



CONTACT INFORMATION

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James Doyle Sell Mining Collection

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SENT BY: CAMBIOR

JBS, WLR
mam
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CAMBIOR

COMMUNIQUE ▲ COMMUNIQUE ▲ COMMUNIQUE ▲ COMMUNIQUE ▲ COMMUNIQUE ▲ COMMUNIQUE

PRESS RELEASE

FOR IMMEDIATE RELEASE

Montreal, August 19, 1991

CAMBIOR INC. ACQUIRES WESTMONT MINING

Cambior Inc. ("Cambior") is pleased to announce that it has concluded a transaction with Costain Minerals Inc. whereby Cambior USA Inc., a wholly-owned Cambior subsidiary, has acquired all the shares (100%) of Westmont Mining Inc. ("Westmont"). At the close of the transaction, Westmont owned the Carlota copper project and exploration properties in Idaho and Nevada. Cambior paid a sum of US\$10,000,000 on closing of the transaction, and Cambior USA has undertaken to pay an additional amount of US\$5,000,000 if and when the Carlota project goes into commercial production.

The Carlota copper project is the principal asset acquired through this transaction. Easily accessible by road, the property is located in the Miami region of Arizona, in the United States. The 205-claim property covers approximately 4,000 acres and is located close to large copper deposits.

The Carlota project includes four copper-oxide deposits with proven and probable mining reserves of 53,660,000 tons grading 0.45% Cu. A minimum grade of 0.15% was used in the calculation of these reserves.

Preliminary studies indicate that the copper-oxide ore would be mined by open pit. The ore would be crushed and heap leached. Recovery of the copper from the sulfuric acid solution would be achieved by solvent extraction and electrowinning (SX-EW). This relatively new technology is being increasingly used to extract copper from oxide deposits, as it results in substantially lower capital and operating costs.

A pre-feasibility study has estimated the capital cost of putting the project into production at US\$45 million. The mining rate was fixed from the outset at 5,000,000 tons per year. The waste-to-ore ratio will average 2.35:1 throughout the life of the project. Production is expected to average over 19,000 tons, or 38,000,000 pounds, of copper per year over the 11-year mine life. Operating costs will be US\$0.61/lb Cu.

The cost of the acquisition, including the additional amount to be paid once commercial production begins at the Carlota project, is US\$73 per ton of recoverable copper.

Work will be carried out on the project to complete the exploration phase and obtaining the required environmental permits. A feasibility study is expected to be completed in 1993.

Corporate Reorganization

Subsequent to this transaction, Louis P. Gignac, President and Chief Executive Officer of Cambior, is please to announce the following appointments: Mr. Alex F. Bissett, President of Westmont Mining, has been named Senior Vice President of Cambior's American operations, and will be in charge of the Valdez Creek Division, the Carlota copper project and other development projects in the United States. Mr. Raynald Vézina assumes the post of Senior Vice President of Canadian operations and Mr. Jean Boissonnault has been named Senior Vice President of exploration for all Canadian, American and overseas projects. This acquisition is an integral part of our expansion into the United States.

Cambior is a major Canadian gold producer with interests in eight mines in production. The company expects to produce about 320,000 ounces of gold in 1991.

- 30 -

Source: Cambior Inc.

For more information, contact :

Robert LaVallière
Manager, Public Relations
Montreal
Tel.: (514) 878-3166

WLK-JBS-WDG

Reply To: 2810

Date: June 16, 1992

ASARCO Incorporated

JUN 18 1992

SW Exploration

Dear Forest Partner:

Carlota Copper Company has submitted a proposed Plan of Operations (POO) for a new open pit copper mine that involves extensive acreage on Tonto National Forest, Globe Ranger District, as well as lesser acreage on private lands. For your information the proposed project is described in more detail in the enclosure entitled 'Carlota Copper Company - Supplemental Information,' and a project map is also enclosed.

The National Environmental Policy Act (NEPA) and the Forest Service's Region 3 Integrated Resource Management - Project Implementation Process require that the proposed project, already determined to require an Environmental Impact Statement (EIS), be subject to environmental review and public scrutiny in conformance with the Council on Environmental Quality regulations 40 CFR Parts 1500-1508. Following analysis and selection of an alternative, it may be determined that an amendment is necessary to the Tonto National Forest Land and Resource Management Plan.

Two public meetings will be held to provide the public additional information about the project and solicit public input to better define issues associated with the proposed project. The meetings will be held as follows:

1. July 15, 1992, Wednesday, 7:00 PM
Gila County Board of Supervisor's Meeting Room
Gila County Courthouse
1400 E. Ash
Globe, AZ 85501
2. July 16, 1992, Thursday, 7:00 PM
Mesa Community Center - Public Library Saguaro Room
201 N. Center
Mesa, AZ
NOTE: Do not park in library parking lot.

If you cannot attend one of these meetings and still wish to provide input, we encourage you to submit your written comments to this office. All written comments must be received by July 31, 1992. Additionally, if you wish to remain involved in this process and receive informational mailings as well as other project/NEPA information, please fill out the form at the end of the letter and mail to this office.

SUPPLEMENTARY INFORMATION: CARLOTA COPPER COMPANY

The proposed Carlota Copper Project would consist of a mine with three open pits, waste rock dumps, topsoil storage areas, a leach pad, process ponds, a solvent extraction/electrowinning plant, roads, buildings for maintenance, and offices. Approximately 1250 acres will be disturbed by the project out of an approximate 3500 acres of analysis area. Most of the analysis area is on National Forest System (NFS) land, with the remainder being on private land. The waste rock dumps will be designed to contain approximately 130 million total tons of rock and will disturb approximately 400 total acres of land. The open pits will disturb approximately 370 total acres. The project has an estimated life of 10 to 12 years and ore production will total approximately 54 to 70 million tons, subject to modifications as more information is developed. The ore will be processed on site by conventional leaching, solvent extraction, and electrowinning to produce copper cathodes. The project, as proposed, would require permanent division of portions of both Pinto Creek and Powers Gulch. During construction, an estimated 250 temporary workers will be employed. Approximately 225 employees will be employed at the project during operations. The project will require approximately 1200 acre feet of water per year. Approximately 50 megawatt hours per year of electric energy will be supplied by the Salt River Project.

