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**TOMBSTONE MINING DISTRICT
COCHISE CO., ARIZONA**

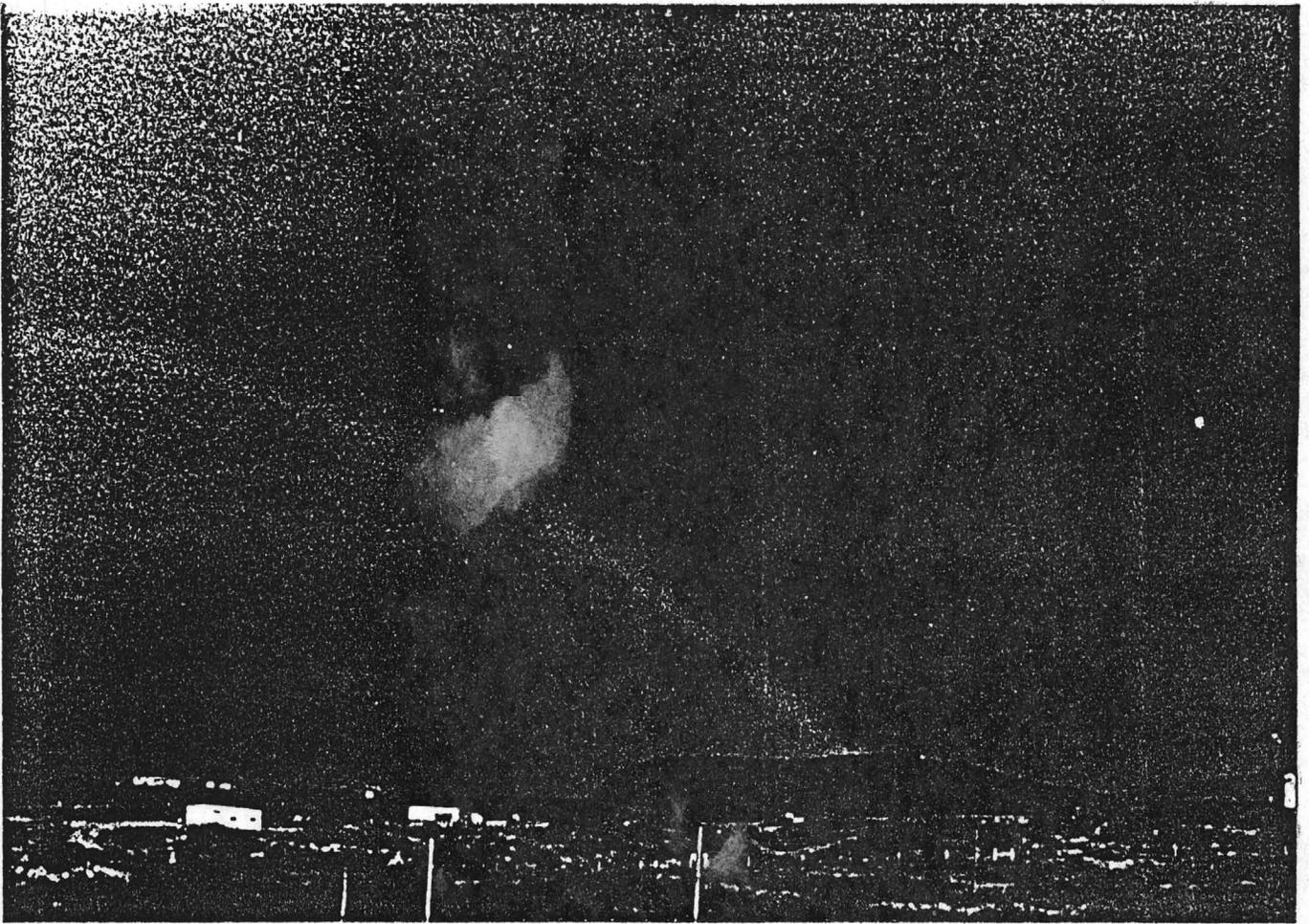
**TEI REPORTS &
CORRESPONDENCE**



**Southwestern
Exploration
Associates**

**Mineral Exploration &
Natural Resource
Consultants
Tucson, Arizona**

TEI REPORTS
OPERATION 1983



T O M B S T O N E E X P L O R A T I O N I N C O R P O R A T E D

S U M M A R Y O F O P E R A T I O N S R E P O R T

by

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June 1st 1982

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INTRODUCTION

This report was prepared in order to give an overall view of operations conducted by Tombstone Exploration, Inc. Certain information was collected from external sources that TEI considers reliable. These include the Butler Report (written by the U.S. Bureau of Mines and the University of Arizona), the Ransome Report, the Newell Dissertation, and data gathered by Dr. David Rabb from the files of the AIME and the Arizona Bureau of Mines. Other information has been verified by independent companies such as Fox Incorporated, chartered public accountants, and Dames & Moore, consulting engineers.

A glossary is included at the end of this report to define certain unfamiliar terms.

HISTORY OF THE TOMBSTONE MINING DISTRICT

In 1857 Frederick Brunckow located and began working the Bronco claim, five miles from the present town of Tombstone. In 1877, Ed Schieffelin, the son of a forty-niner, visited the Brunckow mine while on a trip to Fort Huachuca. An army friend had warned him that in this Apache territory all he would find would be his own tombstone. Schieffelin noticed that the direction of ore was trending northeast from the Bronco, and following this trend he found what is now known as the Tombstone Mining District.

With his partners, Schieffelin located and staked a claim to the Lucky Cuss, and then the Toughnut. They then split the Contention and the Grand Central with a new partner. These two mines were to become the major producing silver mines of the early 1880's.

The town of Tombstone sprang up in 1879, following the news of Schieffelin's strike, and two years later it achieved international notoriety after the sunfight at the O.K. Corral.

