



## **CONTACT INFORMATION**

Mining Records Curator  
Arizona Geological Survey  
1520 West Adams St.  
Phoenix, AZ 85007  
602-771-1601  
<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

The following file is part of the

Arizona Department of Mines and Mineral Resources Mining Collection

## **ACCESS STATEMENT**

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

## **CONSTRAINTS STATEMENT**

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

## **QUALITY STATEMENT**

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

ARIZONA CHEMICAL CO.

MINERAL HILL PROJECT

LA PAZ COUNTY, ARIZONA

ARIZONA CHEMICAL CO.  
(AZ CHEM)

MINERAL HILL MINE PROJECT  
BUSINESS PLAN

SEPTEMBER 1986



The information set forth herein is believed by AZ CHEM to be reliable. It must be recognized, however, that predictions and projections as to future performance are necessarily subject to a high degree of uncertainty and no warranty that such projections will be achieved is expressed or implied hereby.

## THE COMPANY

Arizona Chemical Company (AZ CHEM) was incorporated in Arizona on May 10, 1974. The address is 25 West Thomas Road, Phoenix, Arizona, 85013; telephone (602) 285-0921.

Controlling shares are held by Frederick E. Kallof and related parties. Mr. Kallof is Chairman of the Board and President.

Silas Birch is a director and Vice President. Daniel J. Jacob is a director and secretary-treasurer.

AZ CHEM will manufacture and market copper foil for use in the printed circuit board industry, jewelry and solar energy applications. It will also market iron oxides for use in making ceramic tile, roof tile, chemicals and paint pigments. Gold and silver will be recovered as part of the manufacturing process.

## THE PRODUCTS

AZ CHEM will use an existing stockpile of mineral ore containing significant values of copper, iron, gold and silver for its feed stock to produce a multiple line of products.

### 1. Copper Foil.

AZ CHEM will manufacture copper foil electrolytically from leach solutions of the copper ore. This technology is known as lix or solvent extraction and was developed by large chemical companies, who sell the chemicals for use in this process. It has been used for many years by large and small metal recovery operations.



## THE COMPANY

Arizona Chemical Company (AZ CHEM) was incorporated in Arizona on May 10, 1974.

Controlling shares are held by Frederick E. Kallof and related parties. Mr. Kallof is Chairman of the Board and President.

Silas Birch is a director and Vice President. Daniel J. Jacob is a director and secretary-treasurer.

AZ CHEM will manufacture and market copper foil for use in the printed circuit board industry, jewelry and solar energy applications. It will also market iron oxides for use in making ceramic tile, roof tile, chemicals and paint pigments. Gold and silver will be recovered as part of the manufacturing process.

## THE PRODUCTS

AZ CHEM will use an existing stockpile of mineral ore containing significant values of copper, iron, gold and silver for its feed stock to produce a multiple line of products.

### 1. Copper Foil.

AZ CHEM will manufacture copper foil electrolytically from leach solutions of the copper ore. This technology is known as lix or solvent extraction and was developed by large chemical companies, who sell the chemicals for use in this process. It has been used for many years by large and small metal recovery operations.

Copper foil has a broad range of applications and potential buyers, such as in the manufacture of electronic printed circuit boards, jewelry, and solar energy panels. See Exhibit "A".

## 2. Iron Oxide.

The raw ore is specular hematite ore ( $\text{Fe}_2\text{O}_3$ ) which is basically iron oxide. The material will be chemically treated by established chemical procedures to make red, yellow and black iron oxide.

These products are used in great quantities for manufacture of ceramic tile, roof tile, bricks, chemicals and paints and pigments. See Exhibit "B".

## 3. Gold and Other Recovered Precious Metals.

The raw ore used to make copper foil and iron oxides also contains gold and silver values. These precious metals will be recovered using known recovery methods.

The gold and silver will be sold as ingots or as foil.

### MANUFACTURING PLANT

#### Location:

The manufacturing plant will be located on the Mineral Hill Mine, which is located 9 miles east of State Route 95 at the confluence of the Bill Williams River and Lake Havasu on the Colorado River, approximately midway between Lake Havasu City and Parker, Arizona. See Exhibit "C", Arizona Highway Map.

### Stockpile of Raw Material:

AZ CHEM has an executory surface lease of a stockpile of ore (raw material) which has been mined and crushed to 1/4" minus from previous operations. The stockpile approximates 900,000 tons of ore. The stockpile has been sampled and tested for copper, gold, iron and silver. The test work and past production records show significant values of copper, gold and iron. Because silver prices are depressed, no significant income therefrom is projected.

From 1966 through 1970 this property was mined under the supervision of Mr. Kallof and the ore treated only to recover cement copper, an 85% to 90% pure copper feed for smelting. The production records show that approximately 13 million pounds of copper was produced and sold. In the latter part of 1969, heavy open pit mining was stopped so as to redesign the mining pit and metallurgical methods. Ore from the 1/4 inch stockpile of ore was processed for about 6 months thereafter before the entire operation was shut down because of financial difficulties experienced by the prior owner resulting from a drastic drop in copper prices.

An exceptional opportunity now exists. With the large stockpile of ore, time consuming and expensive mining and crushing is not needed. Further, this stockpiled ore can now be processed using some excellent and proven recovery technologies developed by major chemical companies since the previous operations. See Exhibit "D" showing sample values and

assay reports.

Facilities:

Extensive facilities presently exist at this location. Good roads, water wells, and pipelines, trailer park, tankage, 6 large concrete vats 40' by 50' each. APS electric power is available by reinstalling a power line, some mobile equipment. Exhibit "E" shows the general layout of the site. Exhibit "H" shows some of the equipment, improvements and work in process.

