A drop raise will be drilled at the end of the stope and expanded to create the slot. The remaining stope length for transverse stopes will be blasted in two or more larger blasts. For longitudinal stopes four or five rings will be blasted at a time along the mucking drift, working back along the drifts.

Blasting will utilize ANFO prills poured into the blastholes, toe primed with stick gel explosives, and initiated with a Nonel detonator located at the toe of the hole. The holes will be connected on surface using primer cord and initiated with an electric cap via a central blasting system.

Longhole stope mucking would utilize a six cubic yard bucket LHD pulling ore from drawpoints. Remote control mucking would be used when the brow of the drawpoints in a stope were open. The LHD would tram the ore directly from the drawpoints to the ore pass dump. In the Childs-Aldwinkle orebody the average haul distance from the stopes to the ore pass will be 375 feet. The average haul distance at the Creek orebody will be 550 feet.

All level development, stope preparation, mining, and underground services functions will be carried out by AMT personnel.

6.2.5 Equipment Requirements

All development and mining will be performed by mobile rubber-tired, diesel-operated equipment. The equipment will include two boom electric/hydraulic development jumbos, ITH drills, six yd. LHD's, scissor lifts, service/man carrier vehicles, and tractors.

Table 6.2-1 presents the equipment requirements for the underground mine.

Table 6.2-1 Underground Mining Equipment

EQUIPMENT LIST	NUMBER REQUIRED
2 Boom E/H Development Jumbo	2
6 yd LHD – Development	2
40 ton Truck	1
Longhole Drill on Carrier	2
6 yd LHD	2
ANFO Truck	1
Rockbreakers	2
Service Vehicle/Man Carrier	1
Tractor	2
Crane Truck	1
Jacklegs	4
Stopers	5

6.2.6 Manpower Requirements

Table 6.2-2 presents the breakdown of the total underground manpower complement of 89 persons. All development, stoping, maintenance, and supervision functions will need to be supplied to the mine on a 3 per shift 7 days per week basis. Other services identified in the table will be undertaken on a 5 days per week basis.

Table 6.2-2 Manpower Requirements

PERSONNEL	U/G MANPOWER PER SHIFT	SHIFTS PER DAY	U/G MANPOWER PER DAY	DAYS PER WEEK	TOTAL * MANPOWER COMPLEMENT
DEVELOPMENT					
LEAD MINER	2	3	6	5	6
2ND MAN	2	3	6	5	6
3RD MAN	2	3	6	5	6
TRUCK DRIVERS					
LONGHOLE STOPING					
DRILLER	2	3	6	5	8
BLASTER	1	1	1	5	1
BLASTER HELPER	1	1	1	5	1
6 LHD OPERATOR	2	3	6	7	8
SERVICES MAN	1	3	3	7	4
CONVEYOR TRANSPORTATION					
OPERATOR	1	3	3	7	4
LABOURER	1	3	3	7	4
GENERAL SERVICES					
LABOURER	1	3	3	7	4
U/G GRADER OPERATOR	1	1	1	5	1
LEAD CONSTRUCTION CREW MAN	1	1	1	5	1
2ND CONSTRUCTION CREW MAN	2	1	2	5	2
MAINTENANCE PERSONNEL					
MOBILE EQUIPMENT MECHANIC	2	3	6	7	8
MECHANICS HELPER	2	3	6	7	8
STATIONARY MECHANIC	1	1	1	5	1
ELECTRICIAN	1	3	3	7	4
ELECTRICIAN HELPER	1	3	3	7	4
SUPERVISION					
MINING SHIFTBOSS	1	3	3	7	4
SERVICES SHIFTBOSS	1	3	3	7	4
TOTAL UNDERGROUND MANPOWER	**29**		**73**		**89**

* THE TOTAL MANPOWER COMPLEMENT IS CALCULATED BASED ON A 7 DAY PER WEEK OPERATION REQUIRING 4 CREWS ON ROTATION, WITH A CREW OFF AT ANY TIME. A 5 DAY PER WEEK ROTATION REQUIRES NO EXTRA CREW.

6.2.7 Development and Production Schedule

All tonnage calculations for development and production schedules use a rock density of 12 cubic feet per ton. All drift blasting includes a ten percent overbreak factor. Slashing incorporates ten percent overbreak. Drop raises include ten percent overbreak, while bored raises have no overbreak.

Table 6.2-3 shows the ore production schedule for the life of the project.

Table 6.2-3
Ore Production Schedule

childs aldwinkle	ore tons fully diluted	% cu	gross lbs cu	1,999	% cu	2,000	% cu	2,001	% cu	2,002	% cu	2,003	% cu	2,004	% cu
ore develop	19,413	1.08	420,493	0	0.00	0	0.00	0	0.00	19,413	1.08	0	0.00	0	0.00
stope slashing	252,437	1.57	7,942,963	0	0.00	168,292	1.57	84,146	1.57	0	0.00	0	0.00	0	0.00
blasthole stoping	1,881,507	1.74	65,418,155	0	0.00	627,169	1.74	1,254,338	1.74	0	0.00	0	0.00	0	0.00
pillar recovery	641,904	1.20	15,372,971	0	0.00	0	0.00	0	0.00	641,904	1.20	0	0.00	0	0.00
subtotal	2,795,262	1.59	89,154,582	0	0.00	795,460	1.70	1,338,484	1.73	661,318	1.19	0	0.00	0	0.00

creek breccia	ore tons fully diluted	% cu	gross lbs cu	1,999	% cu	2,000	% cu	2,001	% cu	2,002	% cu	2,003	% cu	2,004	% cu
ore develop	153,681	1.32	4,072,536	0	0.00	51,227	1.32	51,227	1.32	51,227	1.32	0	0.00	0	0.00
stope slashing	262,947	1.31	6,913,630	0	0.00	87,649	1.31	87,649	1.31	87,649	1.31	0	0.00	0	0.00
blasthole stoping	2,050,573	1.32	54,034,041	0	0.00	265,664	1.32	347,640	1.32	683,204	1.32	754,065	1.32	0	0.00
pillar recovery	3,189,460	1.35	86,123,670	0	0.00	0	0.00	0	0.00	341,602	1.35	1,070,935	1.35	1,776,922	1.35
subtotal	5,656,661	1.34	151,143,878	0	0.00	404,540	1.32	486,516	1.32	1,163,682	1.33	1,825,000	1.34	1,776,922	1.35

summary	ore tons fully diluted	% cu	gross lbs cu	1,999	% cu	2,000	% cu	2,001	% cu	2,002	% cu	2,003	% cu	2,004	% cu
childs aldwinkle	2,795,262	1.59	89,154,582	0	0.00	795,460	1.70	1,338,484	1.73	661,318	1.19	0	0.00	0	0.00
creek breccia	5,656,661	1.34	151,143,878	0	0.00	404,540	1.32	486,516	1.32	1,163,682	1.33	1,825,000	1.34	1,776,922	1.35
	8,451,922	1.42	240,298,460	0	0.00	1,200,000	1.57	1,825,000	1.62	1,825,000	1.28	1,825,000	1.34	1,776,922	1.35

7.0 PROCESSING

In March 1995 AMT retained Mountain States R&D International, Inc. (MSRDI) and The Winters Company to provide technical assistance in the metallurgical area for the development of the Copper Creek Project. The metallurgical work involved detailed testing of composite samples from three different deposits. Metallurgical test samples were from the Old Reliable mine, the Creek Breccia, and the Childs-Aldwinkle deposit. The mineralogical characterization, ore mineral size characteristics, and the contained copper values in these three major ore types led to potentially applicable metallurgical treatment schemes as follows:

Ore Type	Grade (%)	Mineralogy	Applicable Process
1. Old Reliable	**0.92** **0.89 (Leachable)**	**Secondary Chalcocite** **(Finely Disseminated)**	**Flotation** **Heap Leach**
2. Creek Breccia	**0.59 to 5.00**	**Chalcocite/Pyrite** **(Coarse)**	**Flotation** **HMS* + Flotation**
3. Childs-Aldwinkle	**1.00 to 5.00**	**Bornite/Chalcocite/** **Chalcopyrite/Molybdenite**	**Flotation** **HMS* + Flotation**

*** HMS - Heavy-Media Separation (Coarse) Process**

Appropriate drill core samples in ten-foot intervals from the Creek Breccia pipe and the Childs-Aldwinkle deposit were provided for preparation of the composite samples for the test program. The leaching tests were carried out on composite samples from the Old Reliable obtained from the RC drill rejects provided by AMT.

The composite samples (minus ½ inch size) from the Old Reliable mine were initially leached with acid-ferric sulfate solutions under agitation (bottle roll) leach conditions, and subsequently under column leach conditions over a 70-day period with and without curing. The results of these column leach tests clearly indicate that about 85 percent of the leachable copper was recovered over a 70-day leach period. The results of these tests were used to provide design criteria for the capital and operating cost estimates by Western States Engineering. Figures 7-1 through 7-5 provide the leaching details.

The comprehensive flotation test program was carried out on representative composite samples from the Creek Breccia and the Childs-Aldwinkle deposits at the varying grades. These samples represent all relevant types of mineralization, such as chalcopyrite-pyrite (CP-PY), chalcopyrite-bornite (CP-BN), bornite (BN), chalcopyrite-molybdenite (CP-MO), and molybdenite-chalcocite (MO-CC). An additional flotation test was also carried out on composite samples from the Old Reliable mine.

The flotation test program was carried out under the same set of conditions and reagents as used at the BHP- San Manuel concentrator, since one of the operating options includes shipment and milling of the Copper Creek ores at the San Manuel Plant. The flotation testing included optimization of grind, rougher flotation, regrinding and cleaning, and the locked-cycle tests. The results of these flotation tests clearly reveal that the flotation response of all the copper sulfide minerals is excellent, even in the locked-cycle test. Copper recoveries are in the 91 to 98 percent range, with copper concentrate grades of 32 to 61 percent, depending on the chalcopyrite, bornite, and chalcocite contents of the composite samples.

An alternate process was investigated, owing to the presence of coarse sulfide mineralization (chalcopyrite, bornite, chalcocite and molybdenite) in both the Creek Breccia and the Childs-Aldwinkle ore bodies and involves the use of the HMS technique on coarsely ground ores to obtain a preconcentrate (sink) and a tailings fraction (float). The results of the preliminary bench scale sink-float testing program on coarser fractions (minus 1/2-inch + 28 mesh) of ore representing the sulfide resources at the Copper Creek Project indicate that this preconcentration concept is applicable to all ore types except ores from the Old Reliable mine, where the chalcocite mineralization is more or less finely disseminated.

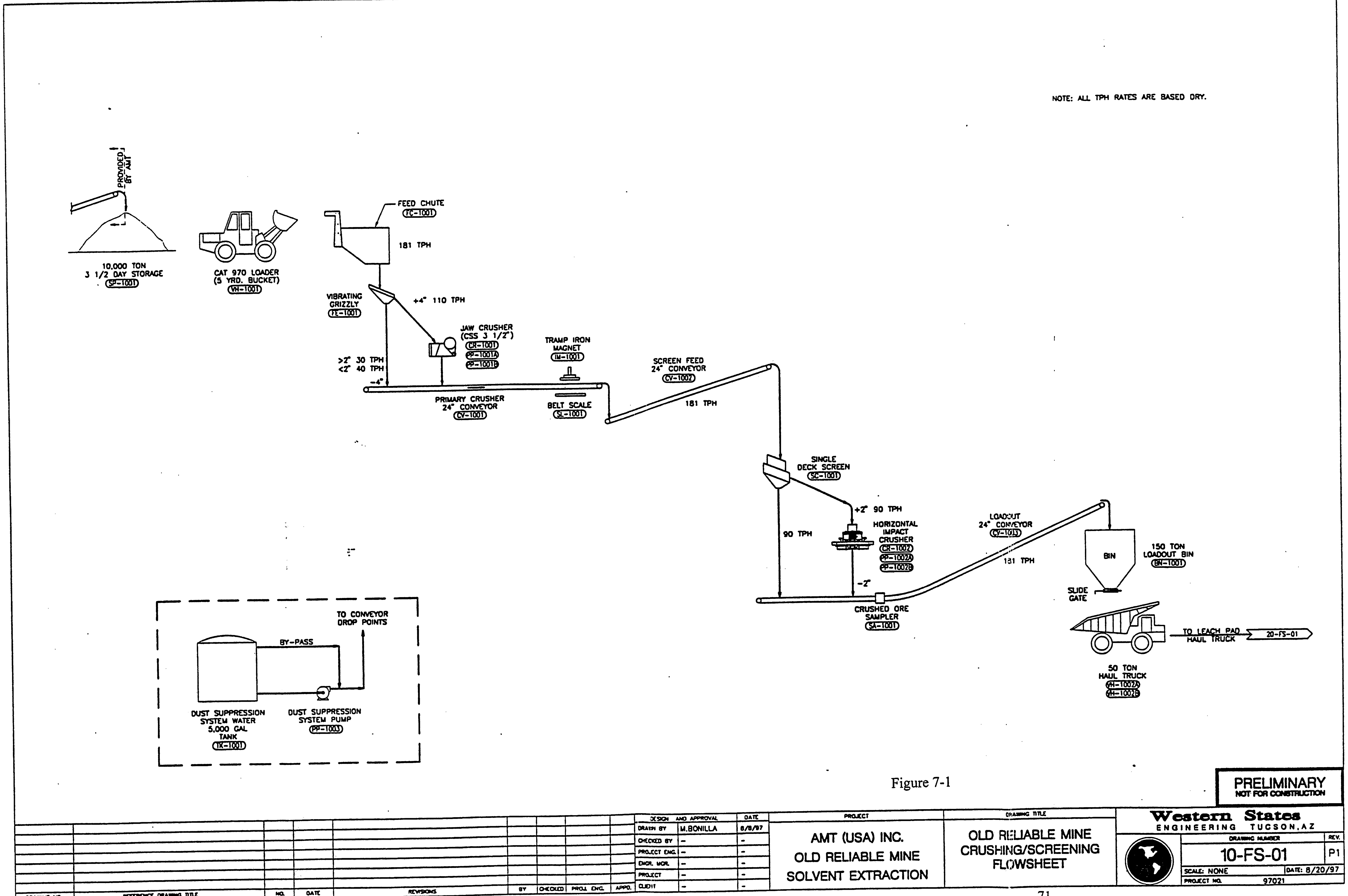

NOTE: ALL TPH RATES ARE BASED DRY.
PROVIDED BY AMT
10,000 TON 3 1/2 DAY STORAGE (SP-1001)
CAT 970 LOADER (5 YRD. BUCKET) (VH-1001)
FEED CHUTE (FC-1001)
181 TPH
VIBRATING GRIZZLY (FE-1001)
+4" 110 TPH
JAW CRUSHER (CSS 3 1/2") (CR-1001) (PP-1001A) (PP-1001B)
>2" 30 TPH
<2" 40 TPH
-4"
TRAMP IRON MAGNET (IM-1001)
PRIMARY CRUSHER 24" CONVEYOR (CV-1001)
BELT SCALE (SL-1001)
SCREEN FEED 24" CONVEYOR (CV-1002)
181 TPH
SINGLE DECK SCREEN (SC-1001)
+2" 90 TPH
90 TPH
HORIZONTAL IMPACT CRUSHER (CR-1002) (PP-1002A) (PP-1002B)
-2"
CRUSHED ORE SAMPLER (SA-1001)
LOADOUT 24" CONVEYOR (CV-1003)
131 TPH
BIN
150 TON LOADOUT BIN (BN-1001)
SLIDE GATE
TO LEACH PAD HAUL TRUCK
20-FS-01
50 TON HAUL TRUCK (VH-1002A) (VH-1002B)
TO CONVEYOR DROP POINTS
BY-PASS
DUST SUPPRESSION SYSTEM WATER 5,000 GAL TANK (TK-1001)
DUST SUPPRESSION SYSTEM PUMP (PP-1003)
PRELIMINARY
NOT FOR CONSTRUCTION
DESIGN AND APPROVAL
DATE
DRAWN BY M.BONILLA 8/8/97
CHECKED BY -
PROJECT ENG. -
ENGR. MGR. -
PROJECT -
CLIENT -
DRAWING NO.
REFERENCE DRAWING TITLE
NO.
DATE
REVISIONS
BY
CHECKED
PROJ. ENG.
APPD.
PROJECT
AMT (USA) INC.
OLD RELIABLE MINE
SOLVENT EXTRACTION
DRAWING TITLE
OLD RELIABLE MINE
CRUSHING/SCREENING
FLOWSHEET
Western States
ENGINEERING TUCSON, AZ
DRAWING NUMBER
10-FS-01
REV.
P1
SCALE: NONE
DATE: 8/20/97
PROJECT NO. 97021

Figure 7-1

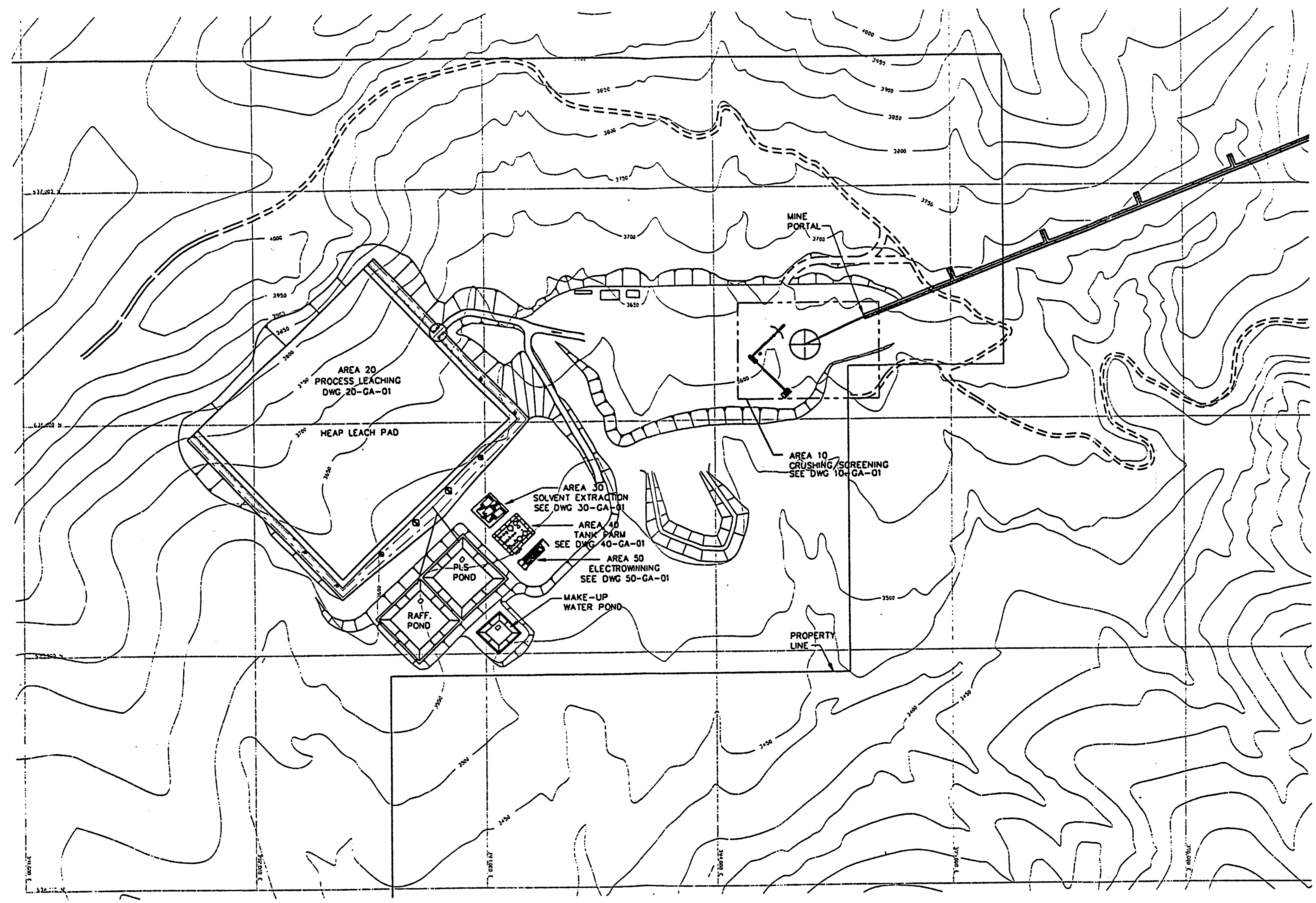


Figure 7-2

PRELIMINARY
NOT FOR CONSTRUCTION

DESIGN AND APPROVAL		DATE
DRAWN BY	T.S.	8/11/97
CHECKED BY		
PROJECT ENG.		
ENGR. MGR.		
PROJECT		
CLIENT		

CLIENT: AMT (USA) INC. OLD RELIABLE MINE SX/EW

DRAWING TITLE: OLD RELIABLE SX/EW PLANT GENERAL SITE PLAN

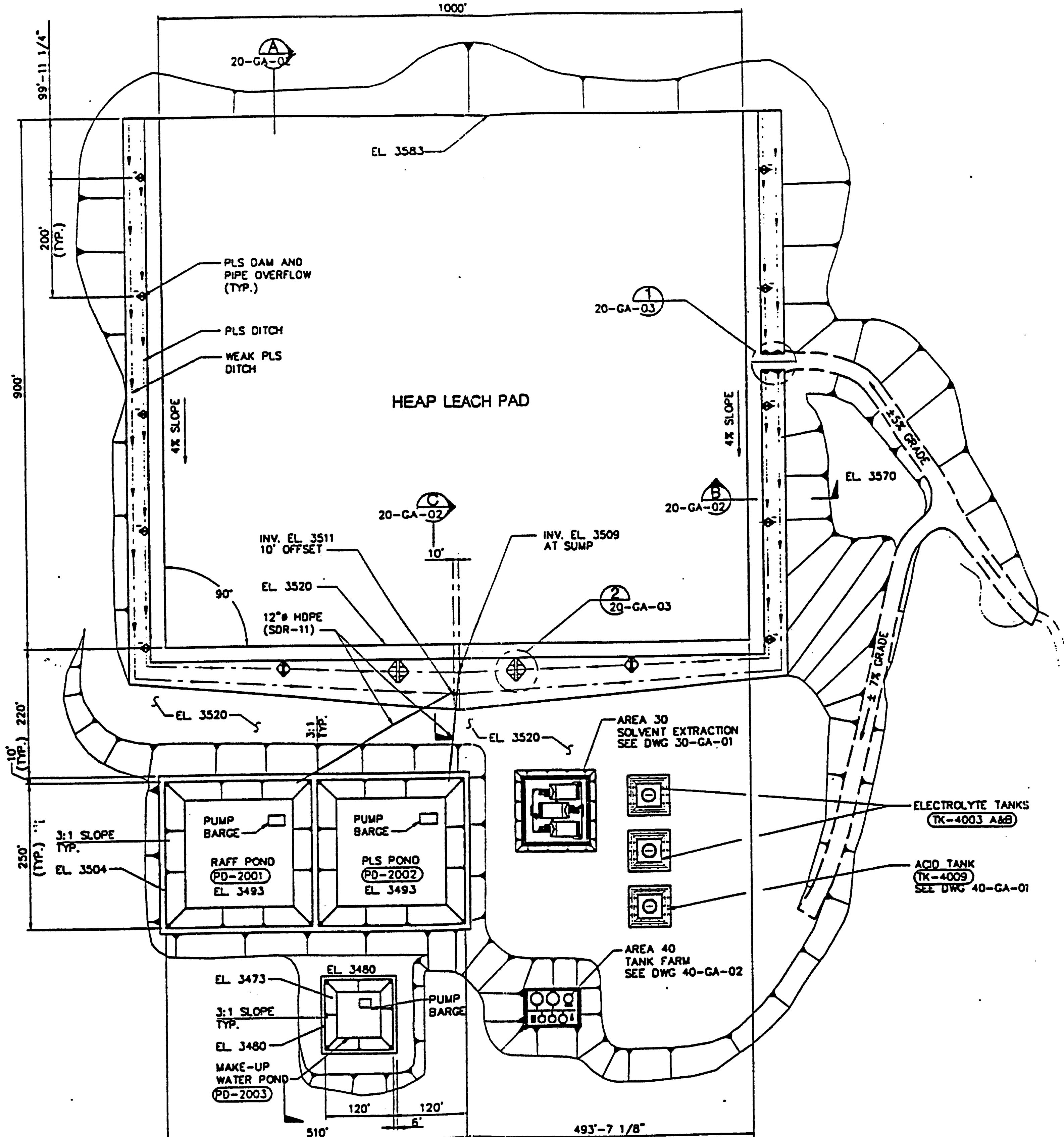
Western States ENGINEERING TUCSON, AZ

DRAWING NUMBER: 00-G-01 REV.: P1

SCALE: 1"=200'-0" DATE: 10/27/97

PROJECT NO. 97021

DRAWING NO.	REFERENCE DRAWING TITLE	NO.	DATE	REVISIONS	BY	CHECKED	PROJ. ENG.	APPD.