By 1883 many major mines had become producers for the Tombstone Mining District. These included the Flora Morrison, Naumkes, south extension of the Grand Central, Emerald, Moonlight, Grand Dipper, Vizina, Head Center, Good Enough, Tranquility and Silver Thread mines. Yearly production at its peak appears to have exceeded \$5,000,000 at the metal prices of that time.

During the mid 1890's, the mining industry in the Tombstone district faced a number of problems. Many claims were tied up in litigation over ownership, mining costs were increasing, working mines had ineffective pumping systems, and precious metal prices were dropping. In the late 1890's, Mr. E. B. Gage raised enough money to consolidate 95% of the Tombstone mines. The company operated with many difficulties including fires and inadequate steam boilers to power their machinery. In the early 1920's, Tombstone Consolidated Mines sold all of their holdings to Bunker Hill Mining Company, a subsidiary of Phelps Dodge. By this time the pumps had been shut down, and the water had risen back to the 600 foot level. Bunker Hill did not attempt to dewater the mines, but reworked the gob or backfill from the water table to the surface, and did further mining on high grade veins in the upper levels. In the mid 1930's they sold their holdings to Tombstone Development Company (T.D.C.).

Production in the Tombstone District virtually ceased. Silver was now at \$0.23 an ounce, compared with the \$1.20 an ounce it had commanded in the 1870's, when the mines were first discovered. Wages and costs had increased, and mining was not economically viable.

In the early 1950's, after prolonged dormancy of the mines, and after the Gold Closing Act of World War II had been rescinded, T.D.C. was sold to the Newmont Mining Company. During this period gold remained constant at \$35 an ounce, and silver increased from the 1930's level of \$0.23 an ounce to \$0.85 an ounce, but wages and operating costs had more than tripled. Reopening of the mines at that time appeared uneconomical. T.D.C. was sold to a group of Nebraska investors who have held the properties to the present day.

Over the past forty years T.D.C. has leased portions of its holding to small mining companies. It is virtually impossible to obtain any production records from these companies.

In February, 1979, Tombstone Exploration Inc. acquired a favorable mineral lease on all the mineral rights and lands of T.D.C. This property covers almost 2000 acres and includes 87 patented and 18 unpatented claims.

MINERAL PROPERTIES, PRESENT AND PROJECTED MINE SITES

TEI geologists and management have located fourteen areas of mineralization, which include opportunities for incline shaft, vertical shaft, and open pit mining.

The mining consulting company, Domes & Moore, surveyed the Girard-Toughnut (Girard Underground Mine, or GUM) and recommended a two phase drilling and development operation. The GUM was only one of the major producing mines in the district, and it would not be unreasonable to assume that other mines in the TEI holdings might have similar potential.

During production history in the Tombstone Mining District, the Contention-Grand Central mine has been the largest producer. This is the site of the current open pit operation at TEI. As with other mines in the area, there was very little production after 1920. This was not due to a lack of mineralization, but rather, high operating costs and low metal prices.

TEI's efforts are, at present, concentrated on the Contention-Grand Central mine. Ore qualities and placement, current precious metal prices, and comparative economic studies have shown this to be the most viable target for development.

PRODUCTION

Reserves

Early mining records showed that the largest tonnage and maybe the highest grade of ore came from the areas above the 300 foot level. Production tapered off as the mines moved to lower levels. At the 600 foot level water was encountered and pumped out, allowing mining to continue to the 1,000 foot level. Some of the pumps burned out and the water again rose to the 600 foot level where it is today. Early mining production reports from the Contention Mine dated 1880 to 1885, 1910 to 1911, 1928 to 1929, and 1940 indicated the total production amounted to almost 5.5 million ounces of silver and N/A troy ounces of gold. The postulated distribution is as follows:

0 - 100 level	1.6 million oz. silver	N/A million oz. gold
100 - 200 level	1.2 million oz. silver	N/A million oz. gold
200 - 300 level	1.0 million oz. silver	N/A million oz. gold
300 - 400 level	0.8 million oz. silver	N/A million oz. gold
400 - 500 level	0.5 million oz. silver	N/A million oz. gold
below 500 level	0.3 million oz. silver	N/A million oz. gold