The ore bodies will be mined using conventional open pit mining techniques and mining equipment. The planned ore mining rate is five million tons per year. Waste rock and alluvium will be mined at an average rate of about 14 million tons per year. Waste rock will be hauled to the waste rock dumps. Ore will be hauled by truck from the pits to an adjacent crushing plant and conveyed to the leach pad, or hauled directly from the pits to the pad. As required, ore will be crushed to approximately minus 6-inch size at the crushing plant prior to being conveyed to the leach pad. A single crushing plant is planned to serve all pits. This plant and associated conveyors will be relocated as needed. The nominal capacity of the plant is five million tons per year. The leach pad will have sufficient capacity for the total ore from the three pits. Crushed ore will be "cured" with a strong sulfuric acid solution and allowed to rest in the heap for a minimum of three days. After curing, the ore will be leached using barren solution recirculated from the plant, producing copper-bearing leach solution. High quality copper cathodes will be produced in the plants using standard hydrometallurgical processes. Following mining, the area will be reclaimed.

Environmental studies will include air, surface and groundwater, scenic and recreational values, fish, wildlife, plants (including threatened and endangered species), soils, cultural resources, and socioeconomics. Measures to protect the environment will include reclamation, employee environmental education, spill prevention/emergency response planning, protection, or recovery of archaeological sites, surface and ground water quality monitoring, erosion and sediment control, dust control, threatened and endangered species and wildlife protection, and public safety.

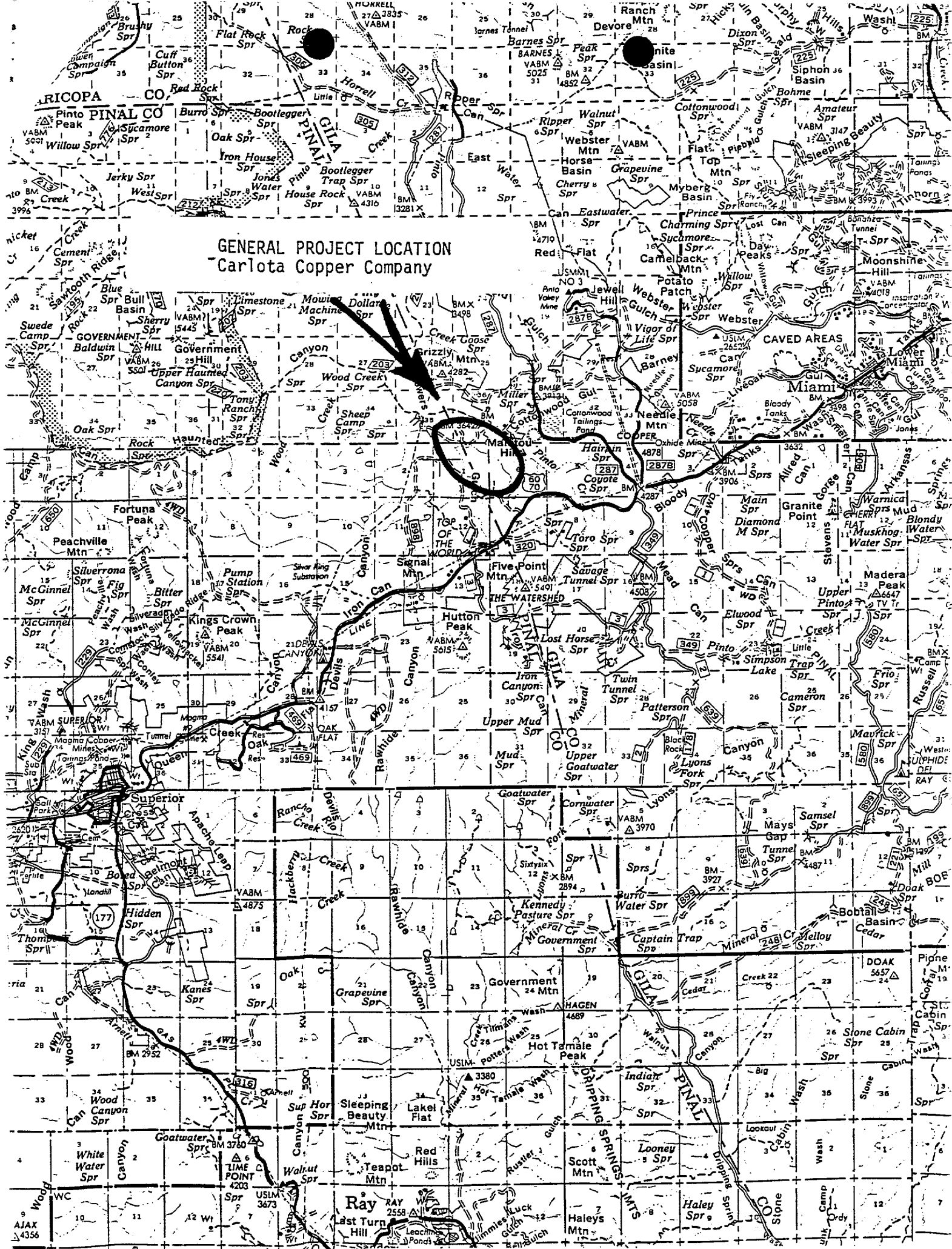
The following permits or licenses may be required to implement the proposed action:

1. Forest Service - Plan of Operations,
2. Environmental Protection Agency (EPA) - National Pollution Discharge Elimination System permit,
3. Army Corps of Engineers / EPA - Section 404 permit,
4. EPA / Arizona Department of Environmental Quality -
 - a. aquifer protection permit
 - b. air quality permit
 - c. stormwater discharge permit.