PROCESS LEACHING PLAN
SCALE: 1"=100'-0"

Figure 7-3

DESIGN AND APPROVAL		DATE
DRAWN BY	T.S.	8/18/97
CHECKED BY	-	-
PROJECT ENG.	-	-
ENGR. MGR.	-	-
PROJECT	-	-
CLIENT	-	-

PROJECT: AMT (USA) INC. OLD RELIABLE MINE SOLVENT EXTRACTION

DRAWING TITLE: OLD RELIABLE MINE PROCESS LEACHING GENERAL ARRANGEMENT PLAN

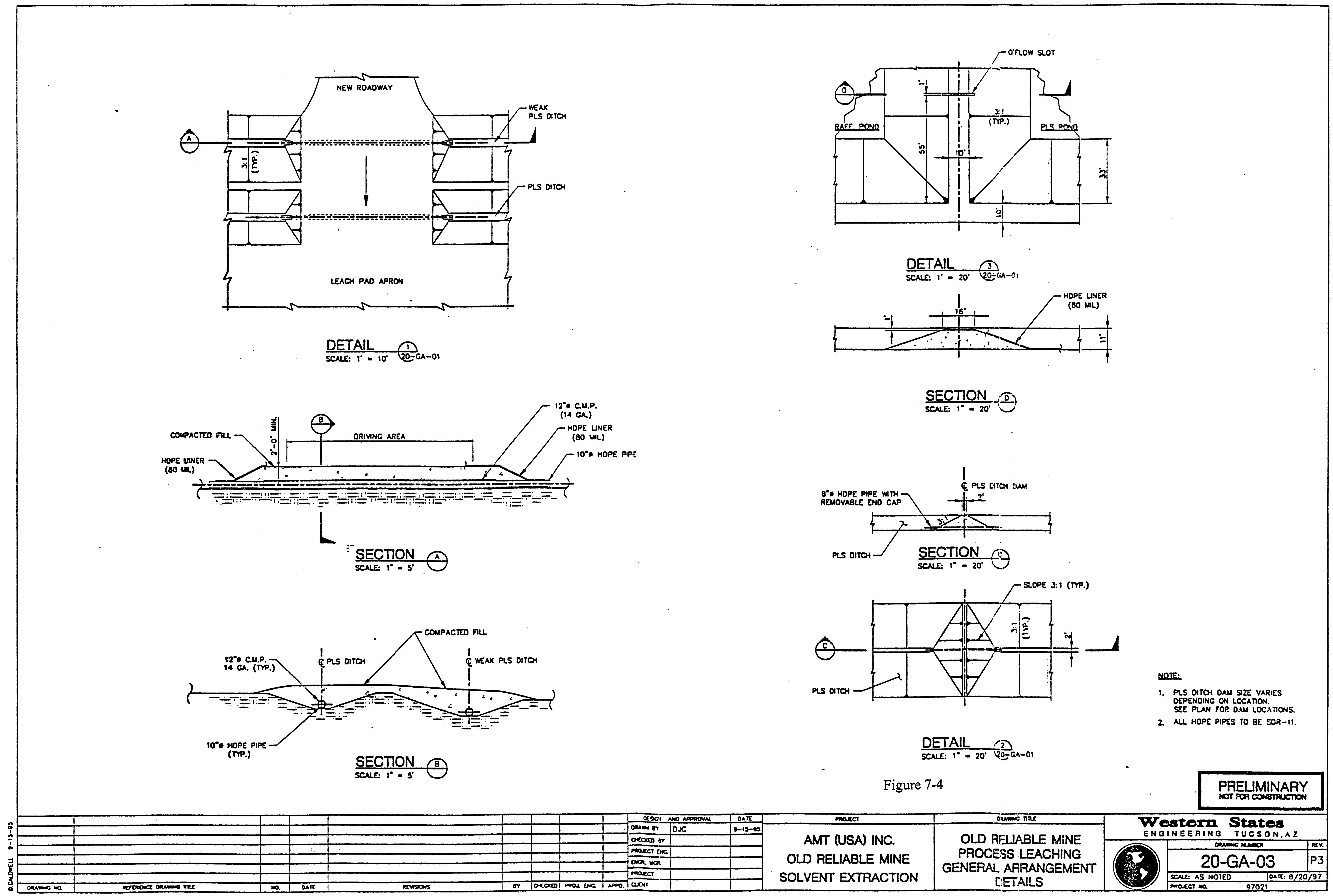
Western States ENGINEERING TUCSON, AZ

DRAWING NUMBER: 20-GA-01 | REV. P1

SCALE: 1"=100'-0" | DATE: 8/20/97

PROJECT NO. 97021

DRAWING NO.	REFERENCE DRAWING TITLE	NO.	DATE	REVISIONS	BY	CHECKED	PROJ. ENG.	APPD.


NEW ROADWAY
WEAK PLS DITCH
PLS DITCH
3:1 (TYP.)
LEACH PAD APRON
DETAIL 1 20-GA-01
SCALE: 1" = 10'
12"ø C.M.P. (14 GA.)
HDPE LINER (80 MIL)
10"ø HDPE PIPE
COMPACTED FILL
HDPE LINER (80 MIL)
2'-0" MIN.
DRIVING AREA
SECTION A
SCALE: 1" = 5'
COMPACTED FILL
12"ø C.M.P. 14 GA. (TYP.)
℄ PLS DITCH
℄ WEAK PLS DITCH
10"ø HDPE PIPE (TYP.)
SECTION B
SCALE: 1" = 5'
O'FLOW SLOT
BAFF. POND
PLS POND
3:1 (TYP.)
55'
10'
33'
DETAIL 3 20-GA-01
SCALE: 1" = 20'
HDPE LINER (80 MIL)
16'
1'
11'
SECTION D
SCALE: 1" = 20'
℄ PLS DITCH DAM
2'
8"ø HDPE PIPE WITH REMOVABLE END CAP
3:1
PLS DITCH
SECTION C
SCALE: 1" = 20'
SLOPE 3:1 (TYP.)
3:1 (TYP.)
2'
PLS DITCH
DETAIL 2 20-GA-01
SCALE: 1" = 20'
NOTE:
1. PLS DITCH DAM SIZE VARIES DEPENDING ON LOCATION. SEE PLAN FOR DAM LOCATIONS.
2. ALL HDPE PIPES TO BE SDR-11.
PRELIMINARY
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DESIGN AND APPROVAL
DRAWN BY DJC
CHECKED BY
PROJECT ENG.
ENGR. MGR.
PROJECT
CLIENT
DATE 9-15-95
PROJECT
AMT (USA) INC.
OLD RELIABLE MINE
SOLVENT EXTRACTION
DRAWING TITLE
OLD RELIABLE MINE
PROCESS LEACHING
GENERAL ARRANGEMENT
DETAILS
Western States
ENGINEERING TUCSON, AZ
DRAWING NUMBER
20-GA-03
REV. P3
SCALE: AS NOTED
DATE: 8/20/97
PROJECT NO. 97021
DRAWING NO.
REFERENCE DRAWING TITLE
NO.
DATE
REVISIONS
BY
CHECKED
PROJ. ENG.
APPD.
D.CALDWELL 9-15-95

Figure 7-4

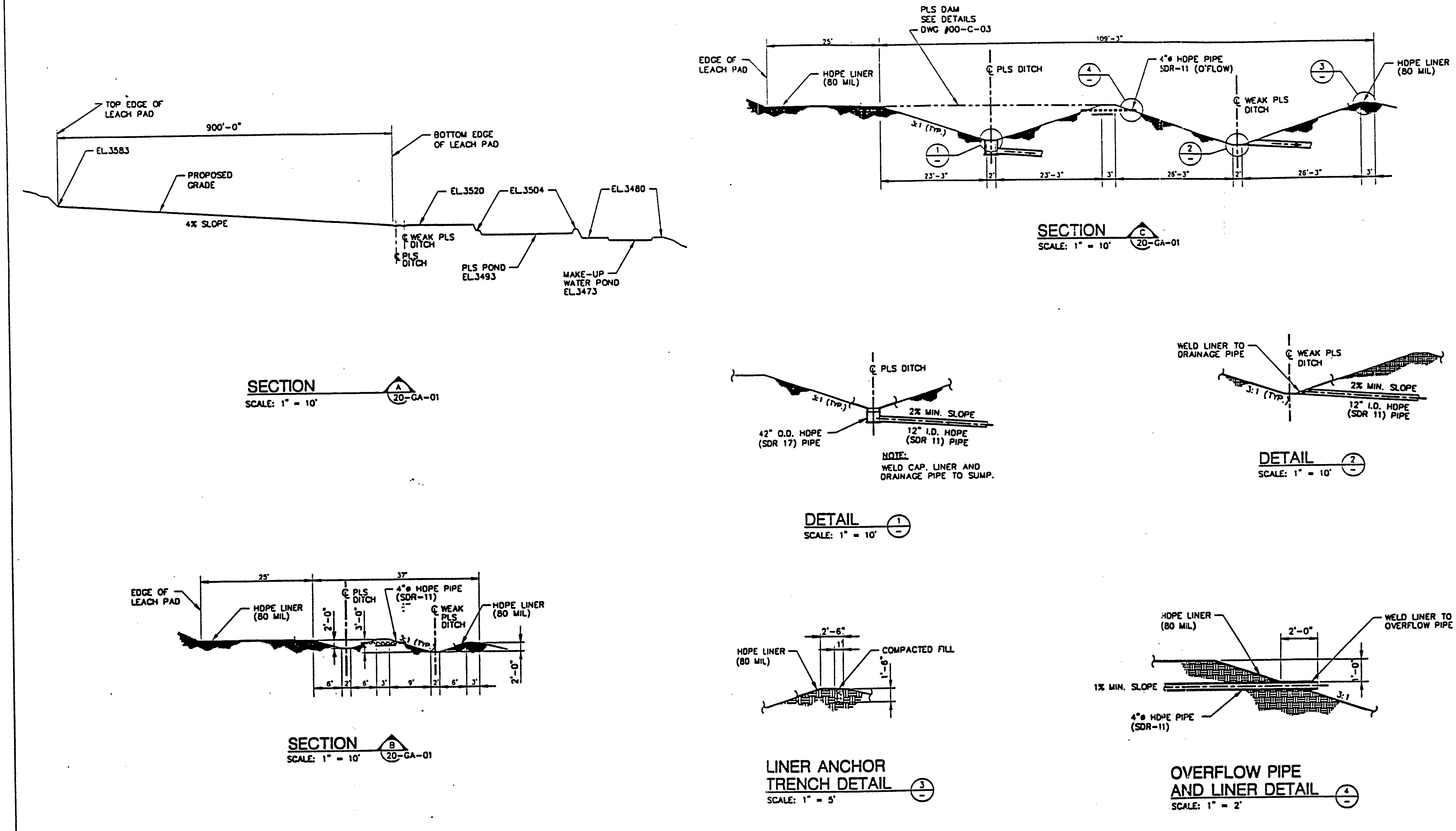

Figure 7-5

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PROJECT ENG.		
ENGR. MGR.		
PROJECT		
CLIENT		

PROJECT: AMT (USA) INC. OLD RELIABLE MINE SOLVENT EXTRACTION

DRAWING TITLE: OLD RELIABLE MINE PROCESS LEACHING GENERAL ARRANGEMENT SECTIONS

Western States ENGINEERING TUCSON, AZ

DRAWING NUMBER: 20-GA-02 REV. P3

SCALE: AS NOTED DATE: 8/20/97

PROJECT NO. 97021

DRAWING NO. | REFERENCE DRAWING TITLE | NO. | DATE | REVISIONS | BY | CHECKED | PROJ. ENG. | APPD.

D CALDWELL 9-14-95

Recoveries of 90 to 95 percent with concentrate grades of 17 to 19 percent copper were achieved for the Creek Breccia composite samples using the HMS technique on the coarser fractions. The Creek Breccia samples contain mostly chalcopyrite. For composite samples of Childs-Aldwinkle ore, copper recoveries were somewhat lower (85 to 87 percent), with preconcentrate grades ranging from 23 to 32 percent copper, depending on the chalcopyrite content of the composite sample. The results were obtained during a DWP pilot plant testing program conducted by MSRDI at Vail, Arizona.

It should be noted that the DWP (Dyna Whirlpool) technique is usually applied to coarser fractions above 28 mesh, owing to increased loss of the ferrosilicon/magnetite media at particle size finer than 28 mesh. In general, the minus 28 mesh fraction is treated by either appropriate gravity concentration devices, such as jigs, tables, spirals, etc., or by froth flotation. The latter is preferable, since it allows selective separation of copper sulfide minerals from pyrite. Since the preconcentrates (sink product) from the DWP process also require upgrading by flotation to obtain the best smelter feed, the preconcentrates and the minus 28 mesh fraction are combined and floated together.

The above observations were confirmed by running appropriate flotation tests on the preconcentrates and minus 28 mesh alone, and on their mixtures in proper proportions. The results of these tests show that inclusion of the flotation step subsequent to DWP separation on the sink product and minus 28 mesh fraction gives copper recoveries of 98 percent of the flotation feed with a concentrate grade of 33 percent for Creek Breccia, and a recovery of 99 percent on the flotation feed with a concentrate grade of 45 to 51 percent in the Childs-Aldwinkle ores.

By combining the two concentrates in proper proportions it is possible to achieve an overall smelter feed grade of 40 percent copper. This final concentrate is relatively clean, and the penalty metals are below the specified limits.

The Copper Creek property ores, especially Childs-Aldwinkle orebody, contain an appreciable Mo content (0.066 percent), which tends to concentrate with copper. Preliminary selective flotation tests indicate that it is technically feasible to recover appreciable amounts of molybdenum (plus 66 percent) along with contained rhenium (1100 ppm) as valuable by-products.

The results of the metallurgical testing program on the sulfide resources at the Copper Creek Project clearly indicate that a combination of the heavy-media separation process for coarser fractions and a combined flotation step on the mixture of the sink fraction and minus 28 mesh product provide the most appropriate smelter feed. Copper recoveries range from 92 to 95 percent for the Creek Breccia ore and from 85 to 87 percent for the Childs-Aldwinkle ore.

If the mineralogical attributes of the float product from the DWP processing render it amenable to heap leaching, as appears to be the case for some Childs-Aldwinkle ores, Childs-Aldwinkle copper recoveries may increase to 92 - 93 percent.

A processing flowsheet and material balance are presented in Figures 7-6 and 7-7. Crushing and heavy media site plan and detail flowsheet and mass balance are presented in Figures 7-8 and 7-9.

Smelting Considerations

The results of the test program for the treatment of the sulfide resources at the Copper Creek property were culminated in a flowsheet consisting of HMS for coarse ore fractions and flotation of sink products and the minus 28 mesh fractions to provide the final marketable concentrates to the smelter.

It has been shown that combination of the flotation concentrates from the two different sources, a lower grade (33 percent Cu) product from the Creek Breccia and a higher grade concentrate (52 percent Cu) from the Childs-Aldwinkle, should make it feasible to produce a final concentrate blend assaying about 40 percent copper. Data also show that combination of the two concentrates make it possible to obtain about 27 percent sulfur and 21 percent iron in the final concentrates with about ten percent SiO_2.

Finally, it should be noted that the levels of As, Sb, Bi, Cd, and Hg are held to acceptable levels