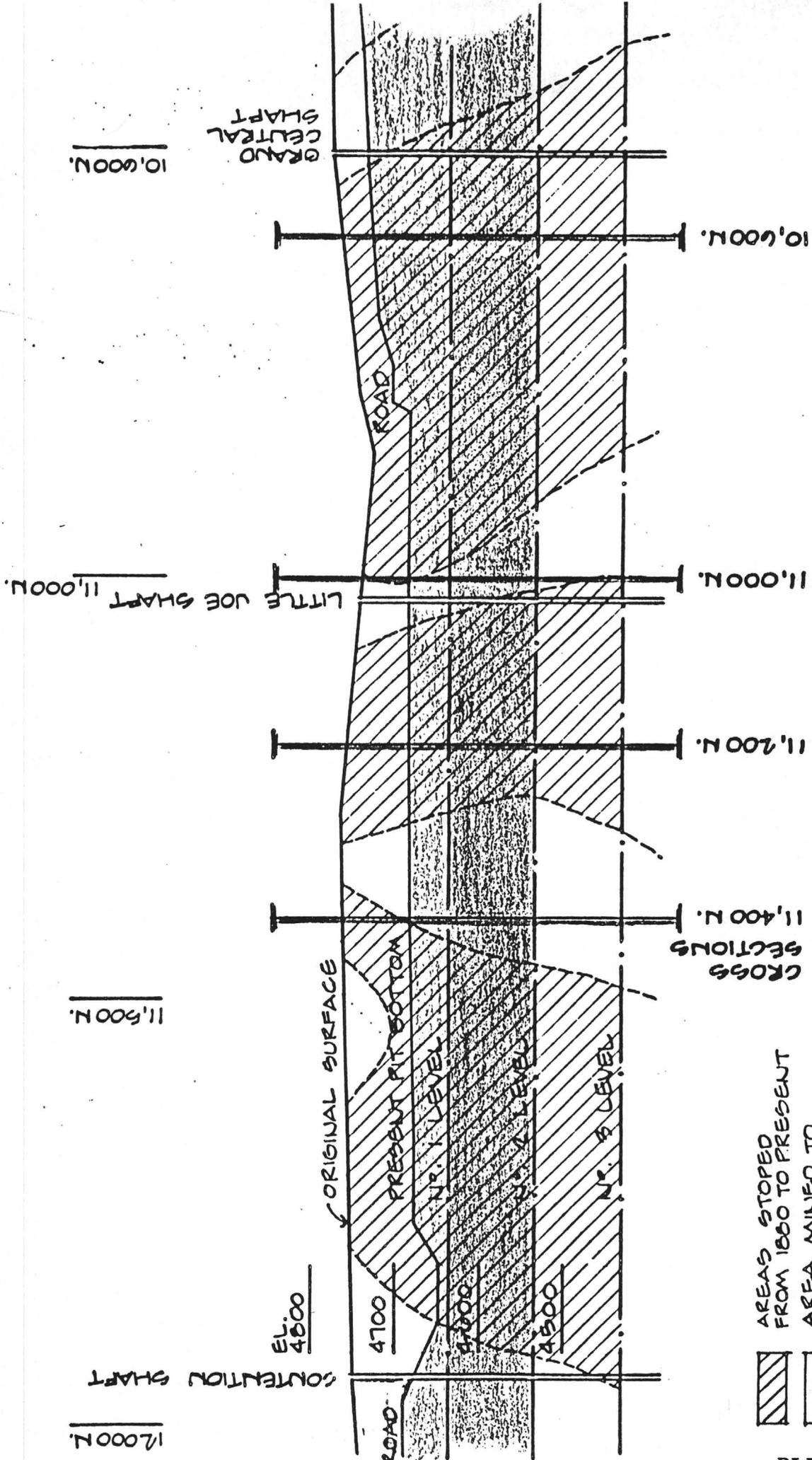
The long section (see Plate 1) and cross section (Plates 2, 3, 4 and 5) show the ore placement and distribution in the area currently being mined by TEI. In the last thirty two months, 65% of the elevation between the original surface and the #1 level of the old mine workings has been removed. From the 410,000 tons of ore averaging one ounce of silver per ton, TEI has recovered 210,000 ounces of dore', with an average gold content of 1.5%, and an average silver content of 92%.

The remaining material between the existing pit bottom and the #1 level (see Plate 1) is expected to yield 110,000 ounces of dore'. At TEI current production rate this should take six months to complete.

From information from the U.S. Bureau of Mines files, TEI's production is 20% of past production at Grand Central and Contention mines. TEI anticipates that this ratio will continue to apply to the material between the first and second levels, with a yield of 343,230 ounces of dore'. This projection is considered to be conservative because:

- a) the surface to #1 level had been much more extensively mined for high grade ore than the first and second level.
- b) during the time of underground mining from the first and second level, the price of silver dropped from \$1.50 to \$0.25 per ounce.
- c) mining costs became higher with greater depths and around the Little Joe shaft the ore is very crumbly, further increasing mining costs.
- d) Butler, Ransome and Blake have all documented that the values increase substantially with greater depth (during the mine's past production, values were extracted to the 1,000 foot level).

At TEI's current production rate, excavation between the first and second levels of the mine would take one and a half years to complete.



-  AREA STOPPED FROM 1880 TO PRESENT
-  AREA MINED TO APRIL, 1982
-  AREA TO MINE TO NO. 1 LEVEL
-  AREA TO MINE FROM NO. 1 TO NO. 2 LEVEL

PLATE 1

VERTICAL - LONGITUDINAL SECTION LOOKING EAST N 20.

SCALE: 1" = 166'
 APRIL, 1982 A.J. GRAVES

CONTENTION - GRAND CENTRAL ORE ZONE
 UPPER LEVELS ALONG ORE ZONE

10,800'