Scope of Operations:

The production facility will have three production circuits; copper, iron oxide and gold and other precious metals. A production rate initially of 100 tons of ore per 8-hour shift is planned. At a later date, the production rate can be increased by adding shifts. As previously stated, copper foil and other high valued copper products will be produced from this circuit. The testing of the copper ore indicates that approximately 14 pounds of copper per ton could be recovered by hydrometallurgical and electrodeposition techniques.

The iron circuit will produce red, yellow and black iron oxide. The ore tests indicate that approximately 360 pounds per ton can be recovered.

The gold and precious metals circuit will recover free gold and chemical gold. Preliminary, incomplete testing indicates about .1 troy ounce per ton of gold may be recovered. Exhibit "D" shows the values from a random sample. Some assay

reports also in Exhibit "D" are considerably higher.

Description of Production Plant and Process:

The plant is designed for an initial production rate of 100 tons of ore per 8-hour shift. This means a planned daily production rate of 1,425 pounds of copper foil; 36,000 pounds of iron oxide and 9 ounces of gold. The plant is designed to allow an increase in capacity at a later date.

Known metallurgical techniques are used for production.

A general description of the processing is described as follows:

Ore from the stockpile will be delivered to a vibrating grizzly and rough ore bin. Then it will be weighed and loaded into a washing circuit to remove waste dirt and slime (fine particles). Thereafter it will be ready for the crushing circuit where it will be crushed to 200 minus mesh. It will again be washed and deslimed and put on to jigs to recover the free gold. Thereafter it passes into the iron oxide circuit where the iron is removed by physical and chemical means to make red, yellow or black iron oxide. The iron oxide is dried and then bagged. The ore continues on to the copper circuit where it is treated to remove the copper values. This is done by a well known chemical technique called lix or "solvent extraction". The copper is taken into solution and thereafter electrodeposited onto a roller to produce copper foil. The ore continues to the gold circuit where it is chemically treated to

remove gold and silver. The solution passes through an electrolytic procedure to remove the metallic gold and silver. Finally, the ore passes to the tailings pond and the water and chemicals are sent to their respective storage facilities to be cleaned, replenished and reused.

#### CAPITAL COSTS AND WORKING CAPITAL

After considerable study, it is estimated that an additional \$500,000 will permit the construction of a production plant capable of processing 100 tons of ore per 8-hour shift, because of the extensive facilities already present at the Mineral Hill Mine. These funds also provide for adequate working capital until cashflow begins.

In addition to the capital outlay for the production plant, additional mobile equipment and material handling equipment may be required for expansion. It is not anticipated that this equipment will be necessary initially. After production commences, this equipment can be leased or purchased out of production income.

#### PRODUCTION COST AND INCOME

It is planned to process 100 tons of the 1/4" minus crushed ore per shift. This will permit production of approximately 1425 pounds of copper foil per shift, 36,000 pounds of iron oxides per shift and approximately 9 troy ounces of gold

per shift.

Capital and equipment costs and direct and indirect production costs and general expenses are set forth in Exhibit "G", which also includes a pro forma cash flow statement.

#### COMPETITION

There are several large companies which manufacture or produce copper foil, iron oxides and gold and silver.

##### Copper Foil

Gould, Inc., Oaki-Mitsui Co., and Yates Engineering are the dominant manufacturers of copper foil. All produce copper foil for use in the manufacture of printed circuits. However, as far as we have determined, they each use scrap copper as their feed material. Because Az Chem will use ore as feed material, our costs will be 15 cents to 20 cents cheaper per pound. Further, even though copper prices presently do not rise and fall as they used to, it reasonably can be expected that in the future, prices will be cyclical and availability uncertain. Scrap copper prices usually follow with the cyclic trends of wire bar copper. We will have the competitive advantage of readiness, availability and stable cost of our feed stock. Other manufacturers will have to rely in the future on availability of scrap at a volatile price.

Copper foil prices as of July 1986 have been \$2.95 to \$3.20 per pound.

### Iron Oxide:

Basically there are three types of iron oxides manufactured ... red, yellow and black. Because we can control the availability and costs of our raw material, we will be competitive. The sales price of red iron oxide for September 12, 1986 was 27.5 cents per pound; yellow iron oxide as of September 12, 1986 was 18 cents per pound; black iron oxide as of September 12, 1986 was 27 cents per pound. See Exhibit "F".

### Gold and Silver

These precious metals can be sold any time at market price or at a small discount from market price.

### MARKET

Copper foil has a large market in growth industries. The electronic industry and jewelry manufacturers are large users. Although, solar energy applications are not growing at the rate they were three years ago, they can be expected to continue to grow at a respectable rate. Large amounts of copper foil or plate is used in the solar panels.

Since we can control the costs and availability of the raw material, we should be able to be price competitive and therefore gain a market share.

The plant will be within 400 miles of many large users of copper foil in California and Arizona, thus saving on freight costs and allowing overnight delivery. This will be our copper



foil sales target territory in the first year of production.

Iron oxide will be bagged and sold primarily to pigment manufacturers and chemical producers. Because of its many uses, there are many marketing opportunities. Again, because of the controls of costs and availability of raw materials, we can be very price competitive. In addition to a domestic market, there is a substantial foreign market, particularly to Europe and the Far East.

Gold and silver can be sold at any time.

#### MANAGEMENT AND PERSONNEL

##### MANAGEMENT

###### Chairman of the Board and President

Frederick E. Kallof is 59 years of age and has resided in Arizona for over 40 years. He graduated from the University of Arizona in Tucson with a Bachelor of Arts Degree (1950). He graduated from Baylor University School of Law, in Waco, Texas, and received a Juris Doctor Degree (1954). Mr. Kallof has been an active, practicing lawyer in Arizona for over 30 years. Along with his law practice, he has been involved in diverse business activities including real estate and mineral property.