Figure 7-6 Flowsheet Creek Breccia & Childs Aldwinkle

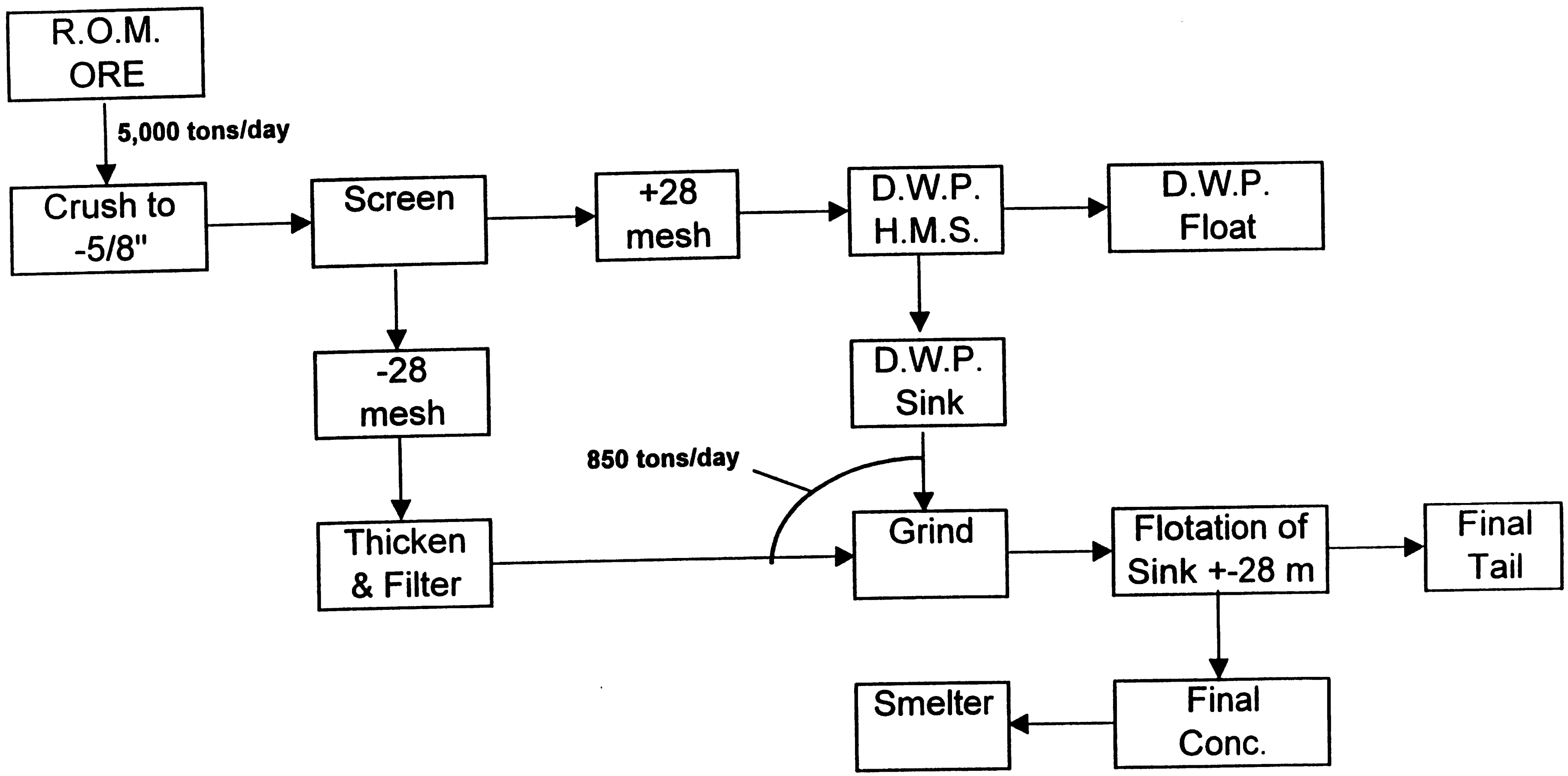
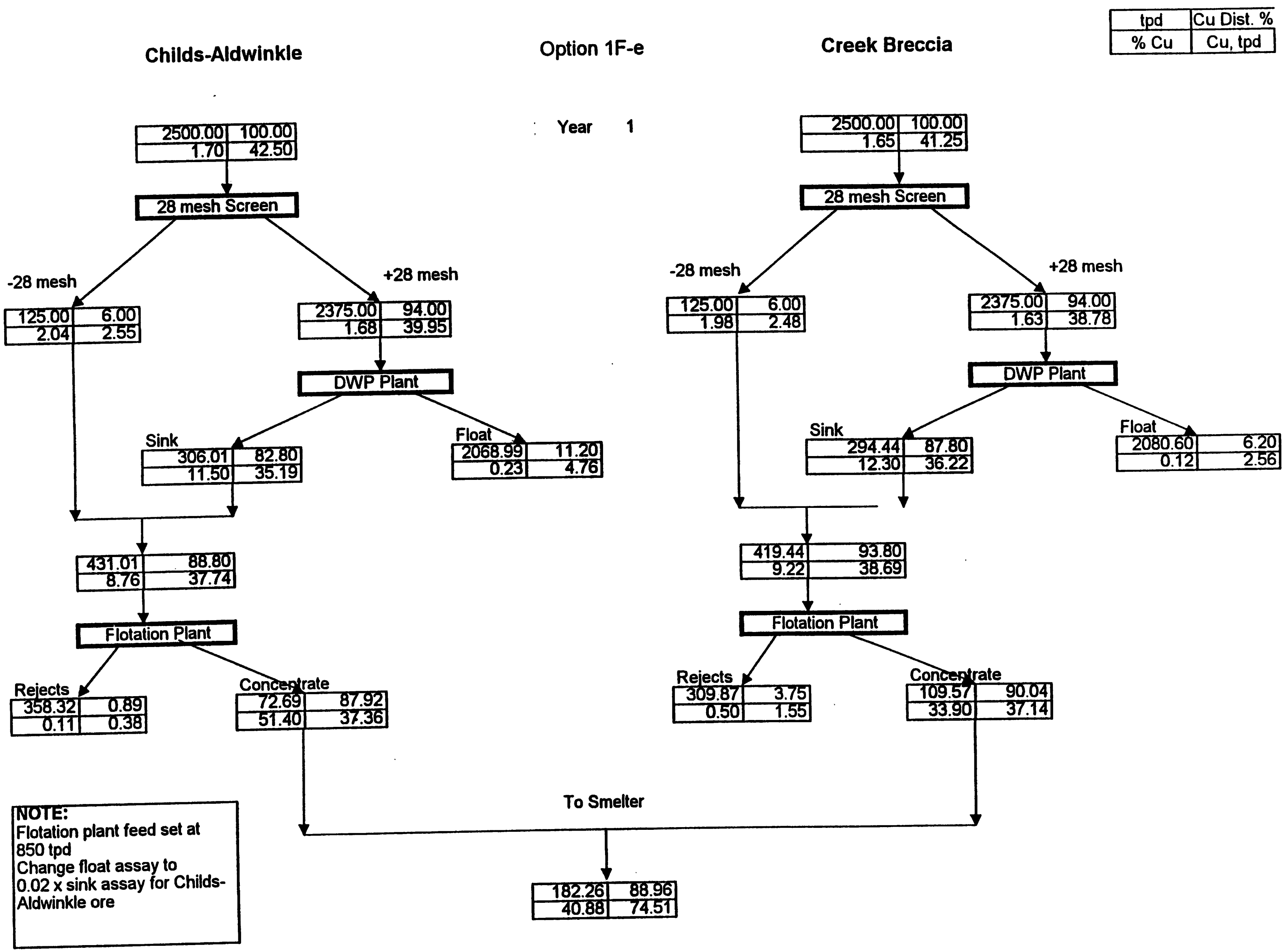
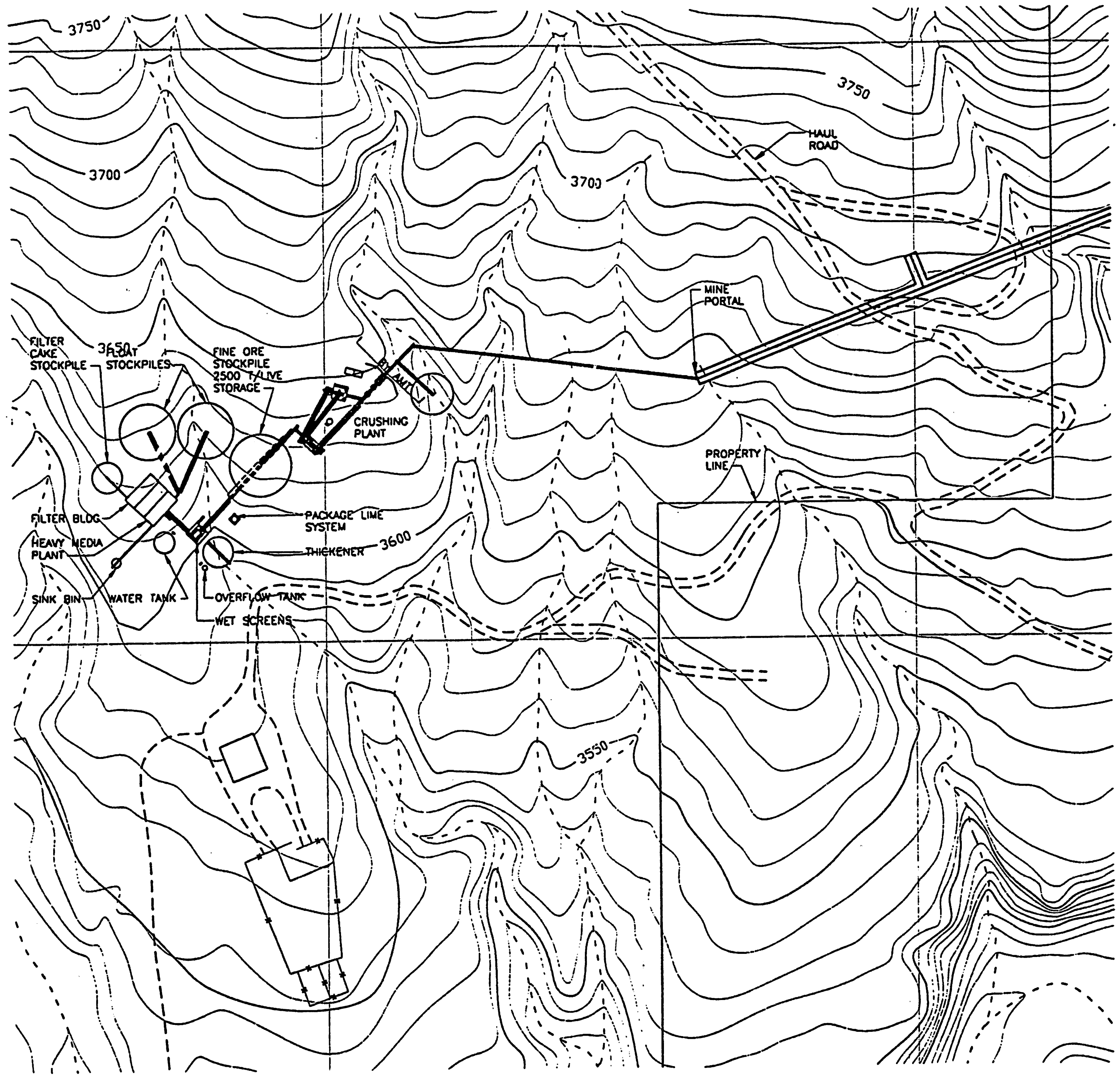


Figure 7-7 Material Balance





OVERALL SITE PLAN
SCALE: 1"=100'-0" (SEE DWG 00-SP-002)

Figure 7-8

PRELIMINARY
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DESIGN AND APPROVAL		DATE
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CLIENT: AMT (USA) INC.
COPPER CREEK PROJECT

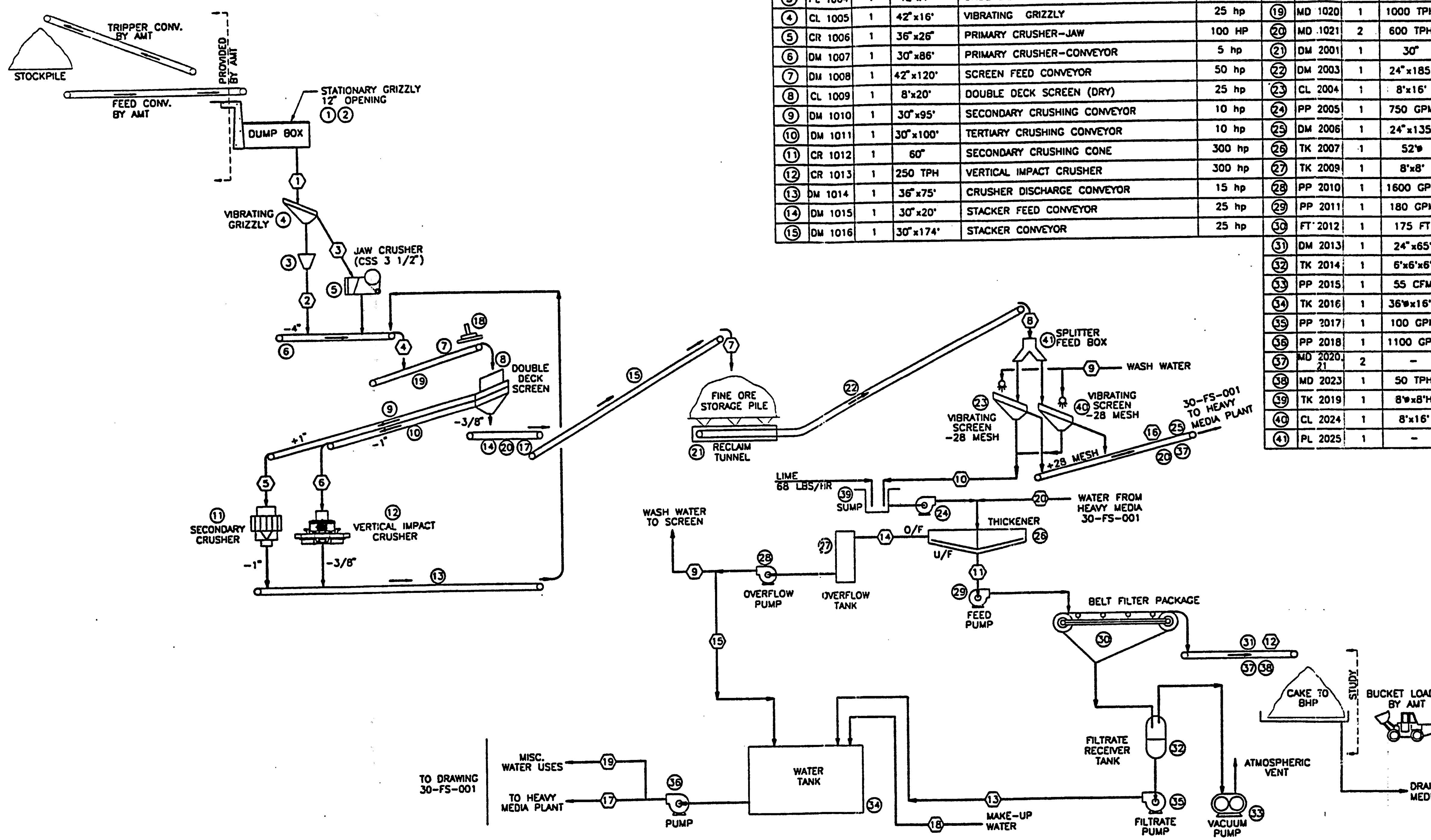
DRAWING TITLE: CRUSHING & HEAVY MEDIA PLANT SITE PLAN

Western States
ENGINEERING TUCSON, AZ

DRAWING NUMBER: 00-SP-001
REV.: 0
SCALE: 1"=100'-0"
DATE: 10/27/97
PROJECT NO. 97012

ITEM	TAG #	NO. REQ'D.	SIZE	DESCRIPTION	H.P. EACH
1	PL 1001	1	100 TON	DUMP HOPPER	-
2	CL 1002	1	10'x8'	STATIONARY GRIZZLY	-
3	PL 1004	1	42"x4'	UNDERSIZED DUMP CHUTE	-
4	CL 1005	1	42"x16'	VIBRATING GRIZZLY	25 hp
5	CR 1006	1	36"x26"	PRIMARY CRUSHER-JAW	100 HP
6	DM 1007	1	30"x86'	PRIMARY CRUSHER-CONVEYOR	5 hp
7	DM 1008	1	42"x120'	SCREEN FEED CONVEYOR	50 hp
8	CL 1009	1	8'x20'	DOUBLE DECK SCREEN (DRY)	25 hp
9	DM 1010	1	30"x95'	SECONDARY CRUSHING CONVEYOR	10 hp
10	DM 1011	1	30"x100'	TERTIARY CRUSHING CONVEYOR	10 hp
11	CR 1012	1	60"	SECONDARY CRUSHING CONE	300 hp
12	CR 1013	1	250 TPH	VERTICAL IMPACT CRUSHER	300 hp
13	DM 1014	1	36"x75'	CRUSHER DISCHARGE CONVEYOR	15 hp
14	DM 1015	1	30"x20'	STACKER FEED CONVEYOR	25 hp
15	DM 1016	1	30"x174'	STACKER CONVEYOR	25 hp

ITEM	TAG #	NO. REQ'D.	SIZE	DESCRIPTION	H.P. EACH
16	DM 1017	1	-	DUST SUPPRESSION SYSTEM	-
17	MD 1018	1	-	SAMPLING SYSTEM	-
18	SP 1019	1	42"x42"x20'	TRAMP IRON MAGNET	-
19	MD 1020	1	1000 TPH	BELT SCALE	-
20	MD 1021	2	600 TPH	BELT SCALE	-
21	DM 2001	1	30"	FINE ORE PLATE FEEDERS	60 hp
22	DM 2003	1	24"x185'	WET SCREEN FEED CONVEYOR	15 hp
23	CL 2004	1	8'x16'	SINGLE DECK VIBRATING SCREEN (WET)	20 hp
24	PP 2005	1	750 GPM	THICKENER FEED PUMP	7.5 hp
25	DM 2006	1	24"x135'	HEAVY MEDIA PLANT FEED CONVEYOR	15 hp
26	TK 2007	1	52'ø	THICKENER W/MECHANISM	15hp
27	TK 2009	1	8'x8'	OVERFLOW TANK	-
28	PP 2010	1	1600 GPM	OVERFLOW PUMP	30 hp
29	PP 2011	1	180 GPM	FILTER FEED PUMP	-
30	FT 2012	1	175 FT²	BELT FILTER PACKAGE	3 hp
31	DM 2013	1	24"x65'	PRODUCT LOADOUT CONV.	3 hp
32	TK 2014	1	6'x6'x6'	FILTRATE RECEIVER	-
33	PP 2015	1	55 CFM	VACUUM PUMP	25 hp
34	TK 2016	1	36'øx16'H	WATER TANK	-
35	PP 2017	1	100 GPM	FILTRATE PUMP	5 hp
36	PP 2018	1	1100 GPM	WATER PUMP	25 hp
37	MD 2020, 21	2	-	ORE SAMPLER	2 hp
38	MD 2023	1	50 TPH	BELT SCALE	-
39	TK 2019	1	8'øx8'H	SCREEN DISCHARGE SUMP	-
40	CL 2024	1	8'x16'	SINGLE DECK VIBRATING SCREEN	20 hp
41	PL 2025	1	-	SPLITTER FEED BOX	-



⬡ — STREAM DESCRIPTION
○ — EQUIPMENT

COMPONENT\STREAM	1	2	3	4	5	6	7	8	9	10
STREAM DESCRIPTION	RUN OF MINE ORE	SCALPED ORE	JAW CRUSHER FEED	SCREEN FEED	CONE CRUSHER FEED	IMPACT FEED	FINE ORE -3/8" TO STOCKPILE	FEED TO WET SCREENS	WASH WATER	-28 MESH TO THICKENER
SOLIDS, tph	277.8	115.3	162.4	755.6	244.6	233.2	277.8	226.4		34.1
WATER, tph or (gpm)	14.6	6.1	8.5	39.8	12.9	12.3	14.6	11.9	(755)	181.5
SOLIDS, %	95.0			95.0				95.0		15.8
TOTAL WEIGHT, tph	292.4	160.3	171.0	795.4	257.5	245.5	292.4	238.4	188.6	215.6
% Cu	2.00			2.0			2.0	2.0		2.63
Cu, tph	5.57			15.14			5.57	4.54		0.90
SIZE	-12"						-3/8"			-28M

COMPONENT\STREAM	11	12	13	14	15	16	17	18	19	20
STREAM DESCRIPTION	THICKENER UNDERFLOW	CAKE TO BHP	FILTRATE	THICKENER OVERFLOW	TO WATER TANK	FEED TO HEAVY MEDIA	WATER FEED TO H.M.	MAKE-UP WATER	MISC. WATER USES	WATER FROM HM
SOLIDS, tph	34.1	34.1				192.3				
WATER, tph or (gpm)	34.1	11.4	(91)	(1608)	(944)	19.0	(1102)	(200)	(44)	(1021)
SOLIDS, %	50.0	75.0				91.0				
TOTAL WEIGHT, tph	68.2	45.5	22.7	402.7	236	211.4	275.4	49.9	11.0	255.2
% Cu		2.63				1.89	- -			
Cu, tph		0.90				3.64				
SIZE										

Figure 7-9

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ENGR. MGR.		
PROJECT		
CLIENT		

CLIENT: AMT (USA) INC.
COPPER CREEK PROJECT

DRAWING TITLE: COPPER CREEK PLANT CRUSHING/THICKENING DETAIL FLOWSHEET & MASS BALANCE

Western States ENGINEERING TUCSON, AZ

DRAWING NUMBER: 00-FS-001 | REV. P1
SCALE: NONE | DATE: 5/23/97
PROJECT NO. 97012

WSE PLOTTED DATE: 7-2-97

without penalty, and that the credit items such as gold and silver are maximized. The smelter return on the combined final concentrates appears to be higher than that obtainable by marketing the concentrates separately.

Table 7-1 lists the anticipated typical chemical composition of concentrate from the Copper Creek ores. The general criteria for smelter acceptability follow.

- Copper to sulfur and copper to iron ratios should approach one or exceed one for acceptability. Copper content will generally be in excess of 28 percent. Higher ratios are favorable and lower ratios undesirable. The high copper content of the typical Copper Creek concentrates, coupled with relatively low sulfur and iron contents should receive a credit in smelting because:
    a. less flux is required per ton copper produced;
    b. less slag is produced;
    c. less acid is produced;
    d. a higher grade matte is produced requiring less conveyor capacity; and
    e. overall plant copper production capacity is increased.

- The high SiO_2 content is favorable. There is no penalty for SiO_2 and there may be a credit.
- Lime and magnesia are acceptable.
- Alumina may be limited to three percent.
- Fluorine is below the acceptable limit of 0.03 percent.
- Chlorine exceeds the limit of 0.05 percent.
- Mercury is below the acceptable limit of ten ppm.
- Arsenic and antimony are below the acceptable limits of 0.2 and 0.1 percent respectively.
- Bismuth is acceptable below 0.05 percent. Typical concentrates are below this value.
- Zinc is below the acceptable limit of three percent.
- Lead is below the acceptable limit of one percent.
- Nickel plus cobalt are below the 0.5 percent limit.

Table 7-1 Concentrate Chemical Composition

(Blended Concentrate of Childs-Aldwinkle & Creek Breccia Production)

Component	Typical Composition (%)	Maximum Allowable (%)
Cu	40.88	
Fe	20.90	
S	27.10	
Mo Re	0.04 1100 ppm	
Au	0.05 oz./t	
Ag	2.40 oz./t	
As	0.03	0.20
Sb	Nd	0.10
Bi	0.034	0.05
Hg	4 ppm	10 ppm
Cd	<0.01	
F	100 ppm	300 ppm
Cl	600 ppm	500 ppm
CaO	0.70	
MgO	0.10	
Al_2O_3	2.20	3.00
SiO_2	11.00	
Se	0.003	
Te	Nd	
Sn	Nd	
Mn	0.03	
Cr	0.03	
Ni + Co	0.03	0.50
Zn	0.08	3.00
Pb	0.06	1.00

8.0 PROJECT SCHEDULE

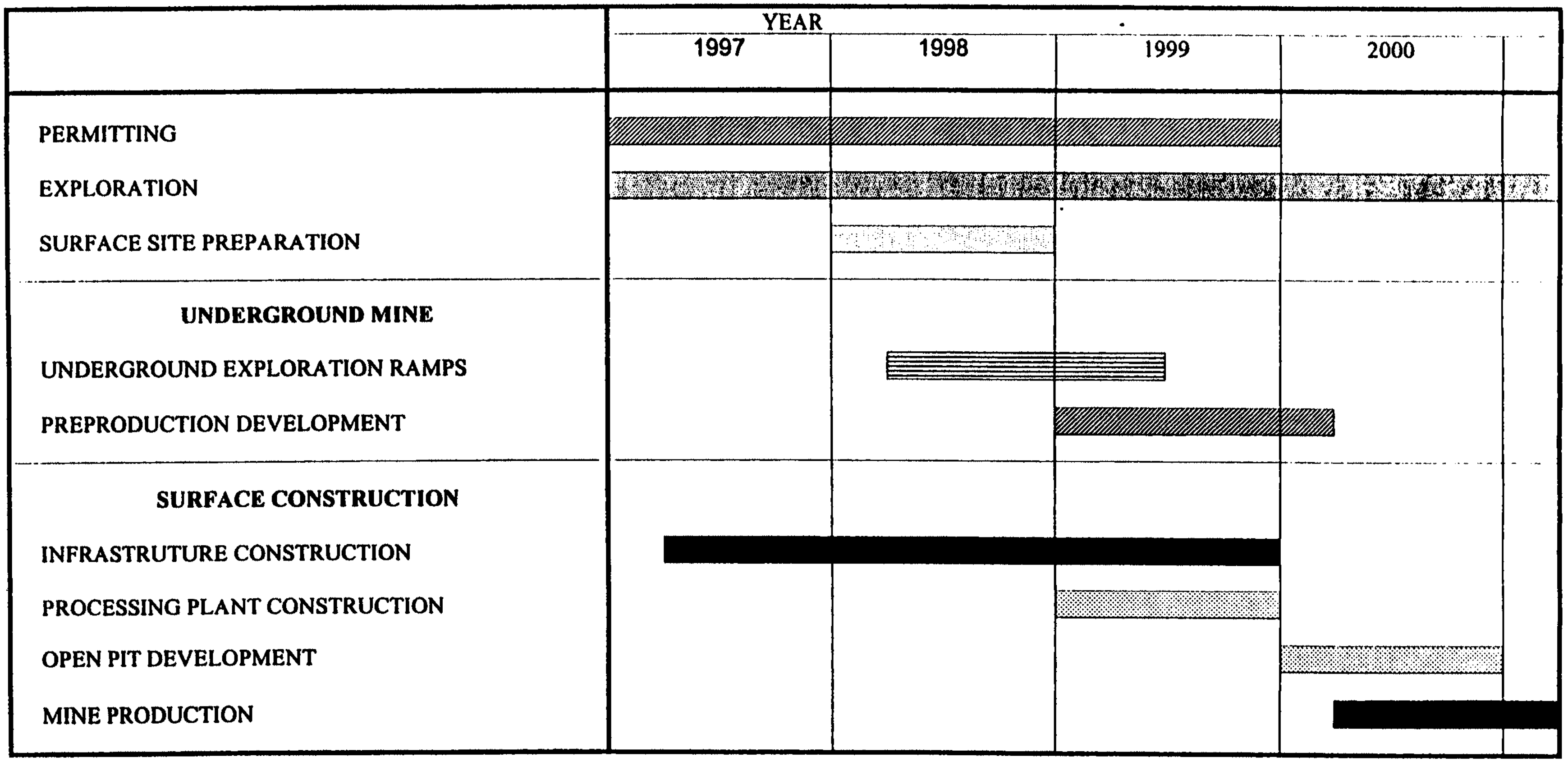
Detailed engineering, development and construction of the Copper Creek project is estimated to take two years once a go ahead is given to proceed with the project. It is assumed that a go ahead decision will be made later this year.

The critical item on the schedule is the permitting. Limited permitting activities have already started. Now that the detailed mine plans are ready, the permitting activity will increase in intensity later this year.

Detailed engineering work has commenced, and the efforts will be intensified after concurrence with the joint venture partner.