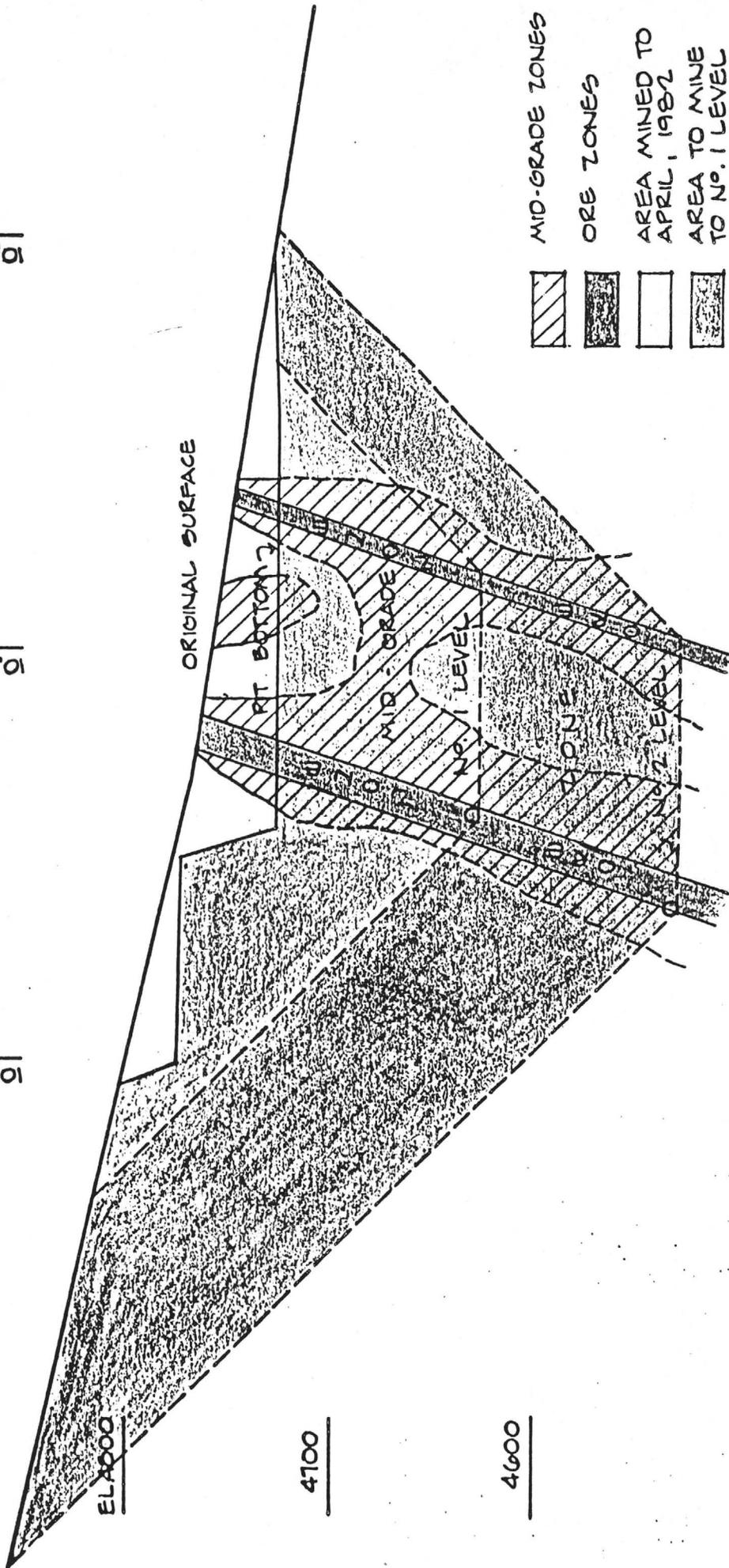
10,600'

10,400'

EL 4000

4700

4600



MID-GRADE ZONES

ORE ZONES

AREA MINED TO APRIL, 1982

AREA TO MINE TO NO. 1 LEVEL

AREA TO MINE FROM NO. 1 TO NO. 2 LEVELS



PIT CROSS SECTIONS

SCALE: 1" = 77'

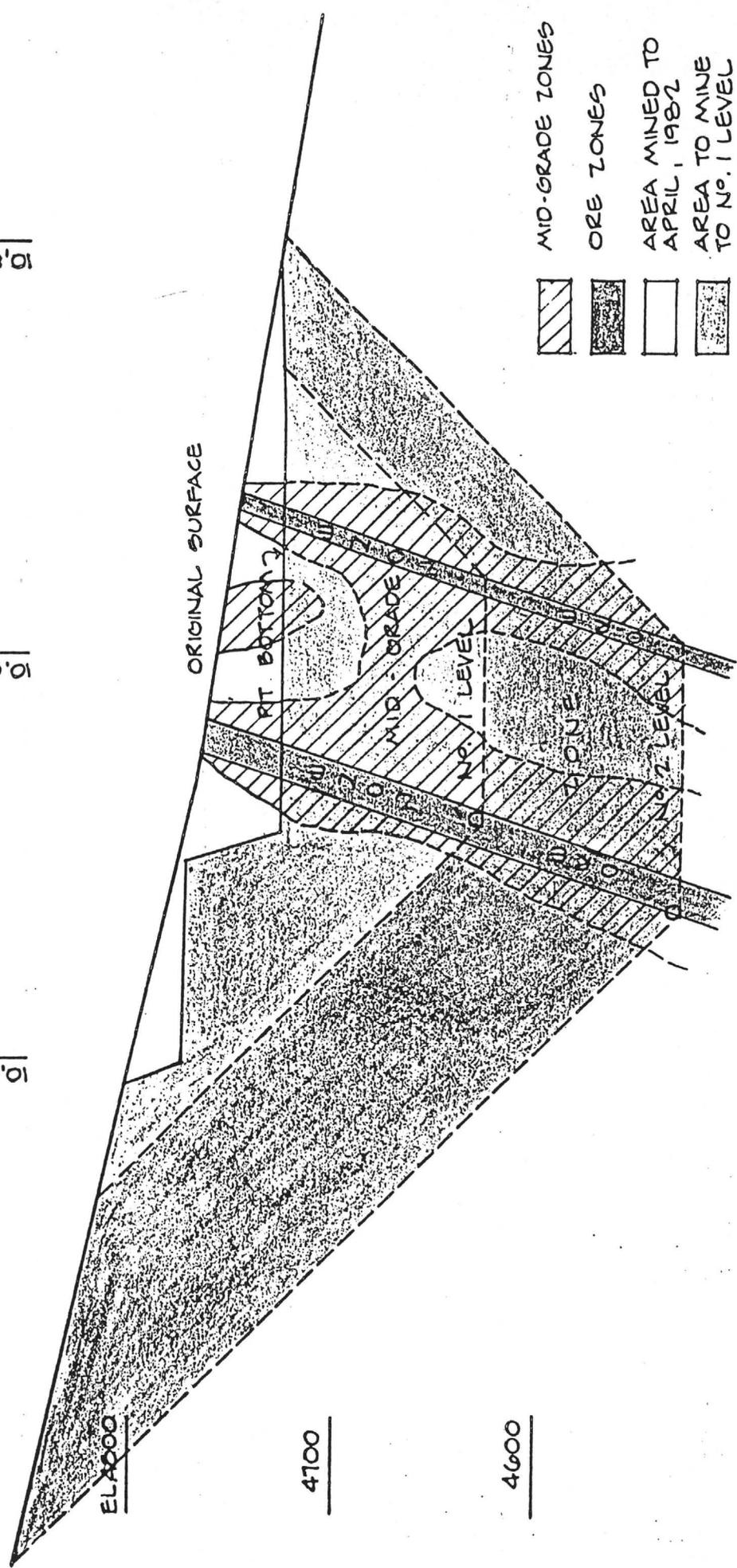
APRIL, 1982 A.J. GRAVES

10600 N X-SECTION

10,600 N.