A number of issues have been identified to date. The major issues concern hydrology, water quality and quantity, riparian areas/streamcourses, wildlife habitat, threatened and endangered species, cultural resources, and recreation.

The Forest Service will be lead agency and is responsible for the preparation of the EIS. The U. S. Fish and Wildlife Service, Arizona Game and Fish Department, and Arizona Department of Environmental Quality have been invited to be co-operating agencies in accordance with 40 CFR 1501.6.

GENERAL PROJECT LOCATION
Carlota Copper Company







Re-examination of the Pinto Valley Division's Cactus Orebody has indicated the reserve may increase production at an effective cost. Further study is underway to confirm its economic potential.

MAGMA
MAGMA COPPER COMPANY

FIRST QUARTER REPORT

For the Three Months
Ended
March 31, 1989

~~WTR~~ FILE
Gila Co
Superior East Project
EA-0010
Pinal Co., AZ

See: The Location of the
Root Zone of the
Cactus Deposit,
Globe-Miami District,
Arizona, by FTG
May 10, 1971

I have no new figures
but based on past files
it appears that there is
20-25 million tons of
 $\pm 1\% \text{ Cu}$ in the total
Cactus-Carlotta block,
with about half in
each part.

McSall

File Note:

March 3, 1994

Carlota Copper Project

Cambior Inc.

Pinal - Gila Counties, AZ

The Carlota copper project of Cambior Inc. is a heap-leach solvent extraction, electrowinning recovery system.

Of the 100,000,000 tons of 0.45% oxide copper reserve, 90% is within the Cactus Carlota-Kelly shear zone in Gila County, and the remainder is two or three small pits west of Pover's Gulch on the Eder-Ghost claim area.

In Cambior's 1992 annual report they state the stripping ratio of 20/1 w/o.

Attached are three fact sheets distributed. Cambior acquired the Carlota portion when they bought Westmont Mining in 1991, and completed the buying out of Magma (Cactus portion) and Cypress (Eder zone).

It appears they are on slim ground economically unless copper prices exceed \$1 per pound.

Mr. Hale Armstrong, consulting geologist gave Ed Johns and Greg from the Ray Hunt, and myself a good tour and explanation 3/1.

Mr. Walsh was in Phoenix submitting their water permit.

cc: FTG
Westmont.

James D. Seel

CARLOTA COPPER PROJECT FACT SHEET

Location:	Head Office Carlota Copper Company 8101 East Prentice Ave., Suite 800 Englewood, CO. 80111 (303) 694-4936 Fax (303) 773-0733 Contact: Jock McGregor, President	Field Office Carlota Copper Company 1306 Live Oak Street P.O. Box 1009 Miami, Arizona 85539 (602) 473-3518 / 473-3519 Fax (602) 473-3216 Contact: Bob Walsh, General Manager
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Mine Site: Just west of Magma's Pinto Valley Operation in the Globe/Miami Mining District in Gila and Pinal Counties.

Project Details:	Ore Reserve: Project Life: Mine: Open Pit	106,000,000 tons @ 0.45% Cu 18 years 24,000,000 tons/year
	Processing: Heap Leach Solvent Extraction Electrowinning	7,000,000 tons/year 6,000 gpm 33,000 Cu/yr tons.
	Total Employees:	280-300

*Shipping, overall
2.1 waste / 1 ore.*

Economic Impact:	Invested to date Capital investment	\$14,000,000 \$99,000,000 preproduction \$133,000,000 life of mine
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Direct Annual Contribution to Arizona Economy:

Income of employees	\$10,000,000
Arizona purchases	\$28,000,000
State and local fees & taxes	\$3,900,000

Estimated Total Annual Contribution (direct and indirect) to Arizona's Economy	\$122,000,000*
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Regulatory Agencies Involved in Permitting the Project:

- USDA Forest Service
- US Army Corps of Engineers
- US Fish and Wildlife Service
- Environmental Protection Agency
- Arizona Department of Environmental Quality
- Arizona Department of Water Resources
- Arizona Game and Fish Department

Expected Schedule:	Draft EIS Record of Decision Start of construction First copper production	March / April 1994 September 1994 October 1994 June 1995
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* Carlota Copper Company Facts *

Carlota Copper Company • 1306 Live Oak Street • P.O. Box 1009 • Miami, AZ. 85539 • (602) 473-3518 • Fax (602) 473-3216 •

What is the Carlota Project?... The Carlota project is a medium-sized copper mine that is in the development and permitting stage. Located just west of Magma's Pinto Valley Operation, the Carlota project contains over 100 million tons of oxide copper ore at about .45% copper. The project is expected to employ about 300 people for 18 years—a generation of jobs for Globe-Miami and Superior.

Vital Production Statistics—

Ore Reserves	106,000,000 tons
Grade	.45% Cu
Mining Rate	24,000,000 ton/yr
Ore Production	7,000,000 tons/yr
Solvent Extraction	6000 gpm
Electrowinning	33,000 tons Cu/yr

Carlota's Economic Impact—

Carlota Copper Company has invested about \$14 million in the acquisition, exploration, development, and permitting of the Carlota Project. About \$3 million has been spent on environmental permitting. The Globe-Miami businesses have already benefitted from these expenditures. Engineering and environmental consultants as well as Carlota Copper Company staff from the Denver office have spent hundreds of nights in Globe, buying supplies and services. Before any copper is produced, the capital investment will rise to \$99,000,000.