Driving of the exploration declines is planned to commence early in 1998. A project schedule of critical items and their time line is presented in Figure 8-1.

Figure 8-1
Copper Creek Project Schedule



9.0 PROJECT ECONOMICS

9.1 CAPITAL COST SCHEDULE

The attached Table 9.1-1 describes the capital costs associated with the open pit mine at the Old Reliable, the underground operations at the Childs-Aldwinkle and the Creek Breccia, and the concentrating plant on the Ryland Ranch

Capital costs associated with underground mining include the spiral ramp and level development at Childs-Aldwinkle, the cost of the Ryland conveyor decline, and level development on the Creek Breccia. Ventilation and orepass raises on both underground orebodies are shown under the category "Bored Raises." Other capital costs include mining machinery and equipment and surface and underground infrastructure associated with underground mining on both orebodies.

Capital costs associated with open pit mining include the bored ventilation-orepass raise connecting the Old Reliable open pit workings with the Ryland conveyor decline. In the early phases of the work, the Old Reliable bored raise would be used to ventilate the remaining Ryland decline drive, construction of the underground conveyor belt, and the development of the Creek Breccia orebody. In the later phases of work, the Old Reliable bored raise would be used as an orepass to transfer open pit ore to the conveyor system for transport to the facilities on the Ryland Ranch. Pre-production stripping of the rubblized pile is carried as a capital cost. Permitting of the open pit mine and the associated waste dumps is also carried under capital costs.

The capital costs shown under the category "Plant and Equipment" reflect the construction of the heavy-media separation plant at Ryland Ranch. A heap leach and SX operation would also be required on the Ryland Ranch to handle open pit production from the Old Reliable.

Table 9.1-1: Capital Cost Schedule
(in $ thousands)

Underground development

	1,998	1,999	2,000	2,001	2,002	2,003	2,004	2,005	Total
CA spiral ramp	1,645	0	0	0	0	0	0	0	1,645
Ryland decline	4,720	0	0	0	0	0	0	0	4,720
CA ug develop	2,332	1,166	1,166	0	0	0	0	0	4,664
Creek ug develop	0	2,377	0	579	0	0	0	0	2,956
Bored Raises	1,502	616	0	0	0	0	0	0	2,118
UG machinery leases	0	882	1,102	1,102	1,102	1,102	1,102	0	6,392
UG Infrastructure	83	4,310	890	0	0	0	0	0	5,283
Surface infrastructure	1,431	1,510	0	0	0	0	0	0	2,941
subtotal underground	11,713	10,861	3,158	1,681	1,102	1,102	1,102	0	30,719

Old Reliable open pit

	1,998	1,999	2,000	2,001	2,002	2,003	2,004	2,005	Total
Orepass connection	0	0	0	300	0	0	0	0	300
Pre production stripping	0	0	2,000	2,000	0	0	0	0	4,000
Permitting	0	0	125	125	0	0	0	0	250
Subtotal OR open pit	0	0	2,125	2,425	0	0	0	0	4,550

Plant and equipment

	1,998	1,999	2,000	2,001	2,002	2,003	2,004	2,005	Total
Heavy media plant	1,000	6,200	0	0	0	0	0	0	7,200
Independent flot circuit	3,600	6,200	0	0	0	0	0	0	9,800
heap leach and sx plant	0	0	2,500	2,600	0	0	0		5,100
closure allowance	0.	0	0	0	0	0	500	0	500
Cons ind (6%)	0	0	150	156	0	0	0	0	306
Subtotal plant and equipment	4,600	12,400	2,650	2,756	0	0	500	0	22,906

Capital Cost Summary

	1,998	1,999	2,000	2,001	2,002	2,003	2,004	2,005	Total
Total expenditures	16,313	23,261	7,933	6,862	1,102	1,102	1,602	0	58,175
Salvage value	0	0	0	0	0	0	0	(6,000)	(6,000)
Net total	16,313	23,261	7,933	6,862	1,102	1,102	1,602	(6,000)	52,175

9.2 OPERATING COST SCHEDULE

The attached Table 9.2-1 describes the operating costs associated with the open pit mine at the Old Reliable, the underground operations at Childs-Aldwinkle and the Creek Breccia, and the processing plant on the Ryland Ranch.

The operating costs on the Old Reliable open pit mine are based upon contractors' estimates for mobilization - demobilization, and drilling, blasting, loading and hauling ore and waste material. The category "Other" reflects such items as the maintenance of roads and waste dumps, and general contractors' overheads.

The operating costs associated with the underground operations include the category "General Operations," which reflects delivery of materials and supplies, maintenance of roads, service and maintenance of communications and electrical systems, sanitation, housekeeping, fire protection, and miscellaneous items. Stope preparation includes driving pilot drifts and slashing out the orebodies. Other cost categories listed include blasthole stoping, mine ventilation and hydraulic backfilling. Operating costs include labor and labor burden, supervision and engineering, power, repair parts, fuel, tires, materials and supplies, and miscellaneous items.

The operating costs described in the section "Concentrating Plant" include labor and labor burden, power, repair parts, reagents, supplies, and all necessary incidentals associated with the operations of the heavy-media plant and the heap leach and SX operations on the Ryland Ranch.

Table 9.2-1: Operating Cost Schedule
(in $ thousands)

Operating Costs
Old Reliable Open Pit

	1,998	1,999	2,000	2,001	2,002	2,003	2,004	2,005	Total
Mobe and demobe	0	0	0	0	0	0	0	0	0
Pre production stripping	0	0	0	0	0	0	0	0	0
Ore drill and blast	0	0	0	250	250	216	77	0	794
Ore load and haul	0	0	0	665	665	575	205	0	2,109
Waste drill and blast	0	0	0	484	484	418	149	0	1,534
Waste load and haul	0	0	0	1,267	1,267	1,095	390	0	4,020
Other, Gen and Admin	0	0	0	522	607	457	182	12	1,779
Subtotal open pit mining	0	0	0	3,188	3,273	2,761	1,003	12	10,237

Operating Costs
Underground mining

General operations	0	0	935	1,422	1,422	1,422	1,384	0	6,585
Stope preparation	0	0	938	1,427	1,427	1,427	1,390	0	6,609
Blasthole stoping	0	0	3,600	5,475	5,475	5,475	5,331	0	25,356
Conveyor haulage	0	0	504	767	767	767	746	0	3,550
Mine ventilation	0	0	250	379	379	379	369	0	1,757
Compressed air plant	0	0	164	249	249	249	243	0	1,155
Water supply system	0	0	97	147	147	147	143	0	680
Drainage and disposal	0	0	33	50	50	50	49	0	233
Hydraulic backfilling	0	0	540	821	821	821	800	0	3,803
Underground supervision	0	0	697	1,061	1,061	1,061	1,033	0	4,912
Engineering	0	0	404	615	615	615	599	0	2,849
General and Administrative	0	0	3,045	3,156	2,715	2,117	1,729	100	12,862
Subtotal underground mining	0	0	11,207	15,569	15,128	14,530	13,815	100	70,351

Operating Costs
Concentrating plant

Heavy media plant	0	0	2,052	3,121	3,121	3,121	3,039	0	14,454
Independent flot circuit	0	0	1,146	1,773	1,478	1,585	1,575	0	7,557
Heap leach and sx plant	0	0	0	3,223	3,147	2,956	2,829	0	12,155
Subtotal concentrating plant	0	0	3,198	8,117	7,746	7,662	7,443	0	34,166

Operating Cost Summary

Grand Total	0	0	14,405	26,874	26,147	24,953	22,261	112	114,754

9.3 PROJECT ANALYSIS

Detailed economic analyses of the project were carried out by the Winters Group. Production and cost data were generated by AMT, the Mountain States Engineers, Western Engineering, and the engineering division of Winters Group, and supplied to the economic analysis section of the Winters Group by AMT.

The feasibility data (**PHASE I**) discussed here are based on the following mineable reserves:

Old Reliable	2,900,000 tons @ 0.93% Cu
Childs-Aldwinkle	2,800,000 tons @ 1.59% Cu
Creek Breccia	5,700,000 tons @ 1.34% Cu

- The mining plan calls for mining the Old Reliable open pit at 2,000 tons per day and the two underground orebodies at 5,000 tons per day (total).
- Two alternatives have been evaluated for the processing of these ores.

Case 1 (The Base Case)

Heavy media separation followed by flotation treatment, including moly plant, of all underground ore at the Copper Creek site. The copper concentrate will be transported via truck to BHP's San Manuel Smelter for toll processing.

The Old Reliable ore will be leached on site, and the pregnant leach solution will be processed through a solvent extraction plant onsite. The rich electrolyte solution will be transported via tanker truck for toll electrowinning.

Case 2

Case 2 is identical to Case 1 except that, instead of building a flotation concentration plant at the Copper Creek site, the fines and HMS sink material will be transported via truck to AMT's mill at San Manuel and for processing. The mill will have a molybdenum recovery circuit.

Processing of Old Reliable open pit leachable material will be the same as in Case 1.

The **PHASE II** analysis assumes that additional resources of similar grade will be found on the property such that the operations as per Phase I, Case 2 will continue as outlined below:

1. The leaching operation will be extended for an additional four years at the same rate of production, and

2. The sulfide production will be increased to 10,000 tons per day from 5,000 tons per day starting in year four of production, and the mine life will continue for an additional five years.

The assumption behind the **PHASE II** analysis is based on geological and exploration drilling data that point toward the successful discovery of additional reserves on the property during the ensuing four years of exploration and drilling.

In addition to the breccia pipes, there is a significant resource at deeper levels in the Lower Creek Zone and in the American Eagle deposit. Resource potential and potential economics of this area (**PHASE III**) are presented in Section 10 of this report.

9.3.1 Phase I

Following are the major considerations and assumptions made in the economic analyses for mining of the three-breccia pipes:

1. Mineable reserves

Old Reliable	2,900,000	tons	@	0.93% Cu
Childs-Aldwinkle	2,800,000	tons	@	1.59% Cu
Creek Breccia	5,700,000	tons	@	1.34% Cu
Total	11,400,000	tons	@	1.30% Cu

2. Mining and processing at a rate of 2,000 tons per day for the Old Reliable open pit ore and 5,000 tons per day combined for underground Childs-Aldwinkle and Creek Breccia ores.

3. Ores from the Old Reliable, Childs-Aldwinkle, and Creek Breccia deposits are to pass through a 12-inch grizzly and ore pass to a 42-inch conveyor for transportation to the surface facilities at the Ryland Ranch.

4. Old Reliable ore will be processed at heap leach and solvent extraction facilities to be built at AMT's Ryland Ranch.

5. Pre-concentrates from the heavy-media separation plant (the - 28 mesh fraction and the sink product from the +28 mesh –5/8 inch fraction) are to be treated in a flotation plant built adjacent to the heavy-media separation plant at the Ryland Ranch (Phase I/Case 1). The flotation plant tailings in this case will be pumped back to the mined out areas.

6. In (Phase I/Case 2) the pre-concentrate from the heavy-media separation is treated in a flotation plant at San Manuel.

7. Half of the float fraction will be hydraulically back-filled into the mined out areas in the Creek Breccia, and the other half will be sold for construction material @ $2.00/ton. There exists a significant market for this product.

8. All administrative facilities, the heavy-media separation plant, and the leaching facilities will be located at the Ryland Ranch.

9. The final concentrate will contain about 41 percent copper and will be smelted and refined at the nearby BHP smelter and refinery in San Manuel.

10. Total capital cost requirement for Phase I/Case 1 over the mine life is $52.2 million, comprising $41.7 million for the shallow sulfide ore and $10.5 million for the leachable material. Capital costs for Phase I/Case 2 total $46.8 million, with $36.3 million for shallow sulfide ore and $10.5 million for leachable material. Detailed schedules of these expenditures are presented in Tables 9.3-1, 9.3-2, and 9.3-3. The capital costs include some $6.4 million for leased underground equipment. In the schedules the production from the open pit is delayed, in order that the leaching capital can be generated internally.

    Pre-production capital requirement for Cases 1 and 2 are $40 million and $34 million respectively. In addition $10 million will be required for the development and processing of the leaching material, which is planned to be funded from internal cashflow.

11. Several contract quotations were received for the mining of Old Reliable open pit ore. These quotations are competitive, although it is likely that AMT can mine Old Reliable at a lower cost than the contract quotations. The economic analyses presented here assume contract mining and result in a mining cost of $1.06 per ton for ore and $1.14 per ton for

Table 9.3- 1 **Capital Cost Schedule - Shallow Sulfide with Flotation Plant at Ryland Ranch**

Capital Expenditures ($ 000's)	1998	1999	2000	2001	2002	2003	2004	2005	Total
Mine Development									
CA Ramp	1,645								1,645
Conveyor Decline	4,720								4,720
CA U.G. Dev.	2,332	1,166	1,166						4,664
Creek U.G. Dec.		2,377		579					2,956
Bored Raises	1,502	616							2,118
U.G. Machinery (leased to be capitalized)		882	1,102	1,102	1,102	1,102	1,102		6,392
U.G. Infrastructure	83	4,310	890						5,283
Surface Infrastructure	1,431	1,510							2,941
	0	0	0	0	0	0	0	0	0
Mine Development Cost Total	11,713	10,861	3,158	1,681	1,102	1,102	1,102	0	30,719
Plant and Equipment									
Heavy-Media Plant	1,000	6,200							7,200
Independent Flotation Circuit	3,600	6,200							9,800
	0	0							0
Plant and Equipment Total	4,600	12,400	0	0	0	0	0	0	17,000
Total Expenditures	16,313	23,261	3,158	1,681	1,102	1,102	1,102	0	47,719
Salvage Value								-6,000	-6,000
Net Total	16,313	23,261	3,158	1,681	1,102	1,102	1,102	-6,000	41,719

Table 9.3- 2 Capital Cost Schedule - Leachable Material

Capital Expenditures ($ 000's)	1998	1999	2000	2001	2002	2003	2004	2005	Total
Mine Development									
Ore Pass				300					300
Pre-Stripping			2,000	2,000					4,000
Permit			125	125					250
			0	0					0
Mine Development Cost Total	0	0	2,125	2,425	0	0	0	0	4,550
Plant and Equipment									
Heap Leach and SX Plant			2,500	2,600					5,100
Closure Allowance			0	0			500		500
Cons. Ind. (6%)	0	0	150	156	0				306
			0	0			0		0
Plant and Equipment Total	0	0	2,650	2,756	0	0	500	0	5,906
Total	0	0	4,775	5,181	0	0	500	0	10,456

Table 9.3- 3 Capital Cost Schedule – Shallow Sulfide with Flotation Plant and San Manuel

Capital Expenditures ($ 000's)	1998	1999	2000	2001	2002	2003	2004	2005	Total
Mine Development									
CA Ramp	1,645								1,645
Conveyor Decline	4,720								4,720
CA U.G. Dev.	2,332	1,166	1,166						4,664
Creek U.G. Dec.		2,377		579					2,956
Bored Raises	1,502	616							2,118
U.G. Machinery (leased to be capitalized)		882	1,102	1,102	1,102	1,102	1,102		6,392
U.G. Infrastructure	83	4,310	890						5,283
Surface Infrastructure	1,431	1,510							2,941
	0	0	0	0	0	0	0	0	0
Mine Development Cost Total	11,713	10,861	3,158	1,681	1,102	1,102	1,102	0	30,719
Plant and Equipment									
Heavy-Media Plant	1,000	6,200							7,200
Independent Flotation Circuit	2,200	2,200							4,400
	0	0							0
Plant and Equipment Total	3,200	8,400	0	0	0	0	0	0	11,600
Total Expenditures	14,913	19,261	3,158	1,681	1,102	1,102	1,102	0	42,319
Salvage Value								-6,000	-6,000
Net Total	14,913	19,261	3,158	1,681	1,102	1,102	1,102	-6,000	36,319

waste. Processing cost for leaching, solvent extraction, and transportation to the electrowining plant with consequent treatment charges is estimated at $4.19 per ton of ore. General and administrative cost is estimated at $0.39 per ton. For underground mining the total operating cost for Case 1 is estimated at $8.31 per ton, including General and Administration, and at $8.28 per ton for Case 2. The processing cost, including transportation, is estimated at $2.61 per ton for Case 1 and $2.92 per ton for Case 2.

12. Commodity prices used in the economic analyses are:

Copper	$ 1.00 per pound
Molybdenum	$ 3.50 per pound Mo
Gold	$350.00 per ounce
Silver	$ 5.00 per ounce
Rhenium	$ 90.00 per pound, and
HM Float	$ 2.00 per ton

13. A two percent net smelter royalty as per the AMT-BHP agreement has been allocated.

14. Appropriate taxes have been calculated by the Winters Company.

ECONOMIC RESULTS

Economic analyses have been carried out based on the criteria and assumptions listed above. Summarized cash flows for Case 1 and Case 2 are presented in Tables 9.3-4 and 9.3-5.

Sensitivity analyses have been carried out showing the response of the project economics to variations in price, ore grade, operating costs, toll processing and capital costs. These data are presented in graphical form in Figures 9.3-1 through 9.3-6.

Table 9.3-4 Project Cash Flow Case 1

Case1 *(all numbers x 1000)*	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**Total**
Operating Cash Flow									
Shallow Sulfide	$0	($300)	$16,458	$28,255	$15,522	$15,127	$15,926	($100)	$90,888
Leachable	$0	$0	$0	$6,771	$6,043	$4,948	$5,634	($12)	$23,384
Total	$0	($300)	$16,458	$35,026	$21,565	$20,075	$21,560	($112)	$114,272
Less: State Income tax	$0	$0	($356)	($976)	($419)	($338)	($83)	$0	($2,172)
Less: Federal Income Tax	$0	$0	($1,819)	($4,246)	($2,018)	($1,574)	$0	$0	($9,657)
Net Cash Flow	$0	($300)	$14,283	$29,804	$19,128	$18,163	$21,477	($112)	$102,443
Less: Capital Expenditures	($16,313)	($23,261)	($7,933)	($6,862)	($1,102)	($1,102)	($1,602)	$6,000	($52,175)
Less: Changes in Working Capital	$0	$0	($2,401)	($1,845)	$109	$167	$427	$3,543	$0
Net Project Cash Flow	($16,313)	($23,561)	$3,949	$21,097	$18,135	$17,228	$20,302	$9,431	$50,268
Cumulative Cash Flow	($16,313)	($39,874)	($35,925)	($14,828)	$3,307	$20,535	$40,837	$50,268	
Payback	4.8 years								
NPV @ 12% after taxes	$14,881								
IRR % after taxes	23.56%								
Pre-Tax Cash Flow	($16,313)	($23,561)	$10,899	$31,500	$20,572	$19,140	$20,885	$9,430	$72,552
Capital Required	$16,313	$23,561							$39,874

Table 9.3-5 Project Cash Flow Case 2

Case2 *(all numbers x 1000)*	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**Total**
Operating Cash Flow									
Shallow Sulfide	$0	($300)	$16,282	$27,759	$15,120	$14,720	$15,508	($100)	$88,989
Leachable	$0	$0	$0	$6,771	$6,043	$4,948	$5,634	($12)	$23,384
Total	$0	($300)	$16,282	$34,530	$21,163	$19,668	$21,142	($112)	$112,373
Less: State Income tax	$0	$0	($382)	($1,020)	($439)	($351)	($151)	$0	($2,343)
Less: Federal Income Tax	$0	$0	($1,897)	($4,290)	($2,075)	($1,621)	($251)	$0	($10,134)
Net Cash Flow	$0	($300)	$14,003	$29,220	$18,649	$17,696	$20,740	($112)	$99,896
Less: Capital Expenditures	($14,913)	($19,261)	($7,933)	($6,862)	($1,102)	($1,102)	($1,602)	$6,000	($46,775)
Less: Changes in Working Capital	$0	$0	($2,442)	($1,905)	$129	$165	$425	$3,628	$0
Net Project Cash Flow	($14,913)	($19,561)	$3,628	$20,453	$17,676	$16,759	$19,563	$9,516	$53,121
Cumulative Cash Flow	($14,913)	($34,474)	($30,846)	($10,393)	$7,283	$24,042	$43,605	$53,121	
Payback	4.6 years								
NPV @ 12% after taxes	$17,885								
IRR % after taxes	27.27%								
Pre-Tax Cash Flow	($14,913)	($19,561)	$10,682	$30,944	$20,190	$18,731	$20,466	$9,516	$76,055
Capital Required	$14,913	$19,561							$34,474

Figure 9-3.1 Case 1: Net Present Values Using 12% Discount Rate $(000)

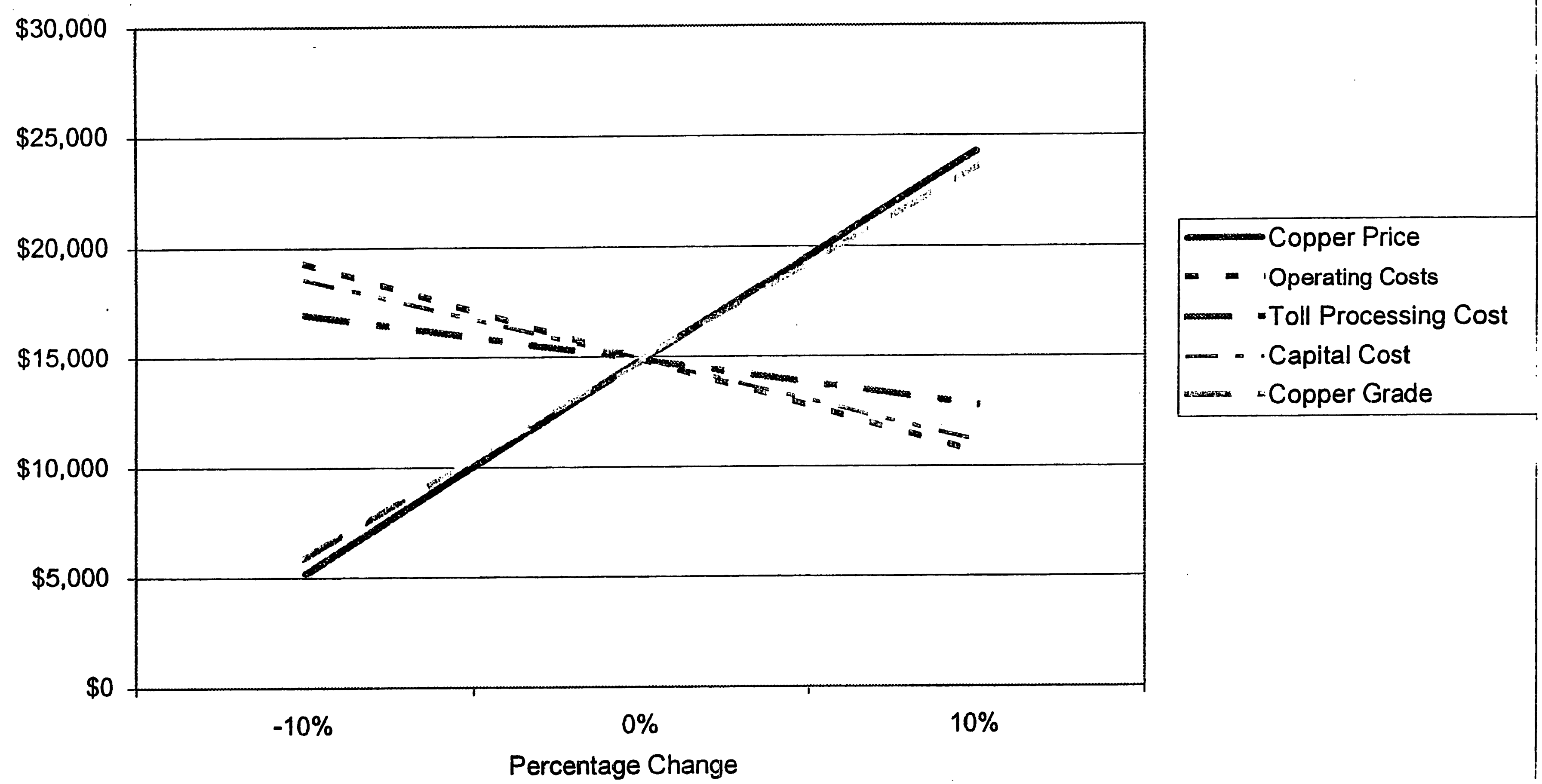


Figure 9-3.6 Case 2: Cumulative Cash Flow $(000)