10,600 N.

10,400 N.



EL 4000

4700

4600

- MID-GRADE ZONES
- ORE ZONES
- AREA MINED TO APRIL, 1982
- AREA TO MINE TO NO. 1 LEVEL
- AREA TO MINE FROM NO. 1 TO NO. 2 LEVELS

PIT CROSS SECTIONS
 SCALE: 1" = 77'
 APRIL, 1982 A.J. GRAVES

10600 N X-SECTION

10,400 E.

10,600 E.

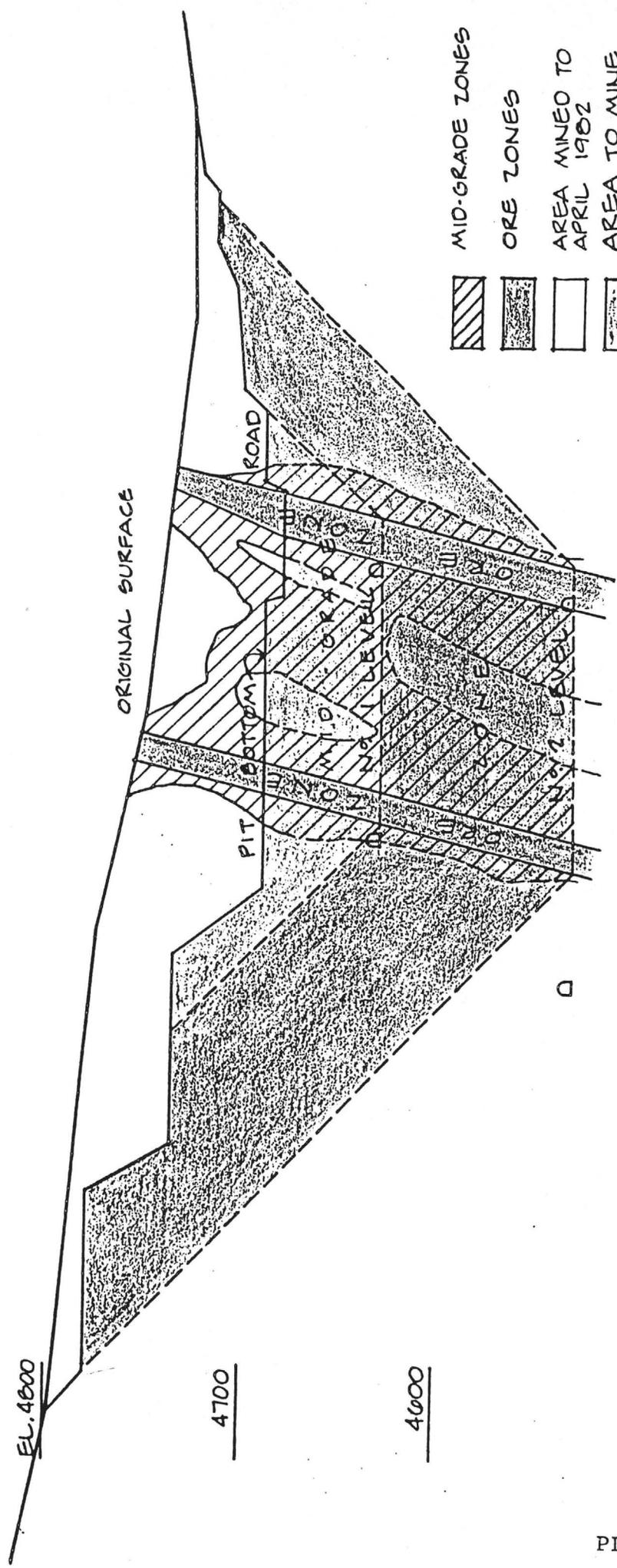
10,800 E.

11,000 E.

EL. 4600

4700

4600



- MID-GRADE ZONES
- ORE ZONES
- AREA MINED TO APRIL 1902
- AREA TO MINE TO N. 1 LEVEL
- AREA TO MINE FROM N. 1 TO N. 2 LEVELS

FIT CROSS SECTIONS
 SCALE: 1" = 77'
 APRIL, 1902 A.J. GRAVES

11,000 N. X-SECTION

10,400E.

10,500E.