Once the Carlota Project is in

operation, the estimated annual contribution to Arizona is:

- ✓ Income to Employees \$10,000,000
- ✓ Arizona Purchases \$28,000,000
- ✓ State and local taxes \$3,900,000

The Western Economic Analysis Center estimated that Carlota's total annual direct and indirect contribution to Arizona's economy will be **\$122,000,000**. Copper mining is an important aspect of rural Arizona economies. According to the Arizona Mining Association, in 1992 the copper industry provided 12,100 mining jobs—the best paying in the state. Copper's 1992 direct spending totaled \$1.7 billion and resulted in a total economic impact of \$6.5 billion.

Permitting and Environmental Protection—Carlota is working to acquire the environmental permits which are needed before construction can begin. As many as eight different government agencies are involved in the permitting process. Tonto National Forest is the lead agency for the preparation of the Environmental Impact Statement, a comprehensive document which analyzes potential impacts of the Carlota Project. This document is expected in March 1994. Five other major state and federal permits are needed as well. The public is encouraged to participate in upcoming public meetings.

Schedule—Environmental permitting is progressing. A contract for the project's final engineering was recently let. The start of the construction phase is scheduled for October 1994 with the first copper production following in June of 1995. Additional information is available at Carlota's office at 1306 Live Oak Street in Miami, Arizona. A scale topographic model of the project area can be viewed during business hours.

CARLOTA COPPER PROJECT

Anticipated Development Schedule

October 1993	.	General Manager Appointed
October 1993	.	Engineering company selected to start detailed design work
January 1994	.	Major field studies completed
March 1994	.	Draft EIS issued by USDA Forest Service
May 1994	.	Public hearings on Draft EIS
August 1994	.	Period of additional data collection
September 1994	.	Record of Decision
October 1994	.	Start of construction
June 1995	.	First copper production

*Robert Walsh
General Manager
Carlota Copper Company
1306 Live Oak Street
PO Box 1009
Miami, AZ 85539-0806*

March 3, 1994

Mr. Robert Walish
General Manager
Carlota Copper Company
PO Box 1009
Miami, AZ 85539-0806

Dear Sir:

Thank you very much for your time and explanation of your work at the Carlota property and the activities to come in the future.

Nole Armstrong enlightens us on the geology of the area and of course we all add our 2¢.

I hope all went well with the DEP and with the future.

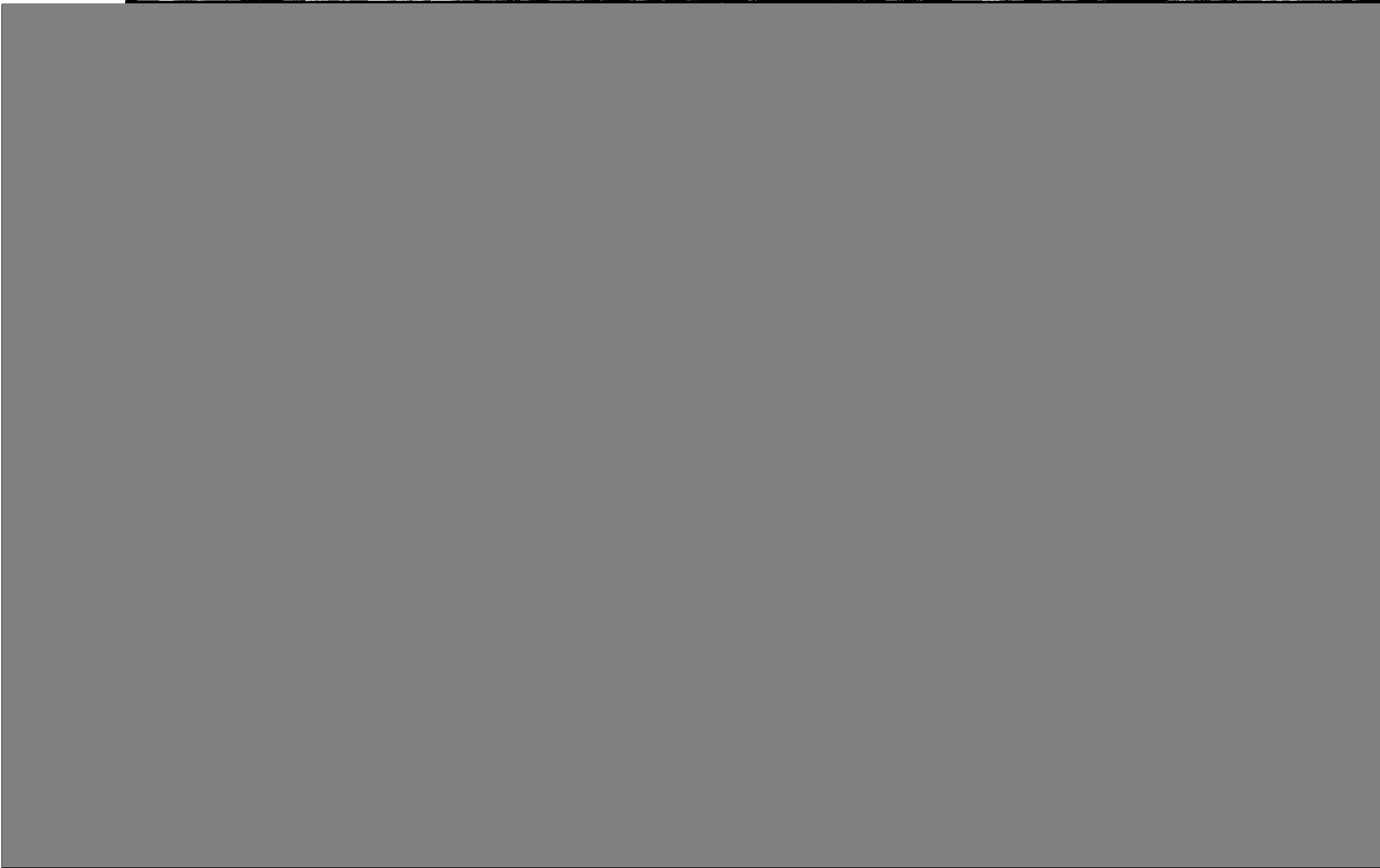
I would be please to receive a copy of the EIS when it comes out later this month.