Frederick E. Kallof has been engaged in mining and exploration activities for over 25 years. He was president and an active manager of a publically traded company that employed 100 to 120 people in the previous operation of a copper mine on the

Mineral Hill Mine location. This mine processed 1,000 tons of ore per day. Precious metal recovery was not sought then, because controls on the mining and ownership of gold imposed by the U.S. Government were not removed until 1973-4, and gold production would have been sold to the government at \$35.00 per ounce. When copper prices began falling in the 1970s, the mine became uneconomical for copper production and operations were ceased.

Frederick E. Kallof has also supervised exploration and development activities in the 1960s of a mineral property at Ak Chin on the Papago Indian Reservation south of Casa Grande, Arizona; at the Bullard Mine, ten miles north of Aguila, Arizona; and at the Silver Plate Mine on Mingus Mountain near Jerome and Cottonwood, Arizona.

Frederick E. Kallof, as president of Arizona Chemical Company, operated a silver scrap refinery during 1980 in Phoenix, Arizona.

Frederick E. Kallof has had experience in the research and development of new metallurgical processes. In a joint venture with Clevite Corporaton, (now called Gould, Inc.), a new patented process of extracting copper in a powder form was developed for use in making copper powder and foil. This project terminated when Clevite was caught in a takeover fight with Gould, Inc. Gould won and chose to end any further participation.

11

#### Vice President and Director

Silas Birch received his Bachelor of Science Degree in Chemical Engineering from the University of West Virginia in 1940. He completed graduate work in Business Administration at the University of Southern California and received a teaching certificate from the University of Southern California in 1960..

After completing military service he was an Assistant Chief Engineer of a subsidiary of Standard Oil Company of New Jersey. He began as a Field Inspector with the Bureau of Contract Administration for the City of Los Angeles, California, in 1947, and retired in 1973 as Director of the Bureau.

From 1973 to 1976 he served as President of Sedona Healthcare in Sedona, Arizona, a community non-profit organization and has served on many community projects.

Mr. Birch published articles in technical magazines and authored the Construction Inspectors Handbook which was used as a textbook in California. He also authored a great portion of the Standard Specifications for Public Works Construction. The 4th Edition of this book was dedicated to Mr. Birch for his outstanding contribution by the Associated General Contractors of Southern California.

#### Secretary-Treasurer and Director

Daniel J. Jacob, Sr. is a graduate of the School of Pharmacy from the University of Arizona in 1952. He has done graduate work at the University of Texas and the University of

Southern California. He also is a graduate of the U.S. Air Force Aviation School of Medicine. In the service he worked in Hospital Administration.

Mr. Jacob owns and operates several pharmacies and home care medical clinics and centers in Tucson, Arizona. He is a real estate investor and has had varied business experience.

Mr. Jacob has been and is a member of numerous civic, social and professional organizations. In 1976 he was named the Outstanding Pharmacist of the Year by the Arizona Pharmaceutical Association, and in 1977 he received the Distinguished Citizens Award from the University of Arizona Alumni Association. In 1985, he was President of the Arizona Pharmaceutical Association.

#### Other Personnel

In addition to the officers listed above, the administrative personnel initially will consist of four persons -- a secretary, bookkeeper, and two marketing representatives.

The Company plans to use independent consultants for accounting, engineering and marketing.

#### PRIOR RESEARCH AND DEVELOPMENT

For the past year, AZ CHEM has conducted test work at Mineral Hill Mine, including geology, pilot recovery processing, equipment testing. From two to six people worked to carry out the work, including purchasing, making, installing and

servicing equipment, rehabilitating well sites, completing pipelines, tankage and roads. This work established processing techniques and mineral values of the ore used in the testing.

The copper and iron values are well established from information on the past operations. The gold and silver values have not been established with certainty. Gold and silver values have been recovered on several test runs. However, the entire ore stockpiles have not been tested to determine the exact quantities of gold or silver. Since it is planned to recover the gold and silver incidental to the manufacture of copper foil and iron oxides, they will be recovered. It would cost several hundred thousand dollars to do all tests and analytical work to positively establish the amount of gold and silver.

#### FINANCING PLAN

AZ CHEM plans to sell a carved out production payment to finance the plant construction.

A production payment entitles its owner to receive a share of the production from a specific property free of the costs of production until the lapse of a specified time or the delivery to him of a specified volume or value of production. It is a non-recourse obligation payable only out of production from the specified properties. The party obligated to deliver the payment is, therefore, not personally liable. Since a production payment may be an interest in real property for tax purposes,

servicing equipment, rehabilitating well sites, completing pipelines, tankage and roads. This work established processing techniques and mineral values of the ore used in the testing.

The copper and iron values are well established from information on the past operations. The gold and silver values have not been established with certainty. Gold and silver values have been recovered on several test runs. However, the entire ore stockpiles have not been tested to determine the exact quantities of gold or silver. Since it is planned to recover the gold and silver incidental to the manufacture of copper foil and iron oxides, they will be recovered. It would cost several hundred thousand dollars to do all tests and analytical work to positively establish the amount of gold and silver.

#### FINANCING PLAN

AZ CHEM plans to sell a carved out production payment to finance the plant construction.

A production payment entitles its owner to receive a share of the production from a specific property free of the costs of production until the lapse of a specified time or the delivery to him of a specified volume or value of production. It is a non-recourse obligation payable only out of production from the specified properties. The party obligated to deliver the payment is, therefore, not personally liable. Since a production payment may be an interest in real property for tax purposes,

it will terminate or expire if the underlying interest from which it arises expires or lapses. For many years the production payment has been one of the most frequently used debt financing techniques in the mineral industry. Its popularity is attributable to its ability to maximize tax benefits in a variety of circumstances and the practice of recording production payments as balance sheet obligations. However, the tax and balance sheet advantages have been, or are being, narrowed by law and accounting practices.