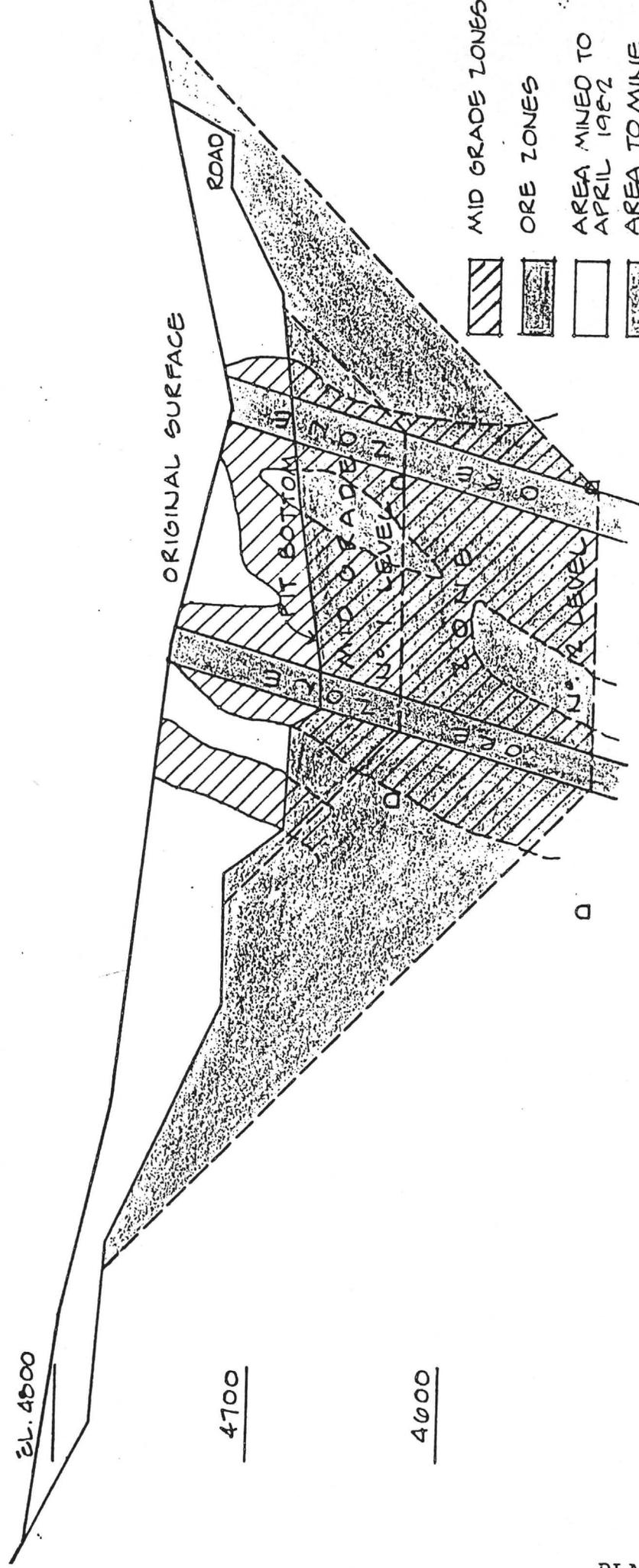
10,800E.

11,000E.

EL. 4600

4700

4000



- MID GRADE ZONES
- ORE ZONES
- AREA MINED TO APRIL 1982
- AREA TO MINE TO N° 1 LEVEL
- AREA TO MINE FROM N° 1 TO N° 2 LEVEL

FIT CROSS SECTIONS
 SCALE: 1" = 77'
 APRIL, 1982 A.V. GRAVES

11,200 N. X - SECTION

10,600 ft

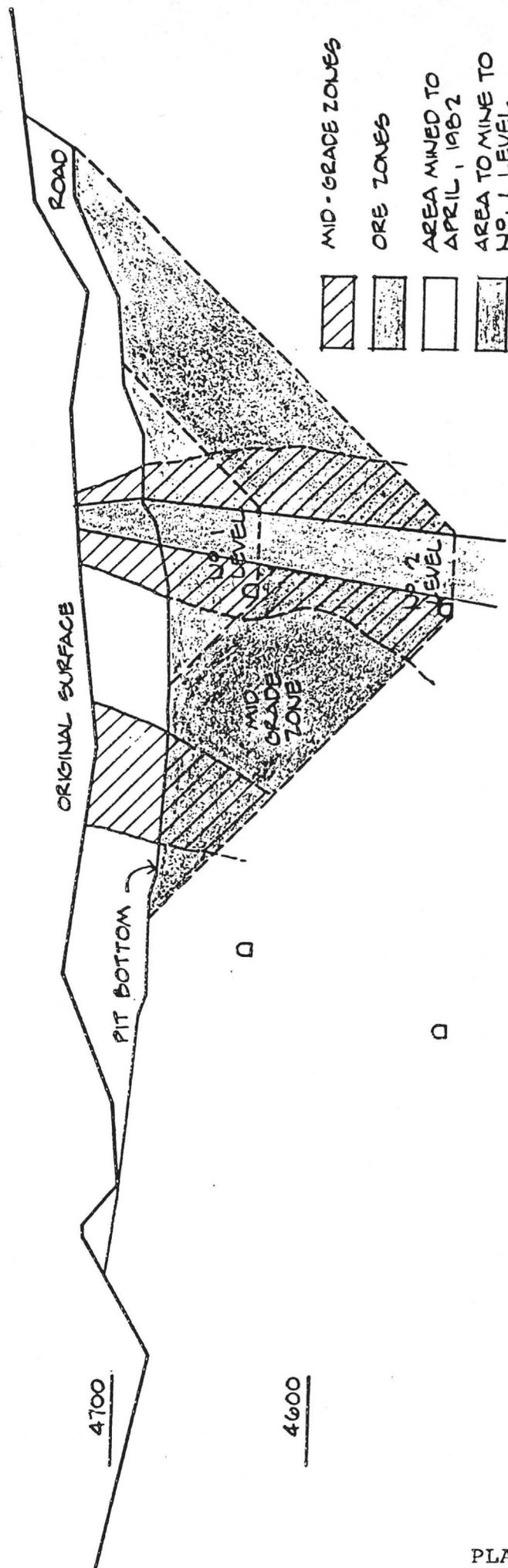
10,600 ft

10,400 ft

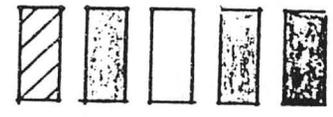
EL. 4800

4700

4600



- MID-GRADE ZONES
- ORE ZONES
- AREA MINED TO APRIL, 1982
- AREA TO MINE TO No. 1 LEVEL
- AREA TO MINE FROM No. 1 TO No. 2 LEVELS