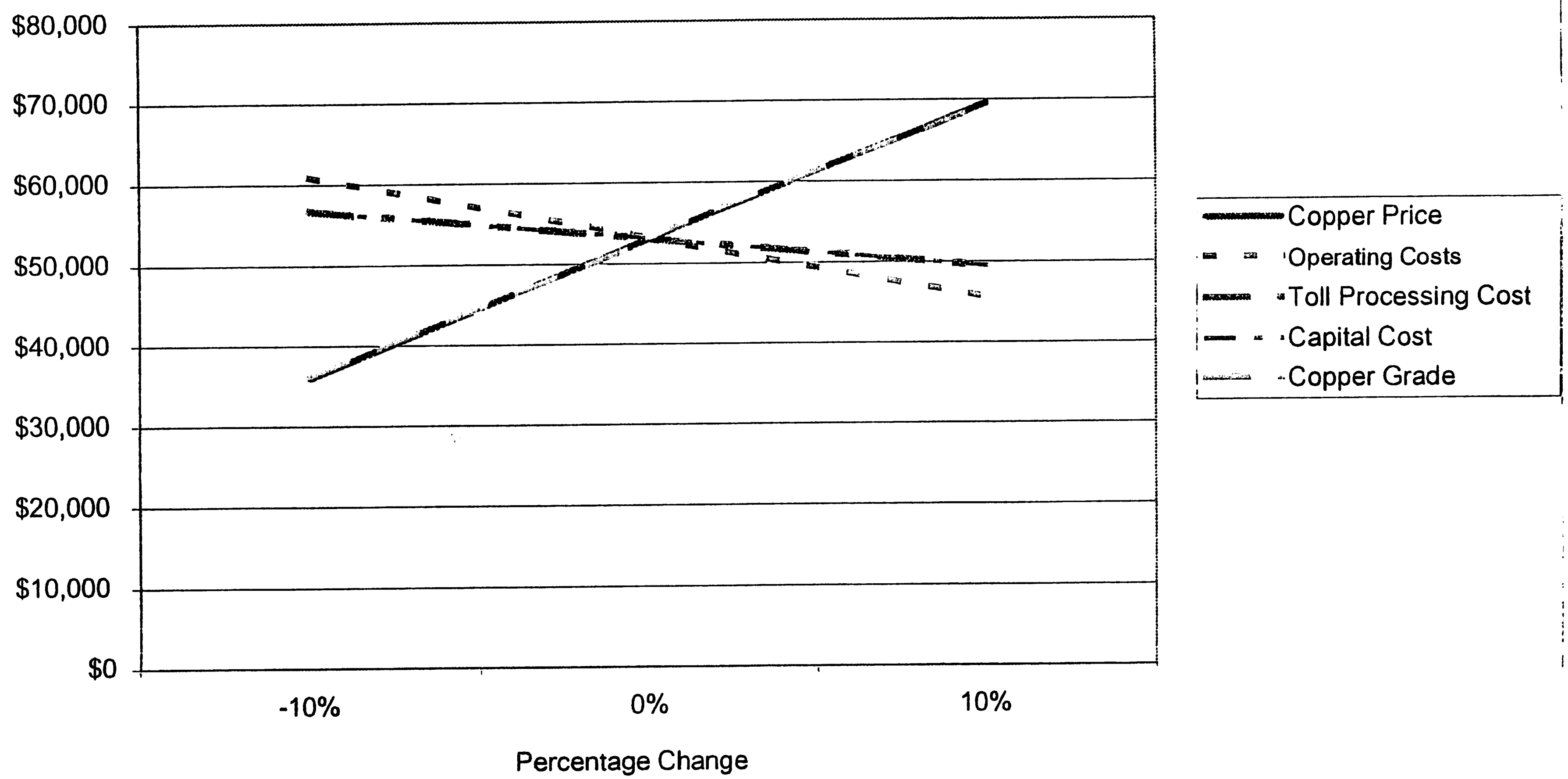


Figure 9-3.3 Case 1: Cumulative Cash Flow $(000)

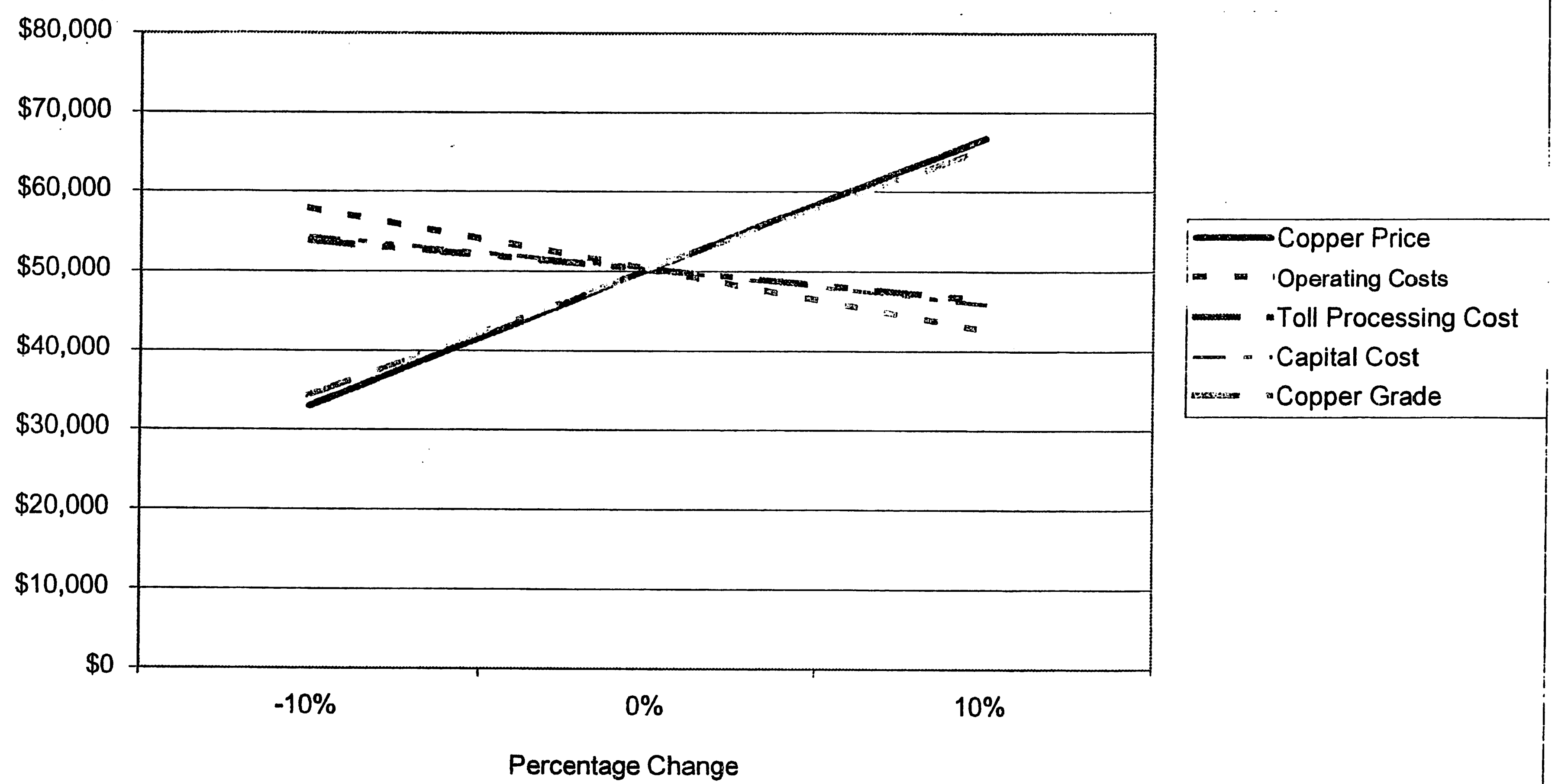


Figure 9-3.4 Case 2: Net Present Values Using 12% Discount Rate $(000)

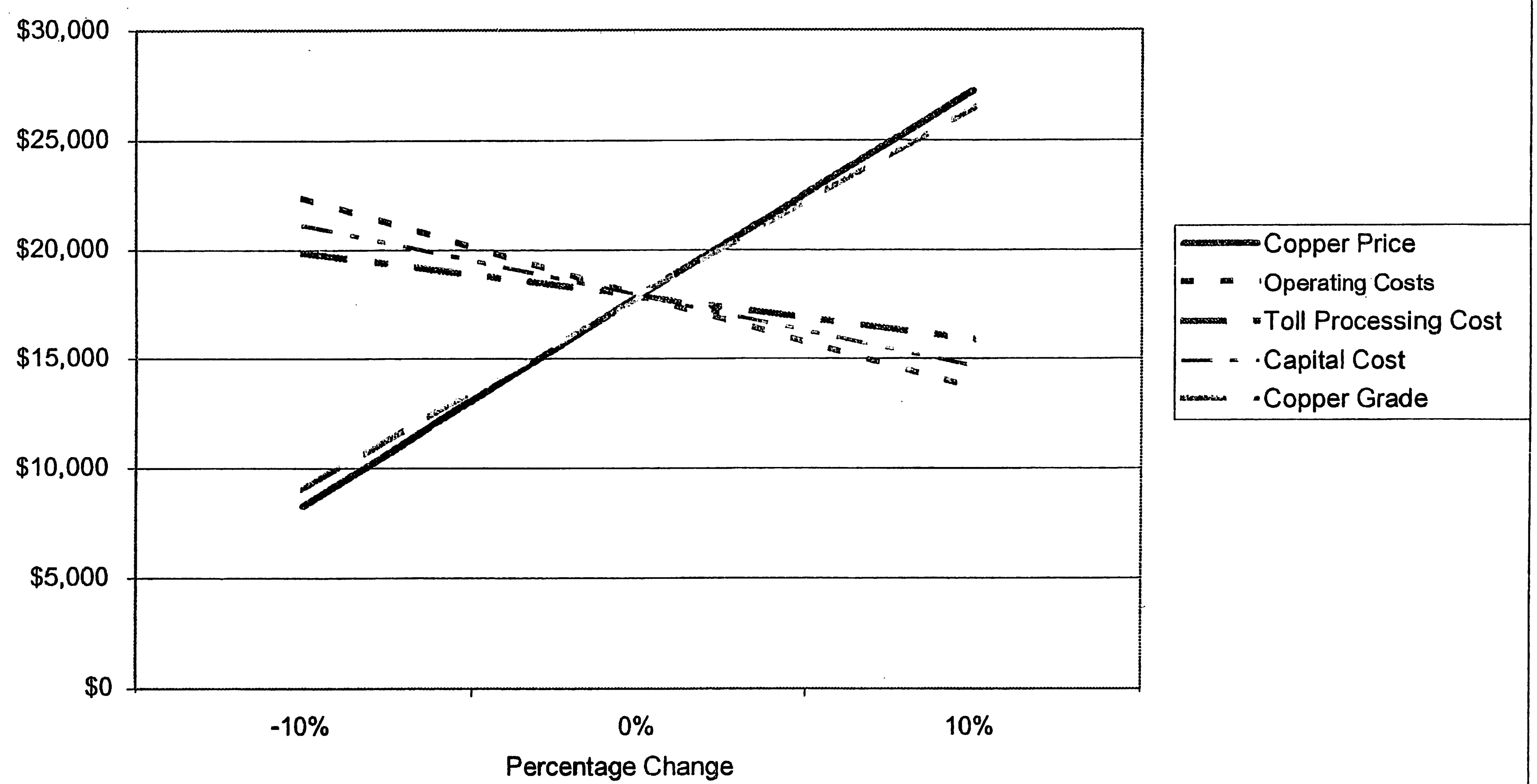


Figure 9-3.5 Case 2: After-Tax Internal Rate of Return

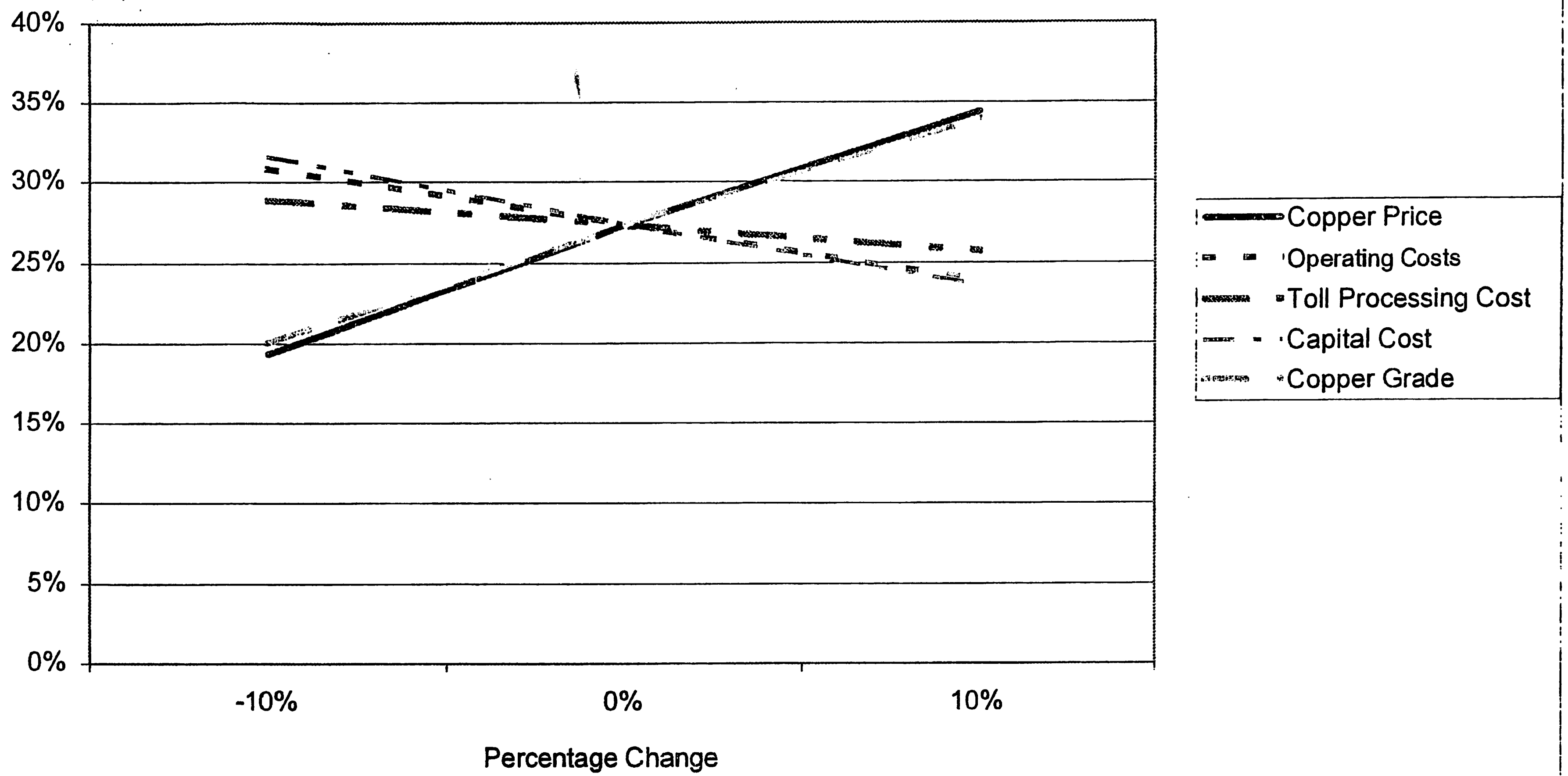
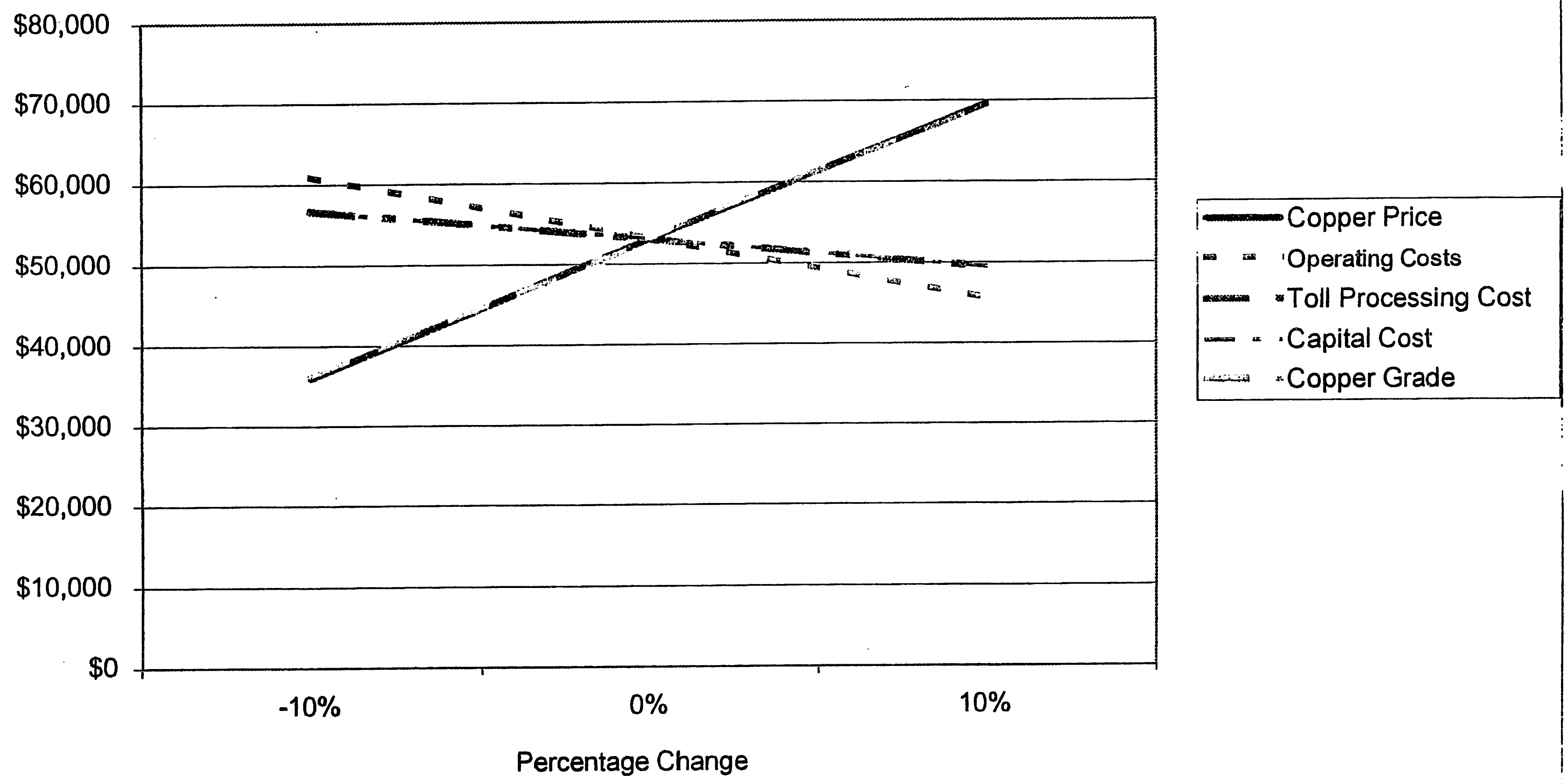


Figure 9-3.6 Case 2: Cumulative Cash Flow $(000)



The results (after tax) of the economic analyses are summarized as follows:

	Case 1	**Case 2**
Net Present Value @ 12%	$14.9 million	$17.9 million
Internal Rate of Return (IRR)	23.6%	27.3%
Net Cumulative Cash Flow	$50.3 million	$53.1 million
Cash Cost of Production*	$0.53/lb.	$0.54/lb.

*Total operating cost net of by-product credit per pound of copper.

9.3.2 Phase II

Phase II of the economic analyses assumes the delineation of additional resources such that the production from the leaching operation could be extended for another four years, and the underground mining rate can be doubled to 10,000 tons per day starting in year four of production.

Additional development criteria and assumptions made for the mining and processing of these ores are the following:

1. The leachable material will continue to be heap leached at the Ryland Ranch using the same solvent extraction facilities.

2. Increasing the underground mining rate to 10,000 tons per day will require additional underground development and infrastructure.

3. A total capital expenditure of $91.4 million is required over the entire mine life for the

mining and processing of the shallow sulfide ore (Table 9.3-6).

_ Any incremental capital to increase the rate of production will be funded from internal cashflow.

4. Since the mining of the leachable material is assumed to be carried out using contractors, and the additional resource will be processed at the same rate as in Phase I, no additional capital is required for leaching.

5. The grade of additional sulfide material is assumed to be the average of the grades of the current underground reserves (1.42 percent copper). The grade of the additional leaching material is assumed to be 0.90 percent.

Using these parameters, the following economic results are obtained:

Production Life	10	years
NPV @ 12%	$73	million
IRR (After Tax)	36	percent
Cumulative Cash Flow (After Tax)	$245	million
Cash Cost of Production*	$0.48	per pound

*Total operating cost net of by-product credit per pound of copper.