As an important use of the production payment for obtaining financing; the owner of a mineral property "carves out" a production payment and grants it to another party while retaining his entire operating interest in the property. In return the grantor is paid cash or receives services for the exploration, development or production of his property. The holder of the production payment looks solely to production from the property for a return of his investment.

A carved out production payment that is not pledged to the exploration or development of the property may be treated for tax purposes as a mortgage loan, repayable out of production, with no recourse against the grantor. Accordingly, the consideration received by the grantor of such a carved out production payment is not taxable. However when the proceeds from a carved out production payment are pledged to the exploration and development of the property, the arrangement may be treated for tax purposes as a sharing arrangement and the grantee will

have acquired an economic interest in the mineral property.

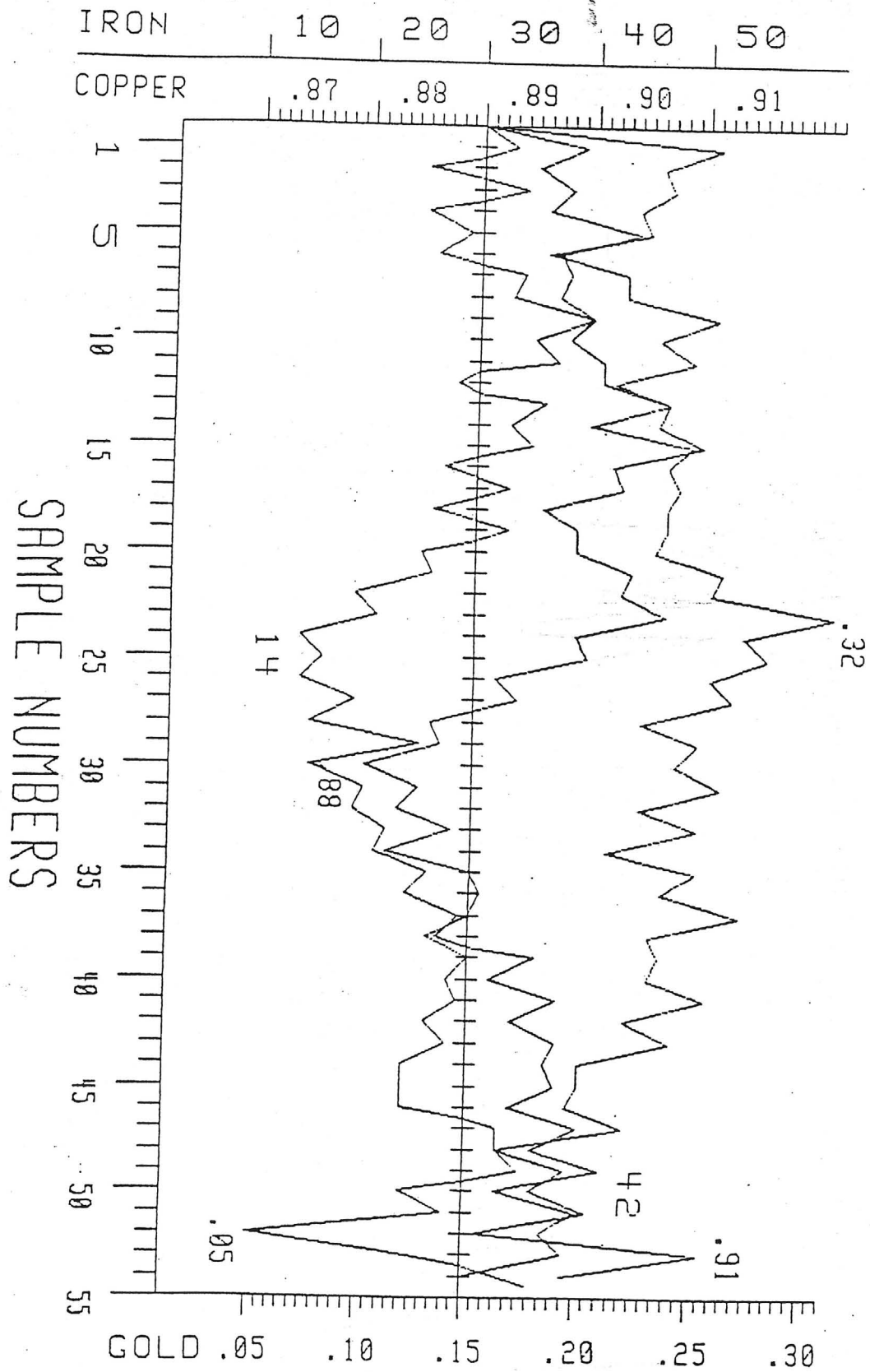
Advantages to the grantor of a carved out production payment include the non-recourse nature of the obligation, the ability to defer income until repayment of the loan, the ability to obtain needed funds without relinquishing control of the project or borrowing from a lending institution, and the avoidance of restrictive covenants. Moreover, other assets of the grantor remain unencumbered and available as collateral for other forms of financing. Historically, production payment obligations have been reported in the grantor's financial statements as deferred credits, not as current liabilities. Consequently, the grantor was able to obtain funds for exploration and development without a corresponding increase in liabilities. However, oil and gas producers are now required by the accounting profession to show production payment obligations that are payable in cash as borrowings in their financial statements, and similar treatment will probably be required for the mining industry. While production payments may no longer present all of the balance sheet and tax planning opportunities they once did, they remain an important source of non-recourse financing ... especially for smaller mineral producers with demonstrated production capability. Source: American Law of Mining, Second Edition.

AZ CHEM intends to sell \$500,000.00 in production payments with up to \$300,000.00 pledged to the development and processing of the ore stockpile. The production payment will be sold



in units of \$10,000.00 each. Any funds not used for development or processing will be used for other business purposes. Twenty-five percent of the gross income will be paid to purchasers of the production payment until they have received three times their capital contribution. Full payment of this carved out production payment is expected in two and one half years. .If a second production shift is added, this time will be shortened.