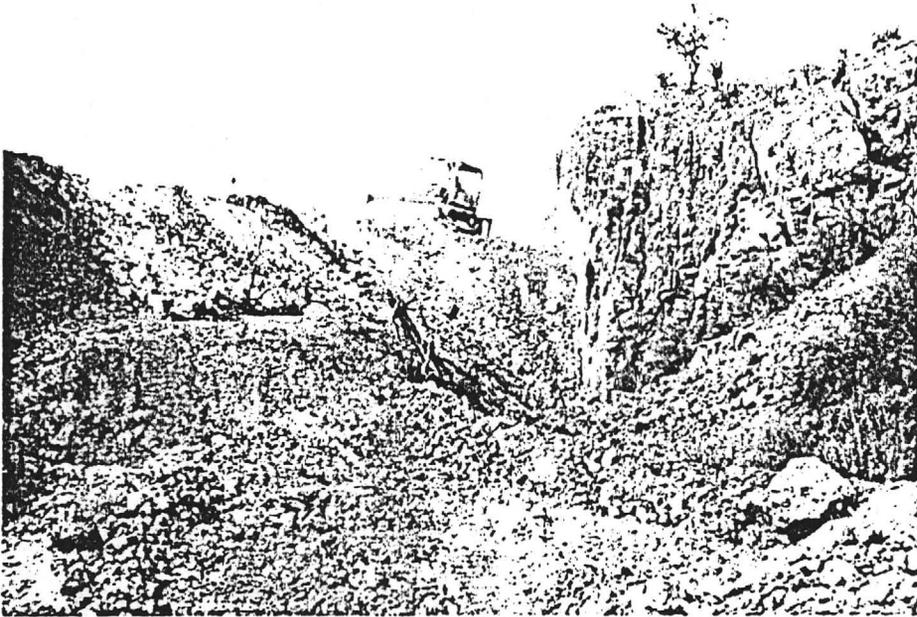


PIT CROSS SECTION'S
 SCALE: 1" = 77'