Table 9.3-6 Expand Underground Mining to 10,000 tpd

PROJECT CASH FLOW($000)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Underground Production:														
Ore (000t)			1,200	1,825	1,825	3,650	3,650	3,650	3,650	3,650	3,650	3,650		30,400
Grade: Cu (%)			1.572	1.611	1.255	1.394	1.414	1.45	1.45	1.45	1.45	1.45		
Moly (%)			0.045	0.05	0.027	0.023	0.023	0.04	0.04	0.04	0.04	0.04		
Au (Oz/t)			0.007	0.007	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005		
Ag (Oz/t)			0.22	0.234	0.166	0.14	0.141	0.18	0.18	0.18	0.18	0.18		
Open Pit Production:														
Ore (000t)				725	725	725	725	750	750	750	750			5,900
Grade Cu (%)				1.1	1.04	0.89	0.79	0.9	0.9	0.9	0.9			
Waste (0000t)				2,000	2,000	1,500	2,350	2,250	2,250	2,250				14,600
Total Mining Revenue *			$30,936	$60,617	$46,477	$84,818	$84,815	$93,986	$94,668	$94,668	$94,668	$84,693		$770,346
Less: Op. Costs		$300	$14,654	$26,274	$26,115	$40,880	$41,885	$42,473	$40,486	$40,135	$36,652	$32,632	$100	$342,586
Operating Cash Flow		($300)	$16,282	$34,343	$20,362	$43,938	$42,930	$51,513	$54,182	$54,533	$58,016	$52,061	($100)	$427,760
Less: Income Taxes														
State Income Tax			$671	$1,505	$498	$1,498	$1,371	$1,936	$2,168	$2,285	$2,533	$2,114		$16,579
Federal Income Tax			$2,636	$5,806	$2,437	$6,127	$5,730	$7,224	$7,590	$8,634	$9,852	$8,222		$64,258
Total Income Taxes			$3,307	$7,311	$2,935	$7,625	$7,101	$9,160	$9,758	$10,919	$12,385	$10,336	$0	$80,837
Cash Flow after Taxes		($300)	$12,975	$27,032	$17,427	$36,313	$35,829	$42,353	$44,424	$43,614	$45,631	$41,725	($100)	$346,923
Less: Capital Costs														
Mine Development	$11,713	$10,861	$3,158	$6,681	$12,000	$3,500	$7,900	$2,000	$2,000	$2,000	$2,000	$2,000		$65,813
Plant and Equipment	$3,200	$8,400	$0	$0	$15,000	$0	$0	$1,000	$0	$0	$0	$0	($2,000)	$25,600
Leaching Capital	$0	$0	$4,775	$5,181	$0	$0	$500	$0	$0	$0	$0	$0	$0	$10,456
Total Capital Exp.	$14,913	$19,261	$7,933	$11,862	$27,000	$3,500	$8,400	$3,000	$2,000	$2,000	$2,000	$2,000	($2,000)	$101,869
Less: Changes in W.C.	$0	$0	($2,442)	($1,937)	$26	($2,461)	($167)	($98)	$331	$58	$581	$176	$5,439	($494)
Project Cash Flow	($14,913)	($19,561)	$2,600	$13,233	($9,547)	$30,352	$27,262	$39,255	$42,755	$41,672	$44,212	$39,901	$7,339	$244,560
Cumulative Cash Flow	($14,913)	($34,474)	($31,874)	($18,641)	($28,188)	$2,164	$29,426	$68,681	$111,436	$153,108	$197,320	$237,221	$244,560	
NPV @ 12% after Taxes	$72,966													
IRR % after Taxes	35.9%													

* *Includes revenue from sales of Rhenium and Float fraction Reject*

10.0 FUTURE POTENTIAL

10.1 RESOURCE

Current interpretations of geological data from the Copper Creek system suggest the presence of multiple large (150 million to 300 million-ton) hybrid porphyry copper systems at depths of approximately 2,000 feet below the surface. The data accumulated by AMT also indicate that a substantial portion of these systems have potential for copper grades in excess of 0.9 percent.

This copper sulfide mineralization is composed of coarse-grained disseminated, chalcopyrite-bearing blebs and veins within the Lower Creek zone, and coarse-grained, chalcopyrite-bearing veins and segregations in the American Eagle system. Both the Lower Creek and American Eagle zones have similar mineralization and alteration characteristics, and there is a distinct possibility that these two zones may coalesce into a single large zone containing a minimum of 300 million tons.

The most important features that appear to localize centers for larger and deeper mineralizing systems are two northwest trending breccia zones that intersect roughly east-west trending structural zones. The intersecting areas typically appear to have a high concentration of breccia pipes over a broad area. Geological expression and characteristics of these zones bear similarities to those of individual breccia pipes; consequently the same geological exploration techniques used in the breccia pipe exploration can be utilized to identify likely target areas. Target areas identified to date are the Rum area, South Zone, and the Basin Zone.

An exploration program with expenditures of $3.5 million/year for five years was designed to discover and delineate the deep resources (see the Exploration Potential section in the main feasibility study).

10.1.1 A Reevaluation of the American Eagle Deposit

A reevaluation of the grade and tonnage of the American Eagle porphyry-type copper deposit was made in view of the possibility that this deposit may be contiguous with undiscovered mineral resources of similar tenor northwest of the currently known deposit.

Seventeen drillholes define a mineral resource in the American Eagle Basin of 86.5 million tons of rock with an average grade of 0.77 percent copper and containing 1.33 billion pounds of copper. Molybdenum was not routinely assayed in the past drilling campaigns, so no reliable estimate of the molybdenum content of this resource can be made. Of the intersections that have been analyzed for molybdenum, the mineralized intervals range between 0.006 and 0.010 percent Mo and suggest that the total molybdenum content of the whole mineral resource may range from 10 million to 20 million pounds.

10.1.2 Estimation of the Lower Creek Resource

The Lower Creek mineral resource was intersected in seven diamond drillholes, and coincides in plan view (Figure 10.1-1) with the outline of the Creek Breccia orebody. The presently-known top of this resource is situated 600 feet deeper than the base of the Creek Breccia orebody. Figure 10.1-2 shows a cross section of the currently delineated resource.

As presently delimited, the Lower Creek mineral resource consists of approximately 41.5 million tons of rock with a copper-molybdenum equivalent grade of 0.70 percent.

The Lower Creek mineral resource is in the earliest stages of delineation. The purpose of this mineral resource estimation is to emphasize the need for additional drilling on this very

Figure 101-1 American Eagle/Lower Creek Mineral Resources

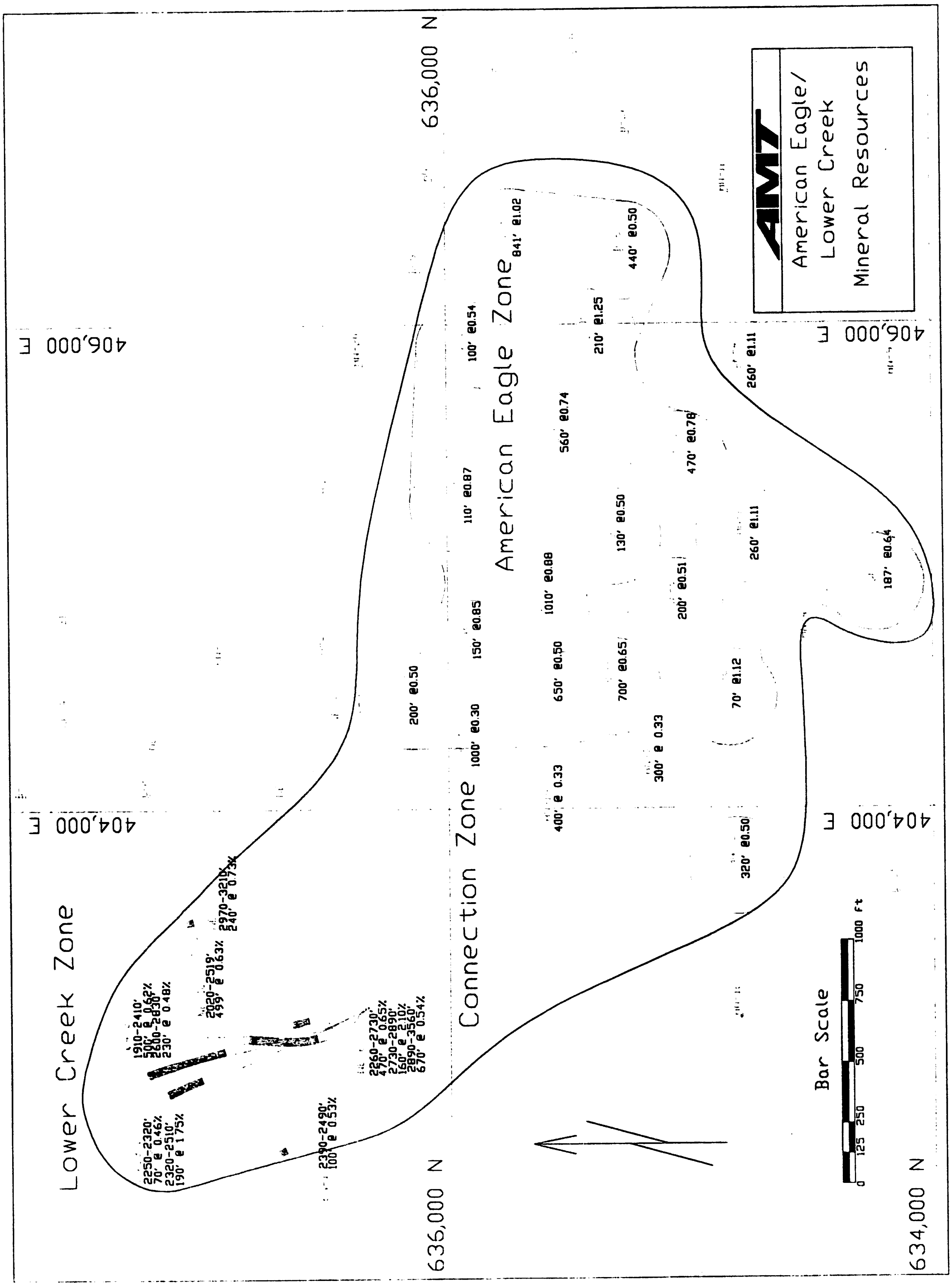
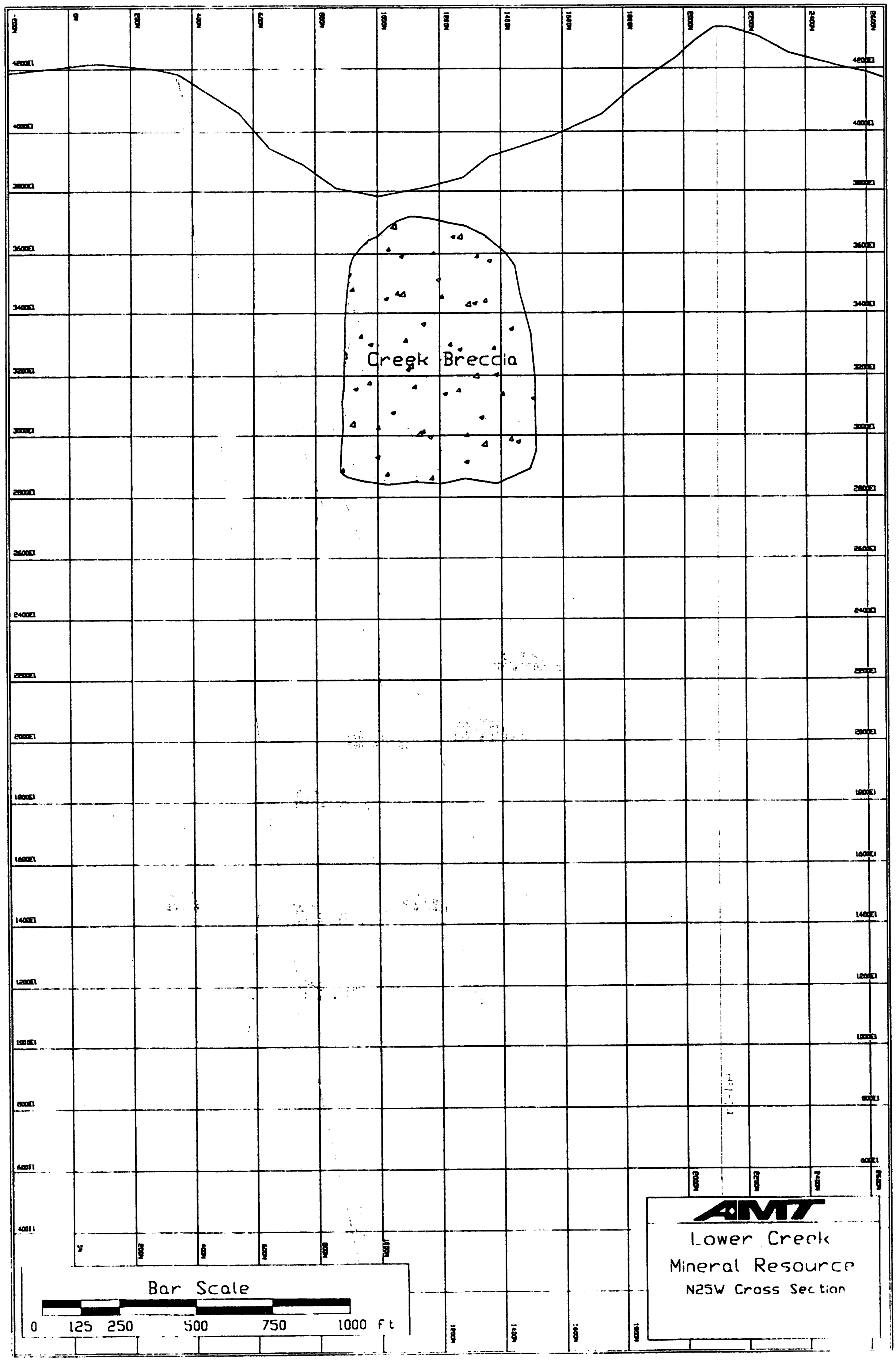


Figure 10.1-2   Lower Creek Mineral Resource



promising target. Major modifications to both the size and grade of the resource should be expected in bringing the indicated mineral resource into a possible or probable category.

10.1.3 Additional Deep Resource Potential

10.1.3.1 Combined American Eagle / Lower Creek Resource

A longer term exploration objective is the testing of deeper, large tonnage (several hundred million tons) porphyry-type targets beneath the roots of the mineralized breccia pipes. Two of these targets (American Eagle and Lower Creek) have been partially delineated by deep drilling. Additional deep drilling is needed to test the concept that both of these systems are part of a single, large porphyry copper system.

One million dollars of a proposed $1.9 million annual drilling budget is planned to be expended during the 1998 drilling campaign on deep drilling of the intervening ground between the American Eagle and Lower Creek systems. This program will involve the drilling of six to eight holes to depths of 3000 to 4000 feet in order to demonstrate the existence of a combined 200-300 million tons of deep copper-molybdenum resources at expected grades near 0.75 percent Cu.

10.1.3.2 Potential Grade Enhancement

In addition to copper resources grading near 0.7 percent, several drillholes in the Lower Creek and American Eagle deposits intersected significantly higher grades, approaching 0.9 percent copper or better. The copper is present as relatively thick chalcopyrite veins and coarse-grained clots. Examples of this style of primary high-grade, coarse-grained, "sericite-chalcopyrite rock" include D-5 (841' at 1.02%), SK-1 (1010' at 0.88%), HN-1 (260' at 1.11%), VIX28-2 (190' at 1.69%), and NE-6 (130' at 0.91%). Discovery of additional quantities of this style of mineralization would provide high-grade "plums" which could be mined early in an extraction sequence to accelerate payback rate.

Because the chalcopyrite in many parts of the American Eagle and Lower Creek deposits consists of coarse-grained clots and thick vein-fillings, rather than fine-grained disseminations, this material might be favorable for underground crushing and upgrading via hydrocyclone pre-concentration and waste backfilling. This innovative mining approach reduces hoisting costs, surface waste transportation and disposal costs, and lowers the impact of mining-related surface subsidence.

10.1.3.3 Combined Resource - Exploration Basis

The American Eagle resource has been poorly delimited along its northwestern side, and the Lower Creek zone is completely open in the direction of the American Eagle deposit. Of four diamond drillholes that have tested the intervening ground proximal to the American Eagle deposit and two diamond drillholes proximal to the Lower Creek deposit, all have intersected thick zones of mineralized rock exhibiting chalcopyrite-bornite, hydrothermal orthoclase and coarse-grained sericite, anhydrite, and molybdenite.

These intriguing intersections are presented in Table 10.1-1. Average copper grades within these intervals range from 0.3 to 0.7 percent, and they are accompanied by elevated molybdenum concentrations (where the drillcore has been analyzed for molybdenum).

The mean thickness of the 17 drill intersections used in the American Eagle resource calculation (Section 10.1.1) is 342 feet. The true thickness of the southern edge of the Lower Creek zone as demonstrated by drillhole NE-10 exceeds 1000 feet. An untested, very sizable mineral resource may be present between these two drill-tested resources. Table 10.1-2 shows possible deep resource tonnage if such a connection can be demonstrated. This tabulation of potential resource tonnage uses the area enclosing the American Eagle, Lower Creek, and Connection Zones, calculated using the same mean thickness as the American Eagle deposit and at incrementally greater thicknesses up to 500 feet.

Table 10.1-1 Connection Zone Proximal Drill Intersections

Hole	From (ft)	To (ft)	Thickness (ft)	Cu (%)	Mo (%)
NE-5	2970	3210	240	0.73	*
HN-10	3320	3640	320	0.50	0.014
Cu-4	1960	2960	1000	0.30	*
HN-19	3660	4060	400	0.33	0.031
HN-7	2080	2390	310	0.31	0.004
EN-1	2390	2700	310	0.40	0.003

* Mo assay data incomplete

X-ray diffraction data of alteration minerals in 400 samples of drillcore (report of D. M. Hausen, Newmont Exploration, LTD., June 28, 1979) and copper grade contours suggest that two distinct Cu-mineralized ore shells are present in and around the area of possible connection between the Lower Creek and American Eagle resources. This region of overlapping ore shells also coincides in general with a region of intersection between N25W and N80E structural systems. There is high potential for enhanced grades and thicknesses of copper-molybdenum mineralization in this poorly tested area.

Overlapping regions of suggestive geochemical, geophysical, and geological features, including scattered outcrops of sericitized gray porphyry stocks, are currently being delimited in the Connection Zone by ongoing surface exploration work. Anticipated exploration drilling in the Connection Zone will test target depths between 2000 and 4000 feet below the surface. Areas targeted for deep drill testing will exhibit magnetic lows, Mo-W geochemical anomalies, K-feldspar-biotite and intense sericitic alteration, mineralized gray porphyry stocks, and clustered breccia pipes.

Table 10.1-2 Connection Zone Resource Contingency Table

Porphyry Target	Connection Zone Thickness	Cumulative Tonnage	Cumulative Grade
American Eagle	0	87×10^6	0.77
Lower Creek	0	128×10^6	0.75
w/ Connection Zone	342'	206×10^6	0.75
w/ Connection Zone	400'	241×10^6	0.75
w/ Connection Zone	500'	301×10^6	0.75

AMT's data indicate that a substantial portion of this overall system has a potential for copper grades of >0.9 percent, with the copper present as relatively thick chalcopyrite veins and coarse-grained clots.

For the purpose of the following evaluation it has been assumed that of the current resource estimate of 301 million tons grading 0.75 percent copper, about 60 percent (180 million tons) will average 0.9 percent copper.

10.2 MINING STUDY

The postulated resource tonnage estimated for the combined American Eagle – Connection Zone – Lower Creek deposit of approximately 180 million tons at a grade of 0.9 percent copper allows for a proposed mining rate of 36,000 tons per day using a highly mechanized block cave mining method similar to that applied at the Henderson Mine at Empire, Colorado. A new high tonnage processing plant would be constructed to process the daily mine production into concentrates for processing at the San Manuel smelter and refinery.

10.2.1 Infrastructure

Mine access and men, material, and rock movement into and out of the mine would utilize a 3,700 feet deep service shaft and an ore slurry pumping system for sending ore to surface. The service shaft would be equipped with a double deck cage and two-ten ton skips operating in a 25 feet diameter concrete lined circular shaft. The ore slurry pumping system would crush and grind ore in a circuit located at the bottom elevation of the service shaft and use positive displacement pumps to pump the produced slurry to the surface.

The total hoisting facilities cost (including a service shaft) for this option is estimated at $52.4 million.

10.2.1.1 Underground Mine Ventilation and Air Cooling

With the high mining rate and mechanised mining method, a large underground air volume is required to ventilate the workings for diesel equipment and keep ambient air temperatures at reasonable levels. It is estimated that two million cfm (determination shown in later sections) of air must be supplied to the underground mine. The production and service shafts would act as air intake shafts, and a single exhaust ventilation shaft would be required to exhaust all air to surface. The ventilation shaft would be 28 feet in diameter and concrete lined to a depth of 3,600 feet.

Due to high virgin rock temperatures, diesel equipment, and auto compression, cooling of airstreams must be undertaken to ensure acceptable working conditions. Cooling would be carried out from a surface plant in four phases: mine service water cooling, bulk cooling of the collar intake air, bulk cooling of air prior to entering the workplace, and localized cooling of areas. The representative refrigeration load for the mine is expected to be approximately 40 MW of underground constant load and 32 MW surface loading, fluctuating with ambient climatic conditions.

10.2.1.2 Other Infrastructure Requirements

In addition to the processing plant and administration complex, other surface facilities required would be mine air compressors, a mine office and dry complex, warehouse, surface shops, storage areas, and a power line of approximately ten miles length to connect the new mine site to the main APS powerline installed to supply power to the Ryland Ranch Facilities. A new minesite complex including mine hoisting facilities would be constructed not at the Ryland Ranch but to the south of the orebodies in the Bunker Hill road area on the southern edge of the Parcel #2 patented claim. This would ensure that the surface complex is outside the 45 degree angle potential cave zone of the orebody and in an area where topography would allow construction of all required surface facilities. The chosen location would place all facilities approximately 3,500 feet from the edges of the orebody.

10.2.2 Mining Method Description

The proposed mining method is block caving using mechanised mining equipment at a production rate of 36,000 tons per day.

Approximately 3,500 feet long crosscuts (16 feet by 16 feet in size) from the shaft would be developed to the orebody, with mining proceeding upwards within 600 feet high mining blocks. A 650 feet elevation level would be developed in waste below the orebody and serve as the conveyor transport level. Ore passes would connect from the main production levels to the conveyor drifts, where conveyors would be installed to move ore from the orepasses to the shaft areas.

Stopes of 300 feet long by 300 feet wide will be mined in sequence across the average 2,000 feet width of the orebody and along the 4,000 feet strike length. Figure 10.2-1 shows a typical block caving mining area and required development. Refer to Figure 10.2-1 as necessary during the following sections.