Thanks again for your time & thoughts.

Sincerely
James W. Sell

ASARCO

James D. Sell
Manager
Exploration



ary 14, 1994

The Modern Miner 2/14/94 1187 No. 50 p. 24

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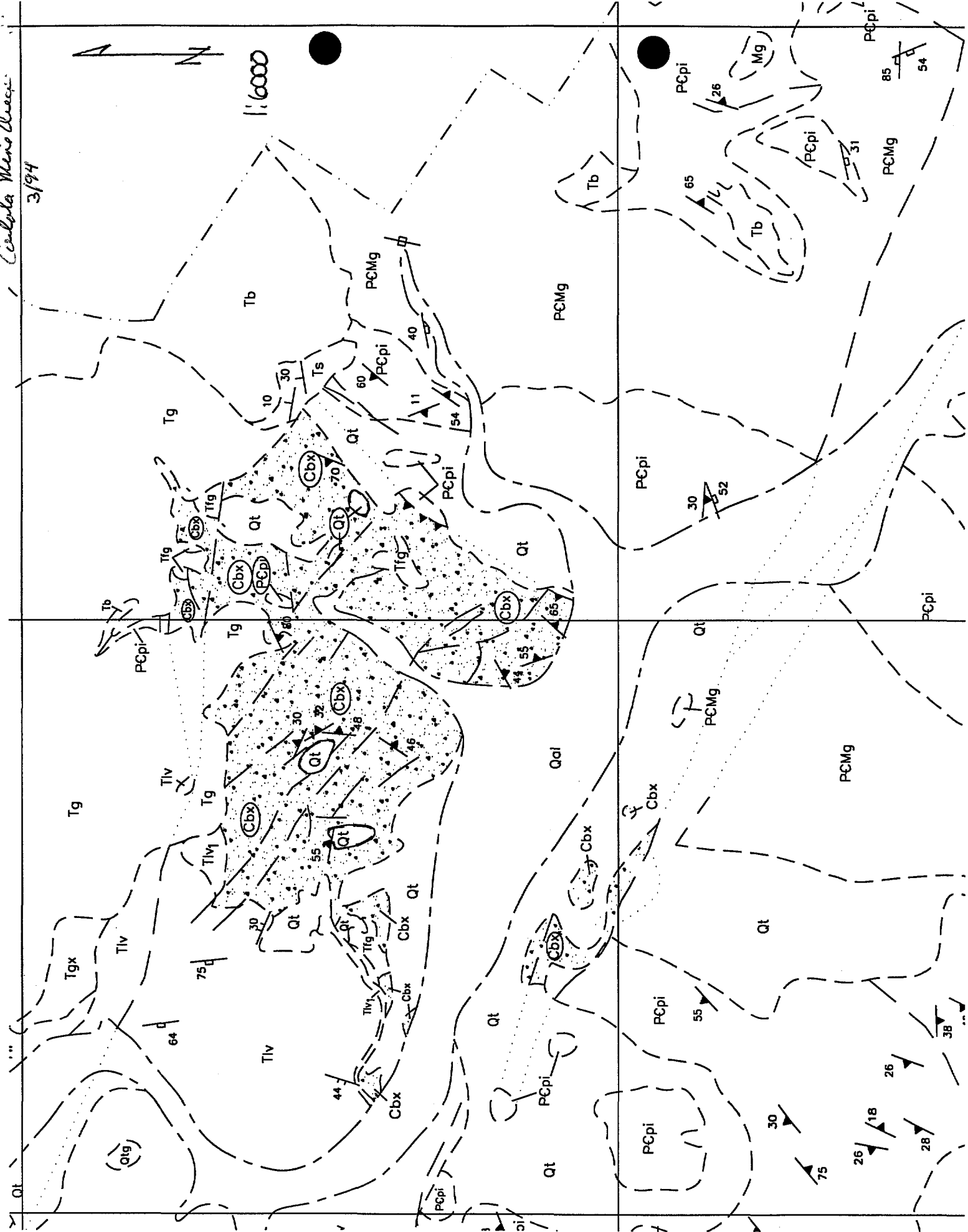
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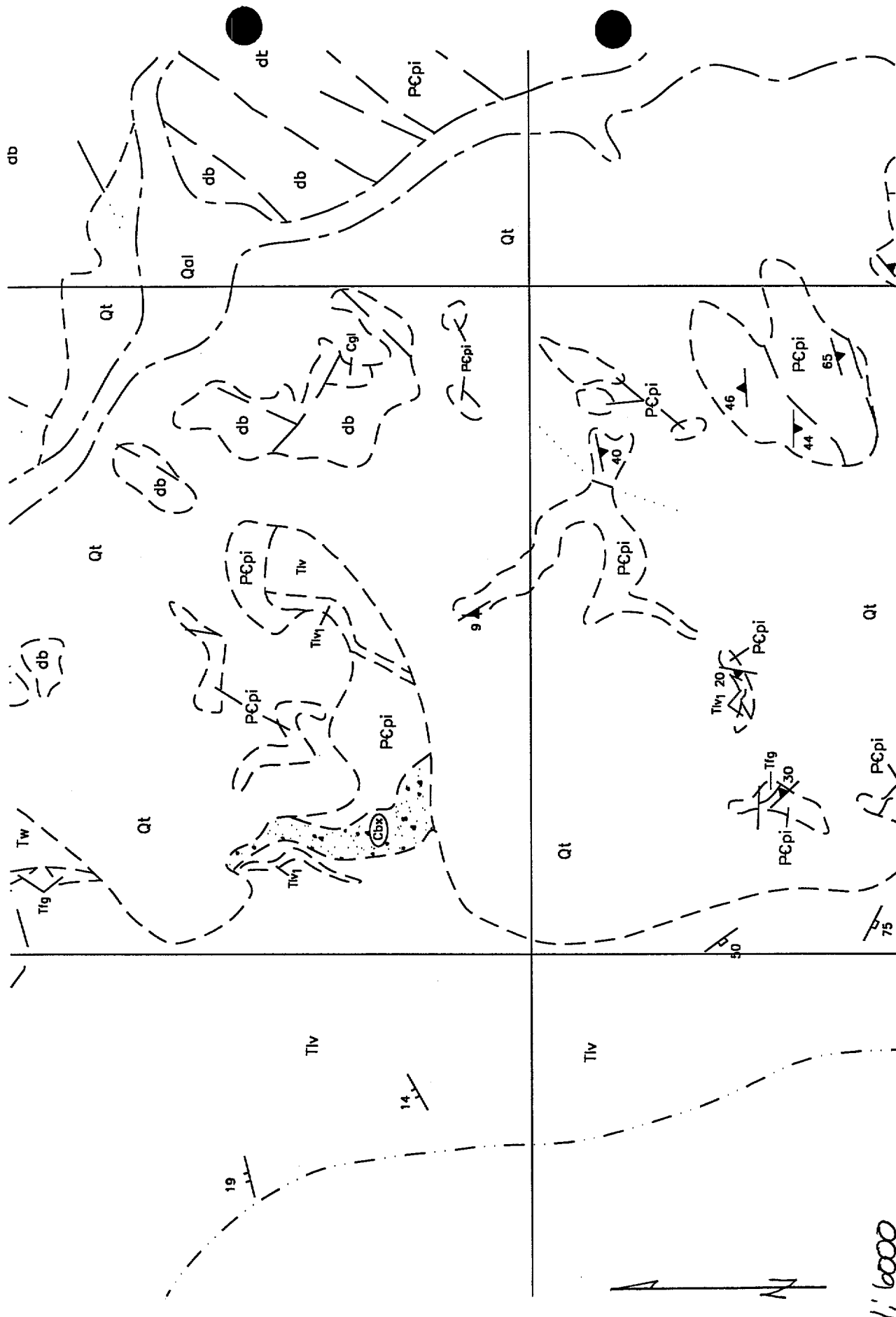
CARLOTA COPPER PROJECT