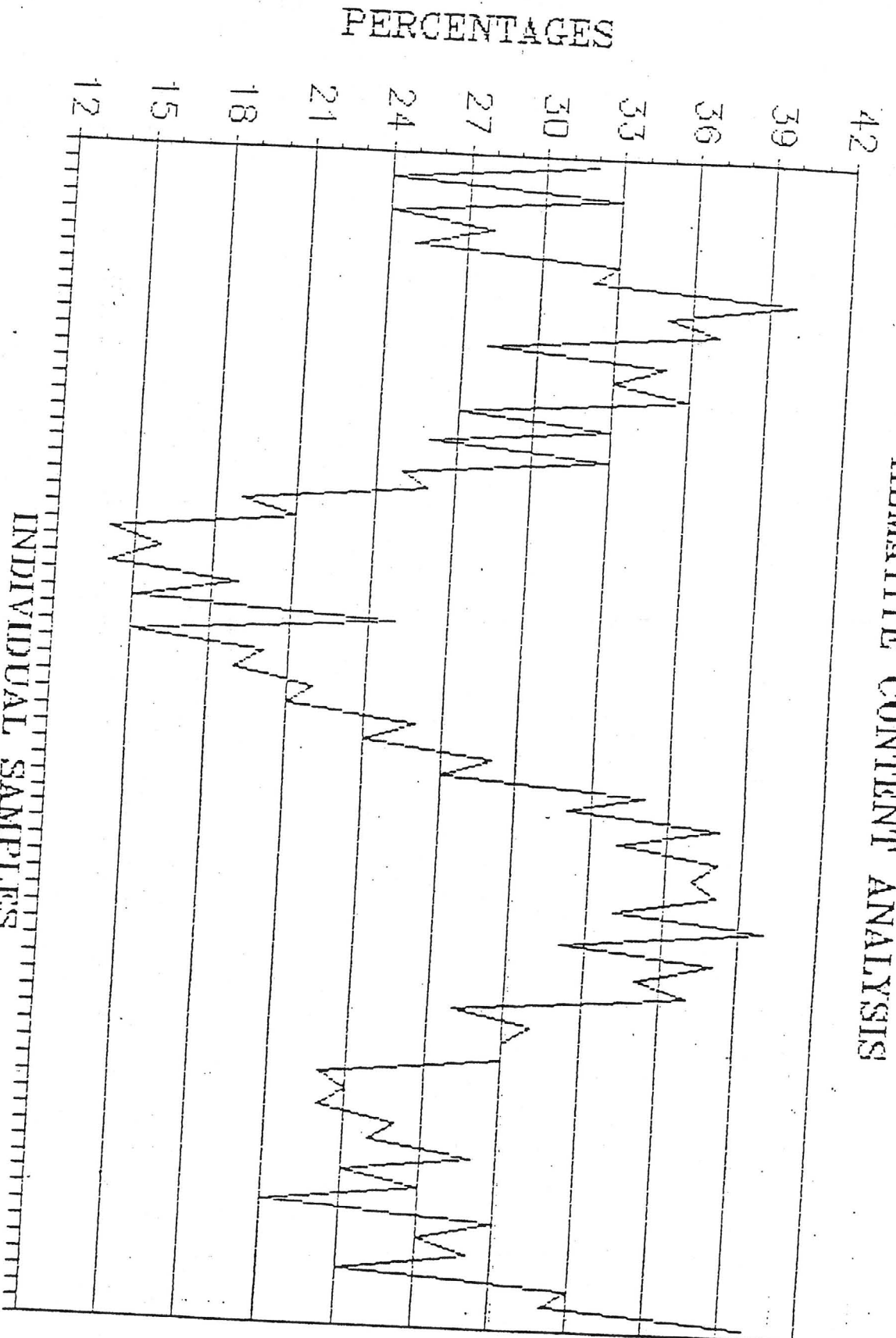
# HEMATITE (IRON OXIDES) AND COPPER IN PERCENTAGES