Development for each production level will consist of the following sublevels; mucking level (with drawpoints), an undercut/drawcone drilling level (50 feet above the mucking level), and a ventilation level (75 feet below the mucking level). The ventilation level is connected by a

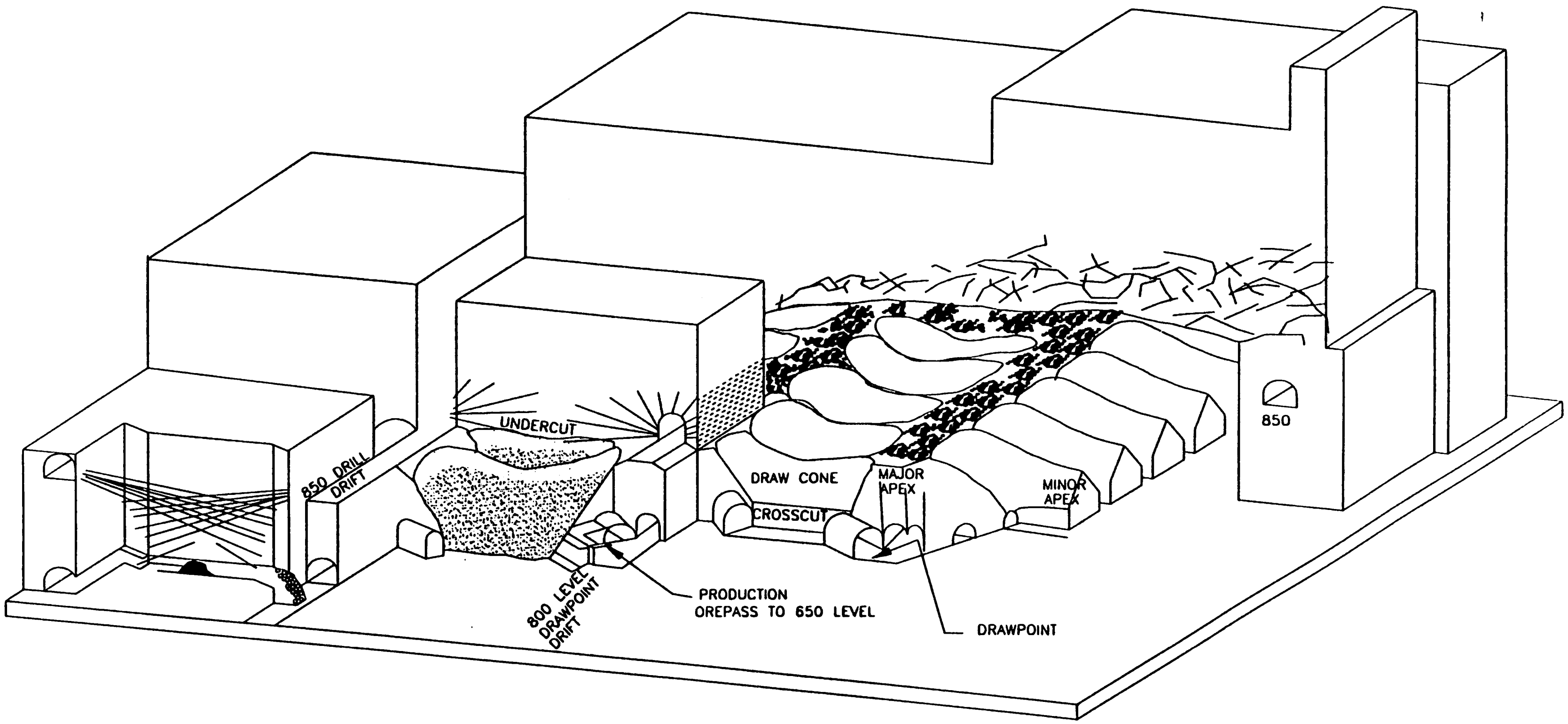


FIGURE 10.2-1

ISOMETRIC OF BLOCK CAVING MINING AREA

crosscut to the exhaust ventilation shaft. The different levels would be connected by spiral ramps developed in waste on the edge of the orebody.

An access crosscut is developed for every 300 feet stoping block across the full width of the orebody, at the opposite end from where caving is to be initiated. The mucking drifts would be developed off this crosscut on 80 feet centers and run parallel to the orebody strike. Drawpoint crosscuts would be driven on 50 feet centers between the drawpoint drifts, into which funnel shaped cones would be developed to receive ore from the cave area. Drawpoints would be shotcreted with one foot of shotcrete to prevent crumbling of the pillars during the caving operation. The final drift size is large enough to accommodate mucking using a six yd LHD.

On the undercut/drawcone level, drill drifts would be driven directly above the main drawpoint crosscuts, again on 80 feet centers across the orebody. From these crosscuts three inch diameter longholes would be drilled in a fan pattern with a longhole drill. The drill pattern would consist of downholes and upholes, with the downholes used to create draw cones (or drawpoints) and the upholes to create the undercut into which caving would commence.

With all drawpoints developed in a mining area, pulling of the drawpoints would commence in a sequential manner to promote a dome shaped cave line. Once one 300 feet by 300 feet mining area is complete, the next mining area would be ready for pulling of the caving ore.

Broken ore from the drawpoints would be mucked by six yd LHDs to ore passes equipped with grizzlies and a rockbreaker. Orepasses would be located alongside the mucking drifts every 300 feet. Two raises interconnected in a Y shape from adjacent mucking drifts would connect at the ventilation level elevation to a single main orepass, which would transfer ore to the conveyor drifts on the lowest level in the mine. The mucking and drill drifts are connected by raises to the ventilation level which exhausts air to the exhaust ventilation shaft.

All development except for the crosscuts from the shafts, inter-level ramps, and conveyor drifts would be in ore.

On the conveyor level gathering conveyors fed by the orepasses would convey ore to a main conveyor and run parallel to the orebody. The main conveyor would transport ore to the shaft area for hoisting to surface. Each gathering conveyor would be capable of transporting 20,000 tons per day, while the main conveyor would transport the total production of 36,000 tons per day to the shaft area, a distance of 7,200 feet.

When mining is completed on one production level, all mining equipment would be moved to the next lower production level to commence mining there.

10.2.2.1 Manpower and Equipment

A total underground manpower complement of 397 persons is required.

Underground mining equipment would include two boom electric hydraulic development jumbos, diesel-operated, rubber tired carrier longhole drills, six yd LHD's, scissor lifts, a shotcrete truck equipped with a remote controlled, boom-mounted shotcrete nozzle, man carrier/service vehicles, and tractors.

All conveyor and hoisting operations would be automated as much as possible and monitored with video cameras to minimize the labour requirements.

10.2.3 Preproduction, Development and Production Schedules

The preproduction period would extend for approximately four years and include all hoisting facilities, construction, underground development, underground and surface processing facilities construction, and other surface facilities construction.

Ore production begins with stope preparation. This phase includes development of the drawpoint drifts and crosscuts, the drilling drifts, ventilation level orepasses, drilling and blasting of drawcones/undercut, and shotcreting of the drawpoints. The initial stope preparation work would proceed for one year and ensure that sufficient mining areas would be available to sustain stoping production. Once block caving commences two years are required before the total 36,000 ton capacity can be reached. The maximum yearly production rate is reached by year four of the ore production life or year eight of the project life.

10.2.4 Processing

10.2.4.1 Underground Processing

The underground processing facility would consist of a SAG mill and two ball mills. This facility would be connected to the main conveyor gallery and be fed ore by the main conveyor.

Material from the ball mill circuit would be sent to the ore slurry hoisting system.

10.2.4.2 Surface Processing Plant

The surface processing facility would receive the slurried ore from underground and process it through a conventional flotation, filter drying process. The concentrate would be trucked to San Manuel for smelting and refining. A processing plant recovery of 94 percent and a smelter recovery of 96.7 percent for copper are expected. By-product recoveries for molybdenum, gold and silver are anticipated to be 82 percent, 63 percent and 63 percent, respectively.

10.2.5 Capital and Operating Costs

The cost information used as the basis for the capital and operating cost estimates in this study are based on budget pricing quotes obtained from a number of suppliers for each major piece of equipment or consumable materials for the underground mine. Other capital and operating costs are based on the main Copper Creek Project Feasibility Study and prorated for the higher production rate and logistics requirements. Performance information is based on data available from mines with similar equipment and mining methods or manufacturer-supplied expected lives, adjusted for rock conditions or local conditions. All costs are quoted in 1997 Constant US Dollars.

The cost estimates for the underground mine should have an accuracy of plus or minus 10-15 percent, while all other estimates are plus or minus 20 to 25 percent.

10.2.5.1 Capital Costs

The total capital cost estimate for the mine, processing plant, and other surface requirements is \$305 million dollars. The project capital cost comprises \$14.5 million for exploration and development, feasibility, and permitting work, \$126 million for the underground mine, \$43.8 million for the underground processing plant, \$37 million for the surface processing plant, \$24.7 million for other surface facilities and equipment, and \$59 million for EPCM, working capital and contingencies.

10.2.5.2 Operating Costs

The total ore development costs for each mining block with a size of 300 feet wide by 300 feet long and 600 feet high is \$2.2 million or \$0.48 per ton of ore.

The direct mining cost breakdown for block caving, not including maintenance labour, supervision, and mine services is $1.17 per ton of ore. The services and maintenance labour and supervision costs are $2.69 per ton of ore.

Combined with the development costs for infrastructure and stope preparation, the total block caving cost delivered to surface, but not including underground processing, is $ 4.70 per ton of ore.

The processing cost is expected to be $ 1.80 per ton of ore. Copper and molybdenum concentrate smelter charges are $80 and $70 per ton of concentrate, and copper refining charges are $0.09 per pound of copper.

Other yearly operating costs for surface facilities and other mining complex personnel equate to $0.42 per ton of ore.

10.2.6 Economic Analysis

A base case cashflow model was developed for the combined American Eagle – Connection Zone –Lower Creek orebody based on the mine design, hoisting facilities (ore pumped as a slurry to surface), and surface facilities described in previous sections. The expected costs described in the capital and operating cost sections were incorporated into this base case model.

Metal prices used for revenue projections are as follows:

Copper	$ 1.00 per pound
Molybdenum	$ 3.50 per pound
Gold	$365 per ounce
Silver	$5.00 per ounce

A 12 percent discount rate was used to determine the Net Present Value.

The cashflow model is shown in Table 10.2-1 and indicates good economic returns from mining the combined deep orebody. This mine plan produces an average annual after tax cashflow at full production capacity of approximately $65 million per year. Returns from investment include an after tax Net Present Value of $53 million, at a 12 percent discount rate and a 15 percent IRR, on the initial capital investment of $305 million. The cash production cost is $0.36 per pound of copper. The total cost (including capital) to produce copper is $0.55 per pound of copper over the 15 year projected cashflow period.

10.2.7 Potential Economic Returns Enhancement

A second option was studied in which underground preconcentration of the ore was undertaken and reject material from the process was returned to the cave area and reintroduced as backfill. (Figure10.2-2).

The backfill material would be introduced into the cave area from above the mining block. Waste rock would be delivered to a finished block cave area when ore caving reached the top of the ore body. Waste would be continually sent down the raises to fill the void left by the caving process.

The main concern with introducing the minus 1/4 inch waste rock produced from the heavy-media separation process as backfill is that the fine-sized material (compared to the caved rock) may tend to flow more easily through the large void areas in the cave. This could cause high dilution of ore in drawpoints near the margin of a caving block adjacent to a mined out area. If the rate of movement of this material is very high downward through the cave, it could prematurely cut off drawpoints for ore mucking and cause higher than expected loss rates for ore. Retreating the block caving mining from one end of the ore body to the other along strike should

Table 10.2-1
LOWER CREEK & AMERICAN EAGLE OREBODIES – BLOCK CAVING
Project Cost & Cashflow Schedule ($US) – Base Case

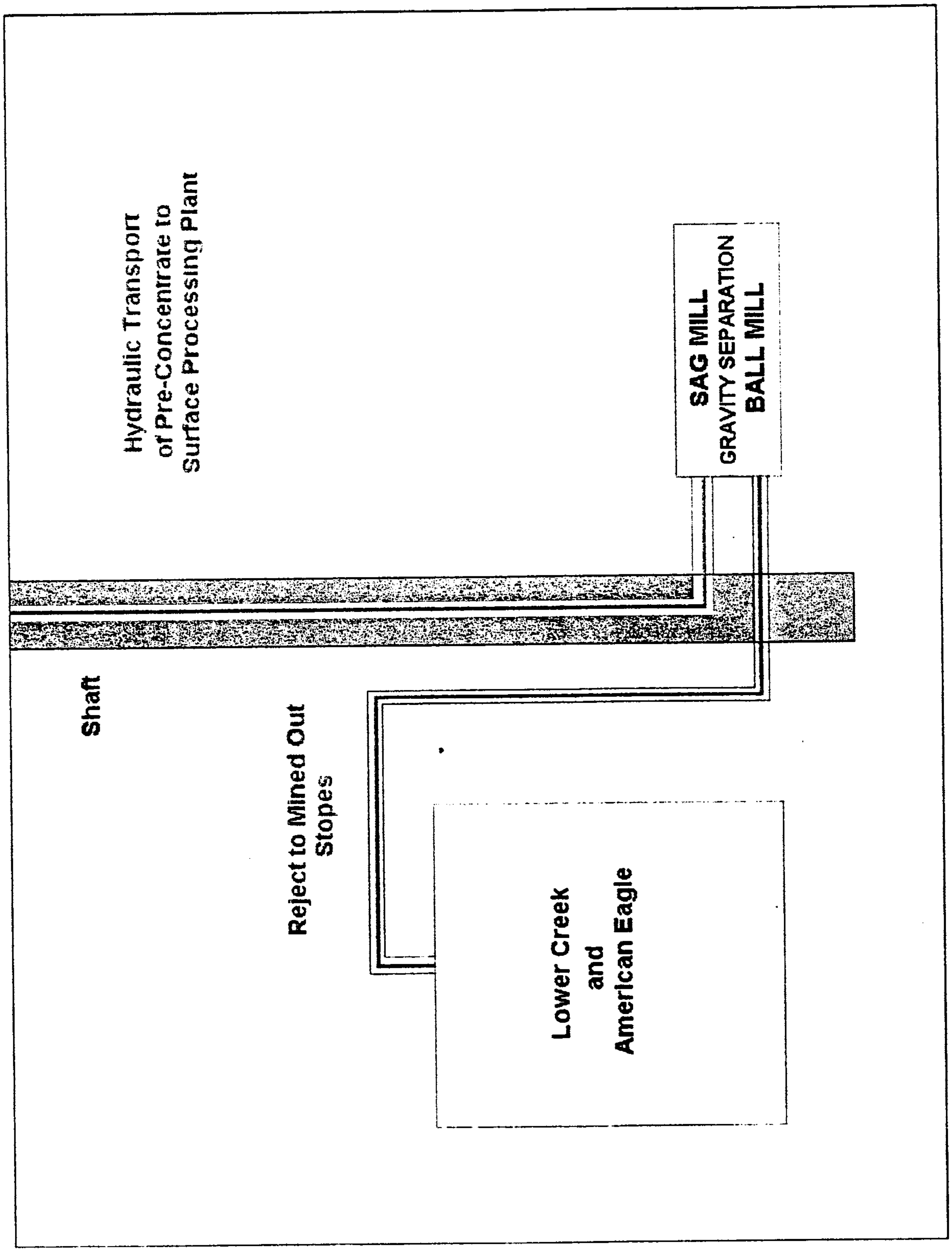
Description	VALUE	Units	YEAR -1	1	2	3	4	5	6	7
OPERATING DATA										
Development Ore Mined				484,000	484,000	484,000	484,000	484,000	484,000	484,000
Cave Ore Mined				500,000	5,000,000	10,000,000	12,656,000	12,656,000	12,656,000	12,656,000
Total Ore Mined				984,000	5,484,000	10,484,000	13,140,000	13,140,000	13,140,000	13,140,000
Mill Head Grade (Cu %)				0.90	0.90	0.90	0.90	0.90	0.90	0.90
Mill Head Grade (Mo %)				0.0070	0.0070	0.0070	0.0070	0.0070	0.0055	0.0055
Mill Head Grade (Au oz /ton)				0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Mill Head Grade (Ag oz /ton)				0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227
RECOVERIES										
Copper				94%	94%	94%	94%	94%	94%	94%
Molybdenum				82%	82%	82%	82%	82%	82%	82%
CONCENTRATES										
Copper Grade in Conc.				30%	30%	30%	30%	30%	30%	30%
Molybdenum Grade in Conc.				85%	85%	85%	85%	85%	85%	85%
Copper Conc. Produced		tons		27,749	154,649	295,649	370,548	370,548	370,548	370,548
Molybdenum Conc. Produced		tons		66	370	708	887	887	697	697
METAL PAYABLE										
Pounds Cu	96.7%			16,100,000	89,727,000	171,535,000	214,992,000	214,992,000	214,992,000	214,992,000
Pounds Mo	100%			113,000	630,000	1,204,000	1,508,000	1,508,000	1,185,000	1,185,000
Ounces Au Recovered	63%			2,000	9,000	17,000	21,000	21,000	21,000	21,000
Ounces Ag Recovered	63%			14,000	78,000	150,000	188,000	188,000	188,000	188,000
PROJECT REVENUE										
Copper ($)	$1.00	/lb.	0	16,100,000	89,727,000	171,535,000	214,992,000	214,992,000	214,992,000	214,992,000
Molybdenum ($)	$3.50	/lb	0	396,000	2,205,000	4,214,000	5,278,000	5,278,000	4,148,000	4,148,000
Gold ($)	$365.00	/oz.	0	730,000	3,285,000	6,205,000	7,665,000	7,665,000	7,665,000	7,665,000
Silver ($)	$5.00	/oz.	0	70,000	390,000	750,000	940,000	940,000	940,000	940,000
Total Revenue			0	17,296,000	95,607,000	182,704,000	228,875,000	228,875,000	227,745,000	227,745,000
Copper Smelting Charge	$80	/ t conc.		2,220,000	12,372,000	23,652,000	29,644,000	29,644,000	29,644,000	29,644,000
Molybdenum Smelting Charge	$70	/ t conc.		5,000	26,000	50,000	62,000	62,000	49,000	49,000
Copper Refining Charge	$0.09	/lb.		1,498,000	8,351,000	15,965,000	20,010,000	20,010,000	20,010,000	20,010,000
Net Revenue			0	13,573,000	74,858,000	143,037,000	179,159,000	179,159,000	178,042,000	178,042,000
CAPITAL										
Project Capital Cost										
Feasibility & Permitting			4,500,000							
Exploration Development			10,000,000							
Mine			169,695,000							
Mill			37,000,000							
Surface Facilities			24,710,000							
EPCM			17,012,000							
Working Capital			14,617,000							
Contingency			27,395,000							
Future Capital				1,000,000	1,000,000	1,000,000	1,000,000	3,000,000	1,000,000	1,000,000
TOTAL CAPITAL			304,929,000	1,000,000	1,000,000	1,000,000	1,000,000	3,000,000	1,000,000	1,000,000
Operating Costs										
Development Cost				12,641,000	13,169,000	13,362,000	11,096,000	9,941,000	9,460,000	10,133,000
Mining Cost			0	585,000	5,850,000	11,700,000	14,808,000	14,808,000	14,808,000	14,808,000
Mine Services Cost				2,644,000	14,738,000	28,175,000	35,313,000	35,313,000	35,313,000	35,313,000
Milling Cost			0	15,350,000	13,710,000	20,968,000	23,652,000	23,652,000	23,652,000	23,652,000
Overheads & Admin. Cost				416,000	2,317,000	4,430,000	5,553,000	5,553,000	5,553,000	5,553,000
TOTAL OPERATING			0	31,636,000	49,784,000	78,635,000	90,422,000	89,267,000	88,786,000	89,459,000
Project PretaxCashflow			(304,929,000)	(19,063,000)	24,074,000	63,402,000	87,737,000	86,892,000	88,256,000	87,583,000
Cumulative Pretax Cashflow			(304,929,000)	(323,992,000)	(299,918,000)	(236,516,000)	(148,779,000)	(61,887,000)	26,369,000	113,952,000
Taxes @ 26%									6,856,000	22,772,000
Project After Tax Cashflow			(304,929,000)	(19,063,000)	24,074,000	63,402,000	87,737,000	86,892,000	81,400,000	64,811,000
Cumulative Aftertax Cashflow			(304,929,000)	(323,992,000)	(299,918,000)	(236,516,000)	(148,779,000)	(61,887,000)	19,513,000	84,324,000

Description	8	9	10	11	12	13	14	15	TOTAL
OPERATING DATA									
Development Ore Mined	484,000	484,000	484,000	484,000	484,000	484,000	484,000	484,000	7,260,000
Cave Ore Mined	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	167,372,000
Total Ore Mined	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	174,632,000
Mill Head Grade (Cu %)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.9
Mill Head Grade (Mo %)	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055
Mill Head Grade (Au oz /ton)	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Mill Head Grade (Ag oz /ton)	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227
RECOVERIES									
Copper	94%	94%	94%	94%	94%	94%	94%	94%	94%
Molybdenum	82%	82%	82%	82%	82%	82%	82%	82%	82%
CONCENTRATES									
Copper Grade in Conc.	30%	30%	30%	30%	30%	30%	30%	30%	30%
Molybdenum Grade in Conc.	85%	85%	85%	85%	85%	85%	85%	85%	85%
Copper Conc. Produced	370,548	370,548	370,548	370,548	370,548	370,548	370,548	370,548	4,924,622
Molybdenum Conc. Produced	697	697	697	697	697	697	697	697	9,891
METAL PAYABLE									
Pounds Cu	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	2,857,266,000
Pounds Mo	1,185,000	1,185,000	1,185,000	1,185,000	1,185,000	1,185,000	1,185,000	1,185,000	16,813,000
Ounces Au Recovered	21,000	21,000	· 21,000	21,000	21,000	21,000	21,000	21,000	280,000
Ounces Ag Recovered	188,000	188,000	188,000	188,000	188,000	188,000	188,000	188,000	2,498,000
PROJECT REVENUE									
Copper ($)	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	2,857,266,000
Molybdenum ($)	4,148,000	4,148,000	4,148,000	4,148,000	4,148,000	4,148,000	4,148,000	4,148,000	58,851,000
Gold ($)	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	102,200,000
Silver ($)	940,000	940,000	940,000	940,000	940,000	940,000	940,000	940,000	12,490,000
Total Revenue	227,745,000	227,745,000	227,745,000	227,745,000	227,745,000	227,745,000	227,745,000	227,745,000	3,030,807,000
Copper Smelting Charge	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	393,972,000
Molybdenum Smelting Charge	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	695,000
Copper Refining Charge	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	265,934,000
Net Revenue	178,042,000	178,042,000	178,042,000	178,042,000	178,042,000	178,042,000	178,042,000	178,042,000	2,370,206,000
CAPITAL									
Project Capital Cost									
Feasibility & Permitting									4,500,000
Exploration Development									10,000,000
Mine									169,695,000
Mill									37,000,000
Surface Facilities									24,710,000
EPCM									17,012,000
Working Capital									14,617,000
Contingency									27,395,000
Future Capital	1,000,000	1,000,000	20,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	36,000,000
TOTAL CAPITAL	1,000,000	1,000,000	20,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	340,929,000
Operating Costs									
Development Cost	9,460,000	11,142,000	9,460,000	9,460,000	9,460,000	9,460,000	9,460,000	9,460,000	157,164,000
Mining Cost	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	195,831,000
Mine Services Cost	35,313,000	35,313,000	35,313,000	35,313,000	35,313,000	35,313,000	35,313,000	35,313,000	469,313,000
Milling Cost	23,652,000	23,652,000	23,652,000	23,652,000	23,652,000	23,652,000	23,652,000	23,652,000	333,852,000
Overheads & Admin. Cost	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	73,799,000
TOTAL OPERATING	88,786,000	90,468,000	88,786,000	88,786,000	88,786,000	88,786,000	88,786,000	88,786,000	1,229,959,000
Project PretaxCashflow	88,256,000	86,574,000	69,256,000	88,256,000	88,256,000	88,256,000	88,256,000	88,256,000	799,318,000
Cumulative Pretax Cashflow	202,208,000	288,782,000	358,038,000	446,294,000	534,550,000	622,806,000	711,062,000	799,318,000	
Taxes @ 26%	22,947,000	22,509,000	18,007,000	22,947,000	22,947,000	22,947,000	22,947,000	22,947,000	207,826,000
Project After Tax Cashflow	65,309,000	64,065,000	51,249,000	65,309,000	65,309,000	65,309,000	65,309,000	65,309,000	591,492,000
Cumulative Aftertax Cashflow	149,633,000	213,698,000	264,947,000	330,256,000	395,565,000	460,874,000	526,183,000	591,492,000	

PRETAX NPV @ 12%	$110,100,000
PRETAX IRR	17%
PRETAX CUMULATIVE CASHFLOW	$799,318,000
CASH COST/LB. CU	$0.36
AFTERTAX NPV @ 12%	$53,400,000
AFTERTAX IRR	15%
AFTERTAX CUMULATIVE CASHFLOW	$591,492,000

AMEGCFBC WK4

Figure 10.2-2 Lower Creek and American Eagle Development Plan



help to minimize the number of drawpoints being pulled next to the mined out and caving area of old blocks. This should help to keep dilution low.