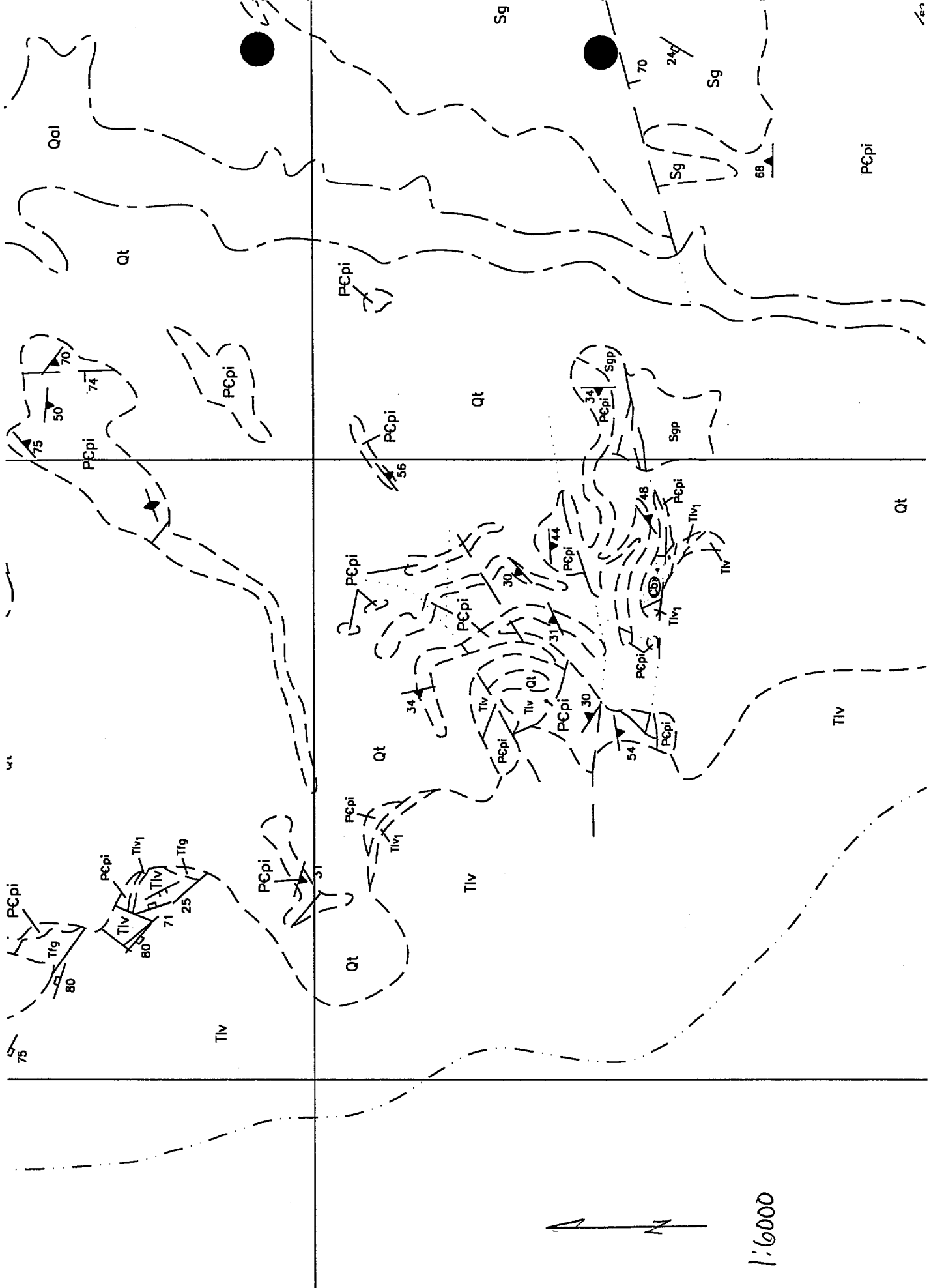
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Cerro de Minas Area
3/94