GOLD IN TROY OUNCES PER TON

EXHIBIT D

# INDIVIDUAL MINE HEMATITE CONTENT ANALYSIS

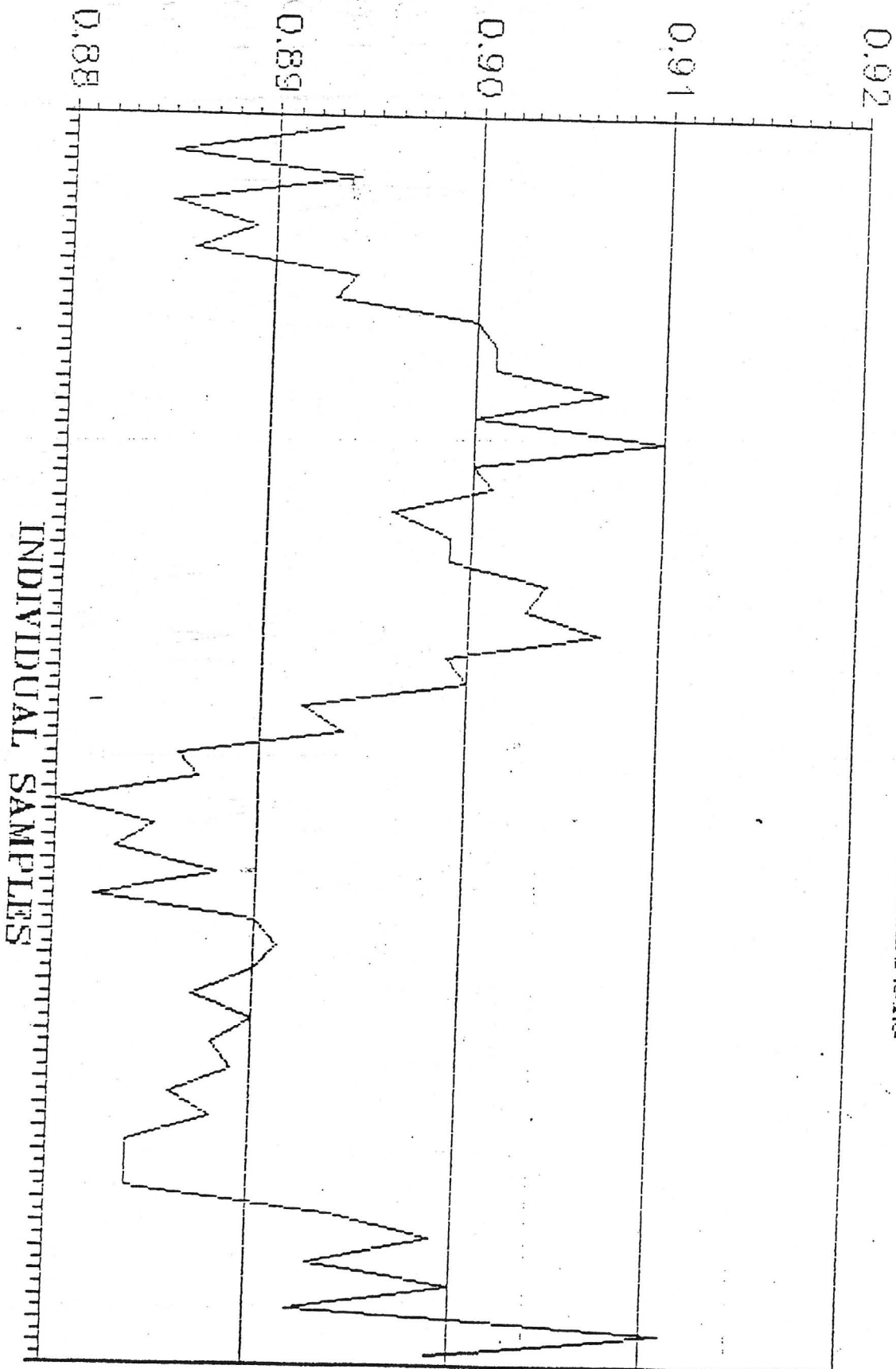


THESE FIGURES WERE RECEIVED FROM THE  
PHYSICAL SCIENCE LAB AT A.S.U.

— HEMATITE

EXHIBIT D

# MINERAL HILL MINE COPPER CONTENT ANALYSIS



THESE FIGURES WERE RECEIVED FROM THE  
PHYSICAL SCIENCE LAB AT A.S.U.

7340 E. Sweetwater Ave. • SCOTTSDALE, 85260 • (602) 948-6907

## CERTIFIED TEST REPORT

5311

DATE: October 26, 1984 HEAT NO:  
 CUSTOMER: MR. F.E. KALLOF, P.A. PART NO:  
 YOUR P.O.: Verbal (Dr. A. Johnson) S/N:  
 JOB NO: SPECIFICATION:  
 MATERIAL: Ore (Concentrate)

☐ Metallography☐ Hardness

☒ X-ray Chemistry  
 Semi-quant

Lead was used as a collector of Noble Metals  
 Analysis of Pb-Button for Ag, Au & PGE'S

Ag	161	oz/T
Au	96	4.67
Pd	64	2.78
Pt	193	1.86
Ir	3211	5.60
Os	1605	93.12
Rh	257	46.55
Ru	1766	7.45
		31.21

1 ppm = .029 ozs/t

All values in ppm

The elements shown are in the values indicated and are present in the sample in an uncombined state, or in physical combination with other material; or in a chemical compound with other element. Such elements may or may not be recoverable in the quantities indicated.

Respectfully submitted

*[Signature]*  
 A.S.T. LABORATORIES, INC.

All Reports are submitted as the confidential property of clients. Authorization for publication of our reports, conclusions, or extracts from or regarding them is reserved pending our written approval as a mutual protection to clients, the public and ourselves.

EXHIBIT D

# A.S.T. LABORATORIES, INC

- ATOMIC SPECTROSCOPY & TESTING -

7340 E. Sweetwater Ave. • SCOTTSDALE, AZ 85260 • (602) 948-6907

## CERTIFIED TEST REPORT

5312

DATE: October 26, 1984

HEAT NO:

CUSTOMER: MR.F.E. KALLOF, P.A.

PART NO:

YOUR P.O.: Verbal (Dr.A.Johnson)

S/N: Parker, Az.

JOE NO:

SPECIFICATION:

MATERIAL: Ore (Concentrate) as supplied

☐ Metallography

☐ Hardness

☒ Chemistry  
Semi-quant


☐

Ag	.005 - .03%
Al	.1 - .5%
As	*
B	*
Ba	.01 - .05%
Be	*
Bi	.05 - .3%
Ca	.3 - 1.0%
Cb	*
Cd	.0005 - .003%
Co	.05 - .3%
Cr	.005 - .03%
Cu	.5 - 3.0%
Fe	.5 - 3.0%
Ga	*
Mg	.05 - .3%
Mn	.1 - .5%
Mo	*
Na	.05 - .3%
Ni	.005 - .03%
Pb	.05 - .3%
Sb	.005 - .03%
Se	*
Si	.1 - .5%
Sn	Trace
Sr	.01 - .05%
Ta	*
Ti	*
W	.05 - .3%
Zn	.03 - .1%
Zr	*

The elements shown are in the range of percentages indicated and are present in the sample in an uncombined state, or in physical combination with other material; or in a chemical compound with other elements. Such elements may or may not be recoverable in the quantities indicated.