Further work is required on this concept before it is proven to be feasible, but the cost implications were assessed assuming that backfilling is feasible.

10.2.7.1 Cost Implications

The backfilling system capital and operating costs would, as a general estimate, be equal to or slightly less than the costs for building and operating a tailings storage facility on surface if the slurry handling system for backfill is used. Cost savings for the project would be the reduced ore hoisting, pumping, and facility requirements, and would total $40 million dollars. The total project capital cost would be reduced to $265 million.

Operating costs would decrease for the hoisting facility because of the reduced power consumption and maintenance costs. The total mining cost of ore delivered to surface would be $4.50. The processing cost would be reduced to $1.52 per ton with the preconcentration process. All other mine operating costs remain unchanged.

10.2.7.2 Economic Analysis

A yearly cashflow projection was developed for this scenario and is shown in Table 10.2-2.

The results show that if backfilling of the caved area is proven to be feasible, the after tax NPV increases to $105 million, giving an IRR of 18 percent over the same project life.

The cash cost to produce copper drops to $0.33 per pound of copper.

Table 1 2

LOWER CREEK & AMERICAN EAGLE OREBODIES – BLOCK CAVING

Project Cost & Cashflow Schedule ($US) – Backfilling Option

Description	VALUE	Units	YEAR -1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTAL
OPERATING DATA																			
Development Ore Mined				484,000	484,000	484,000	484,000	484,000	484,000	484,000	484,000	484,000	484,000	484,000	484,000	484,000	484,000	484,000	7,260,000
Cave Ore Mined				500,000	5,000,000	10,000,000	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	12,656,000	167,372,000
Total Ore Mined				984,000	5,484,000	10,484,000	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	13,140,000	174,632,000
Mill Head Grade (Cu %)				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.9
Mill Head Grade (Mo %)				0.0070	0.0070	0.0070	0.0070	0.0070	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055
Mill Head Grade (Au oz./ton)				0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Mill Head Grade (Ag oz./ton)				0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227	0.0227
RECOVERIES																			
Copper				94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%
Molybdenum				82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%
CONCENTRATES																			
Copper Grade in Conc.				30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Molybdenum Grade in Conc.				85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
Copper Conc. Produced		tons		27,749	154,649	295,649	370,548	370,548	370,548	370,548	370,548	370,548	370,548	370,548	370,548	370,548	370,548	370,548	4,924,622
Molybdenum Conc. Produced		tons		66	370	708	887	887	697	697	697	697	697	697	697	697	697	697	9,891
METAL PAYABLE																			
Pounds Cu	96.7%			16,100,000	89,727,000	171,535,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	2,857,266,000
Pounds Mo	100%			113,000	630,000	1,204,000	1,508,000	1,508,000	1,185,000	1,185,000	1,185,000	1,185,000	1,185,000	1,185,000	1,185,000	1,185,000	1,185,000	1,185,000	16,813,000
Ounces Au Recovered	63%			2,000	9,000	17,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	280,000
Ounces Ag Recovered	63%			14,000	78,000	150,000	188,000	188,000	188,000	188,000	188,000	188,000	188,000	188,000	188,000	188,000	188,000	188,000	2,498,000
PROJECT REVENUE																			
Copper ($)	$1.00	/lb.	0	16,100,000	89,727,000	171,535,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	214,992,000	2,857,266,000
Molybdenum ($)	$3.50	/lb.	0	396,000	2,205,000	4,214,000	5,278,000	5,278,000	4,148,000	4,148,000	4,148,000	4,148,000	4,148,000	4,148,000	4,148,000	4,148,000	4,148,000	4,148,000	58,851,000
Gold ($)	$365.00	/oz.	0	730,000	3,285,000	6,205,000	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	7,665,000	102,200,000
Silver ($)	$5.00	/oz.	0	70,000	390,000	750,000	940,000	940,000	940,000	940,000	940,000	940,000	940,000	940,000	940,000	940,000	940,000	940,000	12,490,000
Total Revenue			0	17,296,000	95,607,000	182,704,000	228,875,000	228,875,000	227,745,000	227,745,000	227,745,000	227,745,000	227,745,000	227,745,000	227,745,000	227,745,000	227,745,000	227,745,000	3,030,807,000
Copper Smelting Charge	$80	/ t conc.		2,220,000	12,372,000	23,652,000	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	29,644,000	393,972,000
Molybdenum Smelting Charge	$70	/ t conc.		5,000	26,000	50,000	62,000	62,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	695,000
Copper Refining Charge	$0.09	/lb.		1,498,000	8,351,000	15,965,000	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	20,010,000	265,934,000
Net Revenue			0	13,573,000	74,858,000	143,037,000	179,159,000	179,159,000	178,042,000	178,042,000	178,042,000	178,042,000	178,042,000	178,042,000	178,042,000	178,042,000	178,042,000	178,042,000	2,370,206,000
CAPITAL																			
Project Capital Cost																			
Feasibility & Permitting			4,500,000																4,500,000
Exploration Development			10,000,000																10,000,000
Mine			143,059,000																143,059,000
Mill			33,000,000																33,000,000
Surface Facilities			23,710,000																23,710,000
EPCM			14,712,000																14,712,000
Working Capital			12,317,000																12,317,000
Contingency			23,945,000																23,945,000
Future Capital				1,000,000	1,000,000	1,000,000	1,000,000	3,000,000	1,000,000	1,000,000	1,000,000	1,000,000	20,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	36,000,000
TOTAL CAPITAL			265,243,000	1,000,000	1,000,000	1,000,000	1,000,000	3,000,000	1,000,000	1,000,000	1,000,000	1,000,000	20,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	301,243,000
Operating Costs																			
Development Cost				12,641,000	13,169,000	13,362,000	11,096,000	9,941,000	9,460,000	10,133,000	9,460,000	11,142,000	9,460,000	9,460,000	9,460,000	9,460,000	9,460,000	9,460,000	157,164,000
Mining Cost			0	585,000	5,850,000	11,700,000	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	14,808,000	195,831,000
Mine Services Cost				2,443,000	13,614,000	26,026,000	32,620,000	32,620,000	32,620,000	32,620,000	32,620,000	32,620,000	32,620,000	32,620,000	32,620,000	32,620,000	32,620,000	32,620,000	433,523,000
Milling Cost			0	15,350,000	13,710,000	20,968,000	19,947,000	19,947,000	19,947,000	19,947,000	19,947,000	19,947,000	19,947,000	19,947,000	19,947,000	19,947,000	19,947,000	19,947,000	289,392,000
Overheads &Admin. Cost				416,000	2,317,000	4,430,000	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	5,553,000	73,799,000
TOTAL OPERATING			0	31,435,000	48,660,000	76,486,000	84,024,000	82,869,000	82,388,000	83,061,000	82,388,000	84,070,000	82,388,000	82,388,000	82,388,000	82,388,000	82,388,000	82,388,000	1,149,709,000
Project PretaxCashflow			(265,243,000)	(18,862,000)	25,198,000	65,551,000	94,135,000	93,290,000	94,654,000	93,981,000	94,654,000	92,972,000	75,654,000	94,654,000	94,654,000	94,654,000	94,654,000	94,654,000	919,254,000
Cumulative Pretax Cashflow			(265,243,000)	(284,105,000)	(258,907,000)	(193,356,000)	(99,221,000)	(5,931,000)	88,723,000	182,704,000	277,358,000	370,330,000	445,984,000	540,638,000	635,292,000	729,946,000	824,600,000	919,254,000	
Taxes @ 26%									23,068,000	24,435,000	24,610,000	24,173,000	19,670,000	24,610,000	24,610,000	24,610,000	24,610,000	24,610,000	239,006,000
Project After Tax Cashflow			(265,243,000)	(18,862,000)	25,198,000	65,551,000	94,135,000	93,290,000	71,586,000	69,546,000	70,044,000	68,799,000	55,984,000	70,044,000	70,044,000	70,044,000	70,044,000	70,044,000	680,248,000
Cumulative Aftertax Cashflow			(265,243,000)	(284,105,000)	(258,907,000)	(193,356,000)	(99,221,000)	(5,931,000)	65,655,000	135,201,000	205,245,000	274,044,000	330,028,000	400,072,000	470,116,000	540,160,000	610,204,000	680,248,000	

PRETAX NPV @ 12%	**$173,100,000**
PRETAX IRR	**21%**
PRETAX CUMULATIVE CASHFLOW	**$919,254,000**
CASH COST/LB. CU	**$0.33**
AFTERTAX NPV @ 12%	**$105,000,000**
AFTERTAX IRR	**18%**
AFTERTAX CUMULATIVE CASHFLOW	**$680,248,000**

10.2.8 Conclusions

Given a resource of some 180 million tons of ore with a grade of 0.90 percent copper, the analysis of block cave mining of the combined American Eagle – Connection Zone – Lower Creek deposit provides the following results and conclusions:

1. The orebody can be economically mined with block caving, no matter which final ore hoisting system is chosen (conventional shaft or slurry pumping).

2. If the total ore production of 36,000 tons per day is pumped as a slurry to the surface, the returns on the total capital investment of $305 million would be an after tax NPV of $53 million and an IRR of 15 percent.

3. If the feasibility is demonstrated for underground preconcentration of ore, with reject material sent as backfill into the cave areas, the economic returns on a capital investment of $265 million would be an after tax NPV of $105 million and an IRR of 18 percent.

4. Both cashflow analyses strongly indicate that further exploration expenditures and subsequent preparation of a detailed feasibility study should proceed.

A summary of the cost and after tax economic analysis results for the base case (pumping the total 36,000 tons of ore per day to surface) and the preconcentrating/backfilling option are presented in Table 10.2-3.

Table 10.2-3 SUMMARY OF DEEPER CREEK AND AMERICAN EAGLE PREFEASIBILITY STUDY OPTIONS

COMPONENT	BASE CASE OPTION	BACKFILL OPTION
Total Capital Cost	$305,000,000	$265,000,000
Average Total Mining Cost ($/t)	$4.70	$4.50
Average Processing Cost ($/t)	$1.80	$1.52
Mine Overhead Costs	$0.42	$0.42
After Tax Net Present Value @ 12 %	$53,400,000	$105,100,000
After Tax IRR	15%	18%
After Tax Cumulative Cashflow	$591,492,000	$680,248,000
Cash Cost per Pound of Copper	$0.36	$0.33
Total Cost per Pound of Copper	$0.55	$0.51

11.0 ENVIRONMENTAL AND PERMITTING

As with all mining projects, AMT will require permits to comply with the regulatory requirements. AMT plans to meet all such requirements and plans to build the facilities in such a manner that most of the activities are concentrated in one location in order to minimize and confine the surface disturbance. For example, the pre-concentrating facilities, the leaching plant, and all the office infrastructure will be located at Ryland Ranch. This is private, well-hidden land in the valley. Waste material from the concentrating plant will be either disposed of underground as fill material for the mined out Creek ore zone and/or will be sold as asphalt reinforcing construction material, for which there appears to be an abundant market. AMT also plans to dispose of some of the waste material from the Old Reliable open pit as underground fill, thereby minimizing waste disposal site requirements.

The upper part of the Old Reliable deposit, which was blasted and leached in-situ, and the existing old evaporation ponds, represent environmental negatives for the Copper Creek property at the present time. The planned mining of the Old Reliable deposit by AMT should rectify this environmental unfriendly situation.

The major areas of environmental consideration are:

- The Old Reliable open pit and the waste dump. The locations for these activities are remote, and the design of the waste dump is such that it minimizes the disturbance into any drainage areas.

- Copper Creek. The Creek Breccia orebody lies approximately 125 feet underneath Copper Creek. One of the major considerations in the mining plan for this orebody has been the incorporation of filling all the mined out voids to ensure there are no detrimental subsidence effects near the Creek.

- Construction of new roadways. The locations of new roadways have been selected such that most traffic stays away from environmentally sensitive areas like the Copper Creek.

- The surface facilities. Most surface facilities have been located on an innocuous block of private land, the Ryland Ranch. This will minimize surface degradation, and any environmentally unfriendly activity will be easier to control.

- Childs-Aldwinkle water. It is estimated that there are some 10 million gallons of water in old workings at the Childs-Aldwinkle. The old workings will need to be dewatered before developing the ore body. Since this water contains deleterious material and consequently can not be discharged to the existing waterways without treatment, AMT plans to use this water for processing of the leaching material.

- Most of the mining operations are underground, and surface damage is minimized. Overall, AMT plans to meet and exceed regulatory requirements and behave as an environmentally sensitive operator.

The permitting process for the project has already commenced and should take approximately two years to complete. The permits that will be required to bring the project into production are described below.

11.1 AQUIFER PROTECTION PERMIT (APP)

An Arizona APP is required for any "discharging facility" and for certain listed activities such as non-storm water containment impoundments, process impoundments, heap leach pads, dump leach areas, and tailings impoundments. A facility APP will be required for the Copper Creek Project, as will an aquifer Point of Compliance (monitor well). AMT must propose a Best Available Demonstrated Control Technology (BADCT) adequate to "...ensure the greatest degree of discharge reduction achievable, including, where practicable, a technology permitting no discharge of pollutants." (A.R.S. 49-243)

11.2 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

An NPDES permit will be required in order to discharge treated water pumped from the Childs-Aldwinkle mine, or for any other discharges of mine water or process water. Copper Creek has been designated an "aquatic and wildlife" resource in the project area, so the effluent discharge limitations will be a quite strict in order to protect birds, fish, and other sensitive organisms.

11.3 U.S. ARMY CORPS OF ENGINEERS SECTION 404 "DREDGE AND FILL" PERMIT

Waterways (including normally dry washes) that will be affected by excavation or filling must be evaluated to determine whether or not an individual Section 404 "dredge and fill" permit is required. If the area under the "ordinary high water mark" of streams and washes ("jurisdictional waters") totals less than three acres, the project may be covered by a nationwide general permit. If the affected area is greater than three acres, an individual 404 permit would be required. Disturbances likely to require an individual permit are tailings impoundments, mine waste dumps, large open pits, or large heap of dump leach areas.

11.4 AIR QUALITY PERMIT

The Pinal County Air Quality Control District is authorized to issue an air quality permit for the Copper Creek project. The regulated air pollutant of concern at Copper Creek would be fine particulate matter called "PM10." It consists of particulate matter and aerosols having a mean aerodynamic diameter of less than 10 microns. EPA has recently indicated that it intends to regulate particulate matter down to "PM2.5" size, but this is not yet a final rule.

11.5 PERMIT TO USE PUBLIC LANDS FOR THE PROJECT

AMT has filed a plan with the BLM for exploration on federal land in the project area. Proposed future project use of federal land in excess of "notice level activities" (a few acres or less) will trigger a requirement to submit a mining plan of operations to the federal land manager, who will then decide the degree and type of additional environmental documentation required.

The National Environmental Policy Act (NEPA) requires that the project proponent fund any required third-party environmental studies such as an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). The BLM cannot predict the degree of environmental and related documentation needed to cover the use of the public lands at Copper Creek until a mining plan of operations is available for agency review. (Auby, July 1997)

11.6 RECLAMATION PERMIT

Disturbed lands in the project area will have to be reclaimed in accordance with a reclamation plan to be filed with the State Mine Inspector's Office, the administrative agency responsible for implementing Arizona's reclamation law. The law requires that disturbed areas be returned to a safe and stable condition upon cessation of mining. While there is no requirement to return the land to an aesthetically pleasing condition, most Arizona reclamation projects include native plants if for no other reason than to help ensure long term stability of ground cover.

11.7 MISCELLANEOUS PERMITS

In addition to the above, there are several lesser permits required, as listed below.

- AMT may have to obtain a hazardous waste generator's permit from the EPA.
- A notice of solid waste disposal will have to be filed with the state.
- The State Mine Inspector and Mine Safety & Health Administration will have to be notified before mining begins.
- Any potable water system on site will have to be certified by the State.
- An explosives permit will have to be obtained from the BATF.
- FCC radio licenses may be needed for two-way radio equipment.
- Notices of native plant removal and well registrations will have to be filed with the state as needed all during the life of the project.

A timeline for various permitting is presented in Table 11.7-1 and although, AMT and its consultant believe that the time allotted for obtaining the permits to be reasonable, there always remains some risk in each major environmental permit category. A risk evaluation for all of the major permits has been carried out, and the results arre presented in Table 11.7-2.

Table 11-7.1

AMT (USA) Inc. Copper Creek Project--Environmental Permitting Schedule

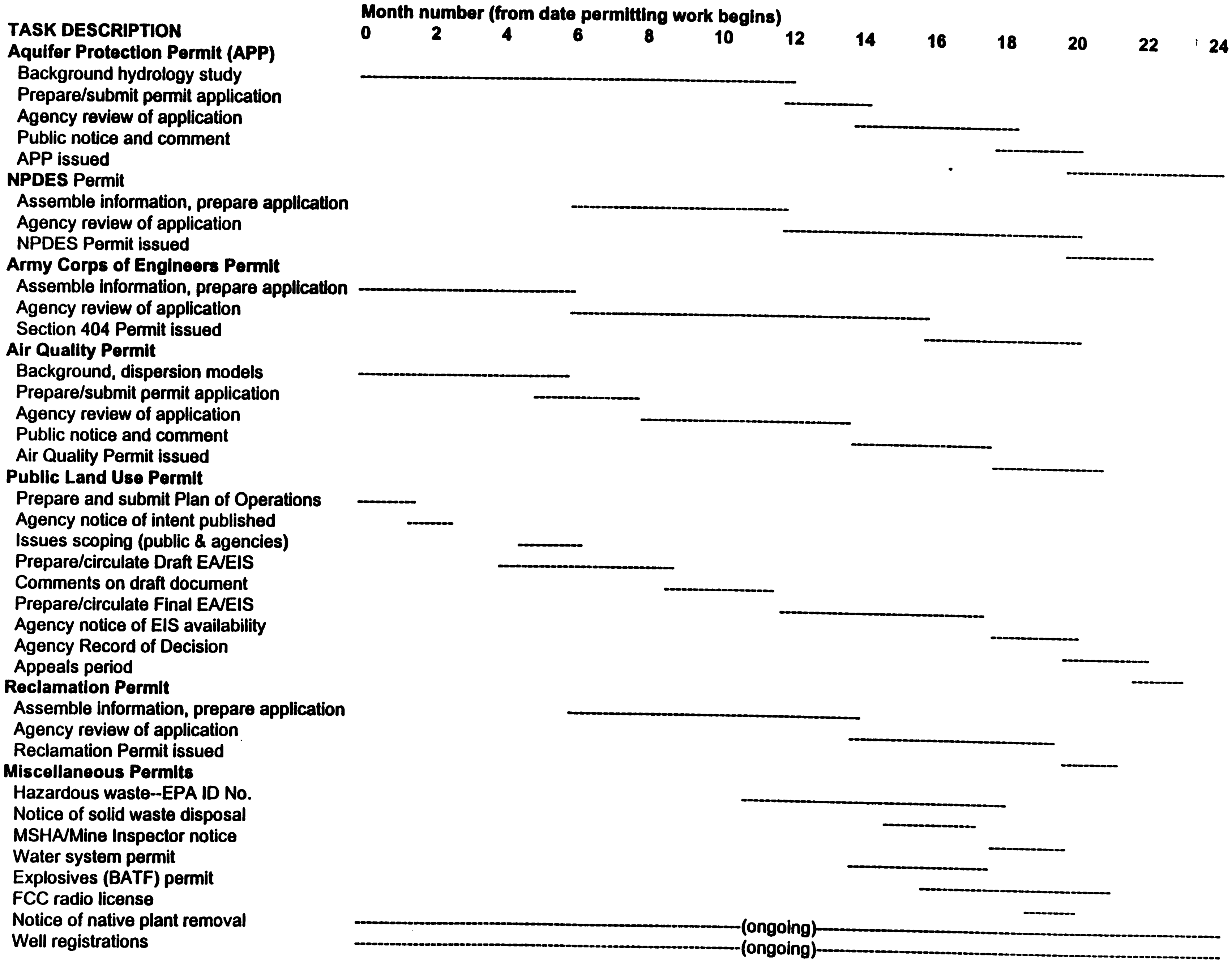


Table 11.7-2

Risk Matrix for Environmental Permits

Copper Creek Project

(This table assumes that each of these permits would have to be obtained)

		NEPA Permit	APP Permit	Air Permit	NPDES Permit	Other Permits
Permit granted on time, with expected permit conditions	Possibility:	low	low	medium	medium	high
	Significance:	very high	very high	medium	medium	medium
	Impact:	very positive	very positive	very positive	very positive	positive
Permit granted, but it is late	Possibility:	medium	medium	low	low	low
	Significance:	very high	very high	medium	medium	low
	Impact:	very negative	very negative	very negative	negative	negative
Permit granted, but it has costly requirements	Possibility:	low med.	low-med.	low-med.	low-med.	low
	Significance:	high	high	medium	medium	medium
	Impact:	very negative	very negative	negative	negative	negative
Permit denied	Possibility:	very low	very low	very low	very low	very low
	Significance:	very high	very high	very high	very high	very high
	Impact:	very negative	very negative	very negative	very negative	very negative