EXPLANATION

- Qal - Quaternary alluvium, stream or wash channels only.
- Qt - Quaternary talus deposits includes small land slides.
- Tb - Tertiary basalt flow and feeder dikes. 5-8my
- Tg - Tertiary Gila conglomerate - fanglomerate deposits.
- Tlv - Tertiary Apache leap volcanics, dacite. 17-20my
- Tlv₁ - Tertiary Apache Leap volcanics, vitrophyre. 17-20my
- Tlv₂ - Tertiary Apache Leap volcanics, basalt dacitic ash. 17-20my
- Tld - Tertiary regolith, sandstones and sandy shales. May be part of the Whitetail.
- Tev - Tertiary volcanics, pre Apache Leap dacitic pile. Consists of flow banded rhyolite.
- Tfg - Tertiary iron stained conglomerate directly associated with "Cactus Breccia" as reworked breccia material. The footwall contact is generally difficult to distinguish from the uppermost portion of Cbx.
- Cbx - Tertiary(?) Cactus Breccia, rock avalanche deposits. Hosts "oxide copper" mineralization. Consists of fragments of Precambrian schists (Pepi) from 0.1mm up to 20cm. Either clast or matrix supported, contains small breccia dikes of fine-grained matrix supported rock debris.
- Cbx₁ - Tertiary Cactus Breccia consisting of large, 1m-20m highly shattered blocks of altered Pepi. Also hosts "oxide copper" mineralization. These blocks are generally fault bounded but maintain a generally consistent internal orientation of pre-breccia foliation.
- Cbx₋ - Tertiary Cactus Breccia described as Cbx however contains no iron oxide or copper mineralization. The Cbx unit also crops out as loose debris and shows no matrix cement or healing. This unit may reflect a distal facies of Cbx.

- Tw - Tertiary Whitetail conglomerate. Contains cobbles and boulders of numerous lithologies. Can be distinguished from the Gila conglomerate by the lack of Apache Leap debris. 33my.
- Cgl - Conglomerate, not assigned to any formation. Consists of pebbles and cobbles of various lithologies including various unknown felsic intrusions and sediments as well as basaltic diabase.
- Sg - Schultze Granite, medium-to coarse-grained granite to granite porphyry. May contain large megacrysts of K-spar up to 8cm long. Light grey to buff tan containing quartz plagioclase K-spar and biotite \pm sericite and muscovite. 55-64my.
- Sgp - Porphyritic phase of the Schultze Granite. Quartz and Orthoclase phenocrysts set in a matrix of quartz, plagioclase, and biotite.
- qpi - Coarse-grained quartz feldspar porphyry. Quartz phenocrysts up to 1.5cm diameter plagioclase laths also 1.5cm long. matrix consists of K-spar, biotite, and quartz. Quartz monzonite. Age is unknown, limited exposures in the Precambrian only.
- fpi - Feldspar porphyry, as above however contains no free quartz. Composition is a monzonite porphyry. Age is unknown.
- P. - Pennsylvanian Horquilla limestone. Massive-to well-bedded grey to tan fossiliferous limestone with numerous chert layers and "knots" up to 50cm dia. Basil unit is a red calcareous siltstone to fine-grained sandstone. This unit is designated as P.r.
- Me - Mississippian Escabrosa Limestone. Cliff-forming massive grey fossiliferous limestone.
- Dm - Devonian Martian Limestone. Grey to tan, brecciated or conglomeratic fossil-poor dolomitic limestone/marble and contains a basal quartz-pebble conglomerate up to 2m thick. Seen only as fault slices only a partial section is exposed.

- et - Cambrian Troy Quartzite. Maroon, fine- to medium-grained, cross-bedded arkosic sediments with a basalt polyolithic cobble conglomerate.
- db - Precambrian basaltic diabase intrusion. Medium-to coarse-grained hornblende, augite, and plagioclase laths set in a finer grained matrix of the same composition. 1050my.
- Pemg - Precambrian "Granite on Manitou Hill", after Peterson, 1962. Weakly foliated granite to quartz monzonite intrusion consisting of quartz K-spar biotite, muscovite, and plagioclase. Found to be intrusive into the Pinal schist only.
- Peps - Precambrian Apache Group Pioneer Formation and Scanlan conglomerate. Scanlan conglomerate, basal unit of the Apache Group, is thin, 4m maximum thickness but averages only 2m. Contains clasts of Papi and segregation quartz. Pioneer formation consists of quartzites and arkosic quartzites, fine- to medium-grained, weakly iron stained.
- Papi - Precambrian Pinal Schist. Quartz muscovite feldspar schist and highly deformed quartz chlorite sericite phyllites and schists. Generally two foliations. Metasediments. 1400-1620my.