\* less than .001% or not detected

Respectfully submitted

  
A.S.T. LABORATORIES, INC.

Reports are submitted as the confidential property of clients. Authorization for publication of our reports, conclusions, or extracts from or regarding reserves pending our written approval as a mutual protection to clients, the public and ourselves.

EXHIBIT D



# J. B. LABORATORY

Specialists In Precious Metal Recovery

2702 S. 45TH ST. PHOENIX, AZ 85034 (602) 966-8103

PROJECT M.H.M. (Kallof)

PP

SAMPLE #	DATE	PROCESS TO RUN	WT TO USE	CON WT	DOR'E WT	DRILL WT	VOL ML
A1287	11-8	Digestion --- D.C.P.					

ELEMENT	PPM	OZ PER TON HD ORE	OZ PER TON CON	OZ PER TON DOR'E	VALUES
AU		.207			
AG		ND			
PT		.352			
PD		ND			
IR		.758			
RH		.565			

COMMENTS

CHARGES: \$140.00

*Thank You!*

*Jim Cousens*

Please note: This report is prepared for and distribution is limited to the party specified above. J.B. Laboratory reserving the authorization right for publication of this report pending our written approval. This is for the protection of our clients, ourselves, and the public.

**EXHIBIT D**



# J. B. LABORATORY

Specialists In Precious Metal Recovery

2702 S. 45TH ST. PHOENIX, AZ 85034 (602) 966-8103

PROJECT MMH - KLF

PP         

SAMPLE #	DATE	PROCESS TO RUN	WT TO USE	CON WT	DOR'E WT	DRILL WT	VOL ML
1456	12/3/85		20g				1000

ELEMENT	PPM	OZ PER TON <del>REF DOR'E</del>	OZ PER TON <del>CON</del>	OZ PER TON DOR'E	VALUES
AG		53.63			
AU		3.70			
PT		1.89			
IR		2.45			
RH		.54			

## COMMENTS

Thank You

Jim Cousins

\$115.00

Please note: This report is prepared for and distribution is limited to the party specified above. J.B. Laboratory reserving the authorization right for publication of this report pending our written approval. This is for the protection of our clients, ourselves, and the public.

10gm of mat'l that had been slagged with borax was brought in this was refined and out of 10gm of mat'l 41mg of Precious metal was recovered this equals about twice that shown above - or 123 oz Per Ton -

EXHIBIT D



BRC

PAHAMIAN REFINING CORPORATION  
CUSTOM REFINERS. COMPLETE ANALYSIS & FLOWSHEET DESIGN

9222 N. 14TH AVE. PHOENIX, ARIZ. 85021  
TELEPHONE (602) 279-9702

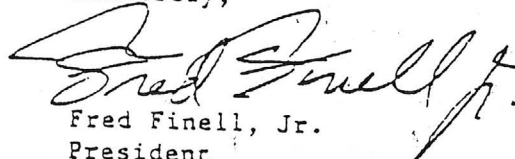
August 15, 1985

Fred Kallof  
Jobe Investment Co.  
P. O. Box 7765  
Phoenix, AZ 85011

Dear Mr. Kallof:

Attached is the report showing our recovery on your Sample using the Synergistic Recovery System Lab Bench test. The button we recovered is taped to the attached sheet. Please call if you have any questions.

Sincerely,

  
Fred Finell, Jr.  
President

FF:kt

ENC.

As a mutual protection to clients, the public and this corporation, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from this corporation.

EXHIBIT D



REFINING & CASTING INC.  
3064 N. 30th Ave. Suite #3  
Phoenix, Arizona 85017

(602) 278-GOLD

Shipping No.

Receiving No.

MINERAL MINE

Customer Name

Address

City

State

Zip

Phone

Account Executive

Dealer's License No.

PRODUCT TYPE	GROSS RECEIVING WEIGHT (B)	BOUGHT OUTRIGHT (C)	ESTIMATE % PURE (D)	ESTIMATED OUNCES (E)	SPOT PRICE (F)	TOTAL VALUE (G)	REFINE (H)	CONFIRM NUMBER (I)	AFTER MELT WT (J)	ASSAY % (K)	SETTLEMENT OUNCES (L)	LONG/ SHORT (M)	FROM POOL INVOICE #
VE					320/AN 6.50/AG	11350/TOL				13.502/Ton 3.202/Ton		L S  L S  L S  L S	

(P) CHARGES AND PAYMENTS

Assay \$15.00  
Handling \_\_\_\_\_  
Shipping \_\_\_\_\_  
Melt \_\_\_\_\_  
Processing \_\_\_\_\_  
Edging \_\_\_\_\_  
Other \_\_\_\_\_  
TOTAL \$15.00

PAYMENTS

Due \_\_\_\_\_  
Over Charges (P) \$ \_\_\_\_\_  
Due to Client \_\_\_\_\_  
Due \_\_\_\_\_  
How Paid: ☐ Cash ☐ Check  
Partial ☐ In Full

RESERVED FOR INTERNAL USE

Assay from 95.3 gms  
of assay  
13.502/Ton Gold  
3.202/Ton Silver  
Trace / PT Group

DEFINITIONS

Long - Customer is owed ounces by Standard Mint  
Short - Customer owes Standard Mint ounces  
Long/Short derived by subtracting  
Col (L) from Col (E)  
Settlement ounces = Col (J) x Col (K)

(O) SPECIAL HANDLING INSTRUCTIONS

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Assay Sample declined \_\_\_\_\_ Initial \_\_\_\_\_

I warrant and represent to Spectrum Refining and Casting Inc. that I am a duly licensed dealer in the Materials represented in this document, which I deliver to Spectrum Refining and Casting Inc., and that I have complied with all laws governing receipt, storage, and reporting requirements related to such Materials. In accordance with this warrant and representation, I hold Spectrum Refining and Casting Inc. harmless from all claims and fines that arise from my breach hereof.

SIGNATURE OF DEALER

RECEIVED  
SPECTRUM  
REFINING & CASTING  
INC.



REFINING & CASTING INC.  
3064 N. 30th Ave. Suite #3  
Phoenix, Arizona 85017

(602) 278-GOLD

Receipt Date 7-8-85	Expected Settlement Date	Invoice Number N2 10438
Assay Analyzed <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Work Sheet Attached <input type="checkbox"/> Yes <input type="checkbox"/> No	Customer Number
Shipping No.	Receiving No.	Customer Name Arizona Chemicals
		Address
		City State Zip Phone
Account Executive Chris Edwards		Dealer's License No.

PRODUCT	GROSS RECEIVING WEIGHT (B)	BOUGHT OUNCE (C)	ESTIMATE % PURE (D)	ESTIMATED OUNCES (E)	SPOT PRICE (F)	TOTAL VALUE (G)	REFINE (H)	CONFIRM NUMBER (I)	AFTER MELT WT (J)	ASSAY % (K)	SETTLEMENT OUNCES (L)	LONG/SHORT (M)	FROM POOL INVOICE #
RECEIVED	sample #1	Black										LS	
ON	sample #2	Red										LS	
FE												LS	
EX												LS	
												LS	
												LS	
												LS	
												LS	
												LS	

(P) CHARGES AND PAYMENTS

Assay \$35.00 / per sample  
andling  
Shipping  
Selling  
Processing  
Edging  
Other  
TOTAL \$ 70.00

PAYMENTS

Due  
er Charges (P) \$  
to Client  
n  
v f  
n

RESERVED FOR INTERNAL USE

#1  
Black - 2 to 3 Gold  
21.58 Silver  
- trace PTS  
  
Red #2 - 40.53 Gold  
- 3.18 Silver  
- Trace PTS

DEFINITIONS

Long - Customer is owed ounces by Standard Mint  
Short - Customer owes Standard Mint ounces  
Long/Short derived by subtracting  
Col (I) from Col (E)  
Settlement ounces = Col (J) x Col (K)

(O) SPECIAL HANDLING INSTRUCTIONS

pb ck # 994  
  
Assay Sample declined Initial

I warrant and represent to Spectrum Refining and Casting Inc. that I am a duly licensed dealer in the Materials represented in this document, which I deliver to Spectrum Refining and Casting Inc., and that I have complied with all laws governing receipt, storage, and reporting requirements related to such Materials. In accordance with this warrant and representation, I hold Spectrum Refining and Casting Inc. harmless from all claims and fines that arise from my breach hereof.

EXHIBIT D



LAB, INC.  
REGIS: ID-ASSAYER

D.A. SHAH  
AZ REG. #8888

710 E. EVANS • TUCSON, AZ 85713

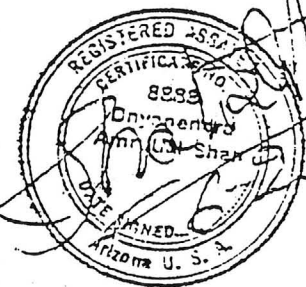
PH: (602) 884-

KLF International, Inc  
25 West Thomas Road  
Phoenix AZ 85013

Job No: 003747  
Date Recvd.: 06/14  
Reported: 06/25/85  
Project: N/A  
Invoice#: C 4374

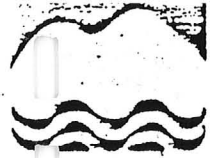
Attn.: Mr. Fredrick E. Kallof

Sample No	Au opt	Ag opt	Pt opt
1-2 pils - Copper #1	0.003	0.06	0.003
2-3 pils - Black Cryst	0.063	0.52	0.050
4-5 pils - Precip.	0.001	<0.05	<0.00



End of Report

EXHIBIT D



# NORTH AMERICAN LABORATORIES, INC.

## CERTIFICATE OF ANALYSIS

Client Name: Fred Kallof  
Address: P.O. Box 7765  
Phoenix, AZ 85011  
Telephone: 285-0921

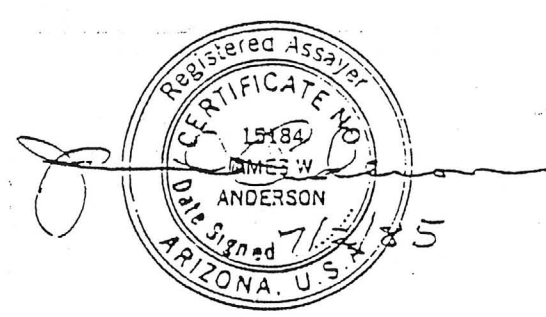
Job Number: MA-2072  
Date: June 30, 1985

Submitted by: Fred Kallof  
Date Received: 6/11/85

Copies to:

Additional Info:

Client I.D.	Lab #	ICP and AA						
		Au	Ag	Pt	Pd	Ir	Rh	Ru
		-----oz/ton-----						
2 مينيستريلا Ore	1	.006	.03	<.1	<.1	<.5	<.5	<.5
Roasted Cond.	2	.367	.32	<.1	<.1	<.5	<.5	<.5
"AST" Treatment	MHM3	.012	.31	<.1	<.1	<.5	<.5	<.5



These analyses are based on materials supplied by the client to whom and for whose exclusive and confidential use this report is made. North American Laboratories, Inc., and its officers and employees assume no responsibility and make no representations as to the productivity or profitability of any mineral deposit in connection with which this report is made.

We will store the PULPS for ONE YEAR in case you desire further analysis. They will be returned to you if you so request or be discarded after one year.

## Mineral and Water Analysis

1022 West 23rd Street • Tempe, AZ 85282 • (602) 894-0919

EXHIBIT D