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

July 26, 1974

J.H.C.
AUG 8 1974

✓ file

FILE MEMORANDUM

Cactus-Carlotta-Eider Miami-Inspiration
District

Freeport Minerals has talked to Inspiration, Cities Service,
and Canadian outfit exploring the Carlotta about the possibilities
of putting the three properties -- Eider, Cactus, Carlotta --
together for further exploration and development.

Interestingly enough, he was told by both Inspiration and
Cities Service that they would seriously consider the possibility.

W. L. Kurtz

WLK:lb

cc: JHCourtright ✓
JDSell

WJK - ~~JHE~~ - file - Carlotta or Cactus
x file per note file

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

WES

JAN 26 1971

January 18, 1971

J. H. C.

JAN 27 1971

TO: W. E. Saegart

FROM: J. D. Sell and R. B. Crist

Re: Carlota Deposit
Recent Drilling and Evaluation
Gila County, Arizona

S. I. Bowditch, R. B. Crist, and J. D. Sell traveled to Phoenix on January 14, 1971, to talk with Home-Stake Production Company in regard to their Carlota deposit.

Home-Stake Production Company
Financial Building
3443 North Central Avenue, Phoenix
Phone: 274-8049
Mr. Dennis Pickens, Manager
Mr. George Freeman, Exploration

Home-Stake secured the Carlota group through Mr. Sherwood Owens in July, 1968, and has drilled some twenty holes in the Kelly fault zone and in the Carlota breccia ore.

Mr. Pickens was unreceptive to giving us anything other than verbal information and a look at their plastic model of the drilling. The model portrayed two types of ore: 1) the steeply inclined Kelly fault zone and the related flat-lying blanket, and 2) the Carlota breccia ore similar to the outcropping breccia at the Cactus deposit.

The accompanying map of the area indicates the Carlota group (approximate outline since we have no claim map of the group) is bordered by Inspiration (Eder group) on the west and Miami (Cactus group) on the north and east.

Evaluation of N. P. Peterson's map suggests that the two northwesterly-trending faults--the Kelly fault on the southern edge and an unnamed structure on the north--are bounding faults in that they cut or limit the flat basement fault. The flat fault bottoms the Cactus-Carlota breccia ore. Mapping by Peterson places a similar "thrust" to the north and field work in this area by D. Friel has not, apparently, found any mineralization or features suggesting breccia ore in this Grizzly Bear block, except for a minor amount along a possible steep fault in the center of the block.

Information shown by Home-Stake suggests that to the west the flat fault has a sub-outcrop which is covered by dacite. This westerly trace of the flat fault will also limit, by termination, the Carlota breccia ore on the west. Similar copper ore of secondary origin, but higher grade, has been drilled out in the Kelly fault zone and this mineralization is shown to underlie the Carlota breccia ore as a flat blanket. It is reasonable to believe that the Kelly blanket is similar to the higher concentration of copper at the Eder area in that it represents precipitation in the reactive schist and other rocks in the footwall ~~state~~ below the flat fault.

Tonnage-grade figures reported by Home-Stake are:

- 3.6 million tons of Kelly ore at 1.65% copper
- 5.0 million tons of Carlota ore at 1.03% copper
- 18.0 million tons of stripping (Dacite, leached(?) capping)

They believe straight leach will recover about 90% of the Kelly values and 40% of the Carlota values.

The known drilling patterns and property position suggests some 15 million tons of ore on the Carlota property. Some extension may be possible but limited. The lion's share of the Carlota breccia ore is controlled by Miami at the Cactus and adjacent area.

No sulfides were encountered in the Kelly or Carlota ores in the drilling but some pyrite was found in the schist, diabase, and basalt(?) in the lower portion of the holes below the Carlota breccia and Kelly blanket ore.

The Home-Stake holes in the last panel to the west showed no Carlota breccia ore but had very good Kelly ore as a flat-lying blanket and in the Kelly fault zone itself. No information was gained to interpret this flat blanket Kelly ore, and, although I believe it to be related to the same leach-precipitate sequence as in the Kelly fault ore, it is possible that these western holes penetrated into the edge of mineralization located in the lower plate of the original body.

George Freeman has stated that they will be drilling again soon, and at that time we will be permitted to view their previous core (stored in Miami) as well as securing additional information on the deposit. It will be essential to review the core information for better control on the geologic structure and ore control in the area.

Although Miami controls the larger part of the Carlota breccia ore, the Home-Stake area indicates a good investment return in the following analysis by R. B. Crist:

Carlota - Margin Evaluation

Estimate based on solvent extraction plant and electrowinning cathode circuit.

Reserves: 8,500,000 Tons of 1.0% Cu

Production: (Plant approx. 1000 gpm)

96,000,000 lbs. Cu. @ 60% Recovery

8,000,000 lbs. Cu. per year

11 tons per day

12 year life

<u>Operating Costs*</u>	<u>\$/Yr.</u>	<u>Per Ton</u>	<u>Per lb.</u>
Mining: Ore 670,000 tons/yr.	167,500	\$.25	.0209
Waste 1,200,000 tons/yr.	420,000	.63	.0525
Extraction: Leaching and Electrowinning	1,407,000	2.10	.1759
Royalty - 10% NR	197,200	.29	.0247
Administration	33,500	.05	.0042
Capital Costs - \$4,800,000	<u>400,000</u>	<u>.60</u>	<u>.0500</u>
Total Yearly Cost	\$2,625,200	\$3.92	.3282
Value @ .50 per lb.	4,000,000	6.00	.5000
Yearly Margin Before Taxes	1,374,800	2.08	.1718

* From Lakeshore Leaching and Electrowinning Estimate
0.9% oxide at 70% recovery and \$16.00/ton acid.
Leaching and precipitation \$1.95 per ton.

J. D. Sell
J. D. Sell

R. B. Crist
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