APRIL, 1982 A.J. GRAVES

114 00N X - SECTION

CONTENTION-GRAND CENTRAL PIT



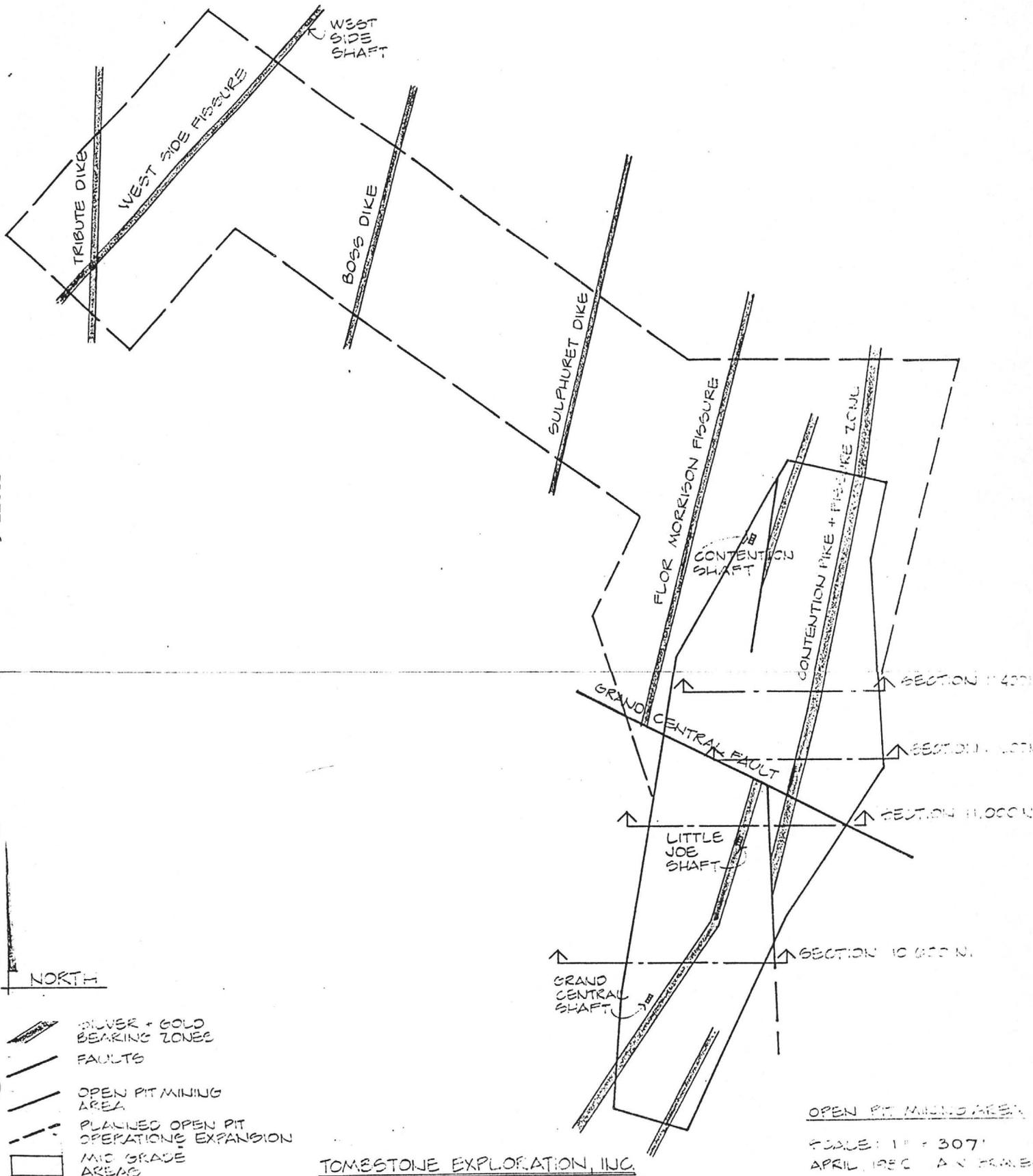
1979

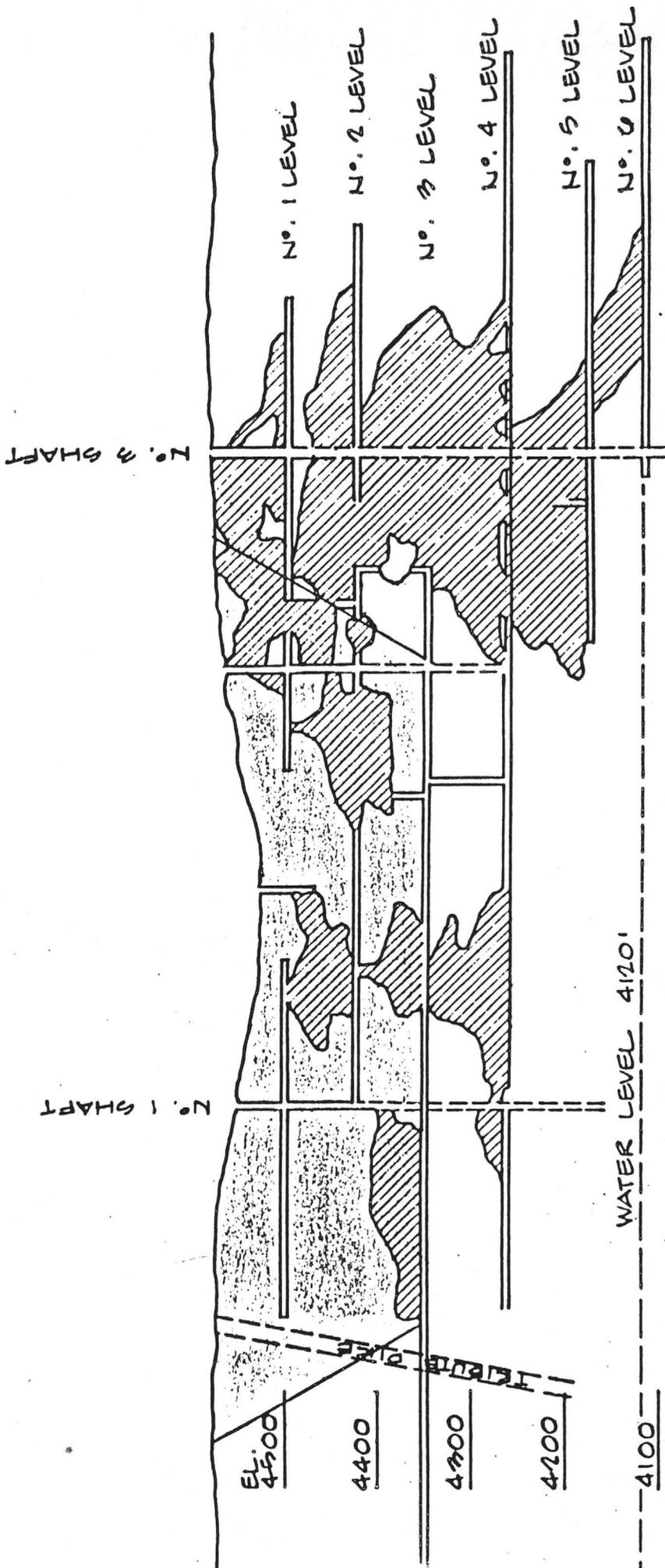


Current Pit

Extension of the Contention-Grand Central Pit

The pit has an approximate length of 1500 feet and approximate width of 1000 feet (on Plate 6, the present mining operation is delineated by a solid green line). It is anticipated that it will extend 800 feet through the south extension of Grand Central and a half mile north-west through the Flora Morrison, Sulphuret, Chance, Boss and the West Side (on Plate 6, the broken green line delineates the projected open pit operation. Plate 7 describes the West Side fissure in detail). This will make available one mile of ore zones that can be mined and processed with existing TEI facilities.





LONGITUDINAL SECTION
LOOKING WEST

SCALE: 1" = 166'
APRIL, 1902 A.J. GRAVES

WEST SIDE FISSURE

HIGH GRADE STOPS
ALONG THE FISSURE
 PLANNED
OPEN PIT

TEI Production:

The following are monthly sales records of bullion produced by TEI in 1981 and 1982.

<u>DATE</u>	<u>OUNCES GOLD</u>	<u>AMOUNT</u>	<u>OUNCES SILVER</u>	<u>AMOUNT</u>
Jan 81	91.83	\$51,597.28	5,235.20	\$76,259.79
Feb 81	92.25	44,657.99	2,071.44	26,244.98
Mar 81	22.68	11,958.12	3,469.55	41,862.55
Apr 81	43.82	21,373.11	4,056.44	44,301.21
May 81	35.11	16,317.31	2,191.74	23,197.02
Jun 81	38.43	16,266.13	621.12	7,402.72
Jul 81	83.35	33,360.13	7,223.16	62,368.60
Aug 81	253.96	103,882.63	18,504.60	171,898.32
Sep 81	434.04	188,308.45	15,777.30	165,920.52
Oct 81	246.44	107,840.31	13,884.94	128,695.01
Nov 81	549.75	235,713.04	28,688.93	259,944.34
Dec 81	293.71	125,854.73	17,280.36	156,387.26
TOTAL 1981	2,185.37	\$957,129.23	119,004.78	\$1,164,482.32

<u>DATE</u>	<u>OUNCES GOLD</u>	<u>AMOUNT</u>	<u>OUNCES SILVER</u>	<u>AMOUNT</u>
Jan 82	415.00	\$174,823.75	30,890.00	\$272,082.30
Feb 82	344.51	141,709.11	15,014.14	126,149.79
Mar 82	337.04	140,661.22	14,238.42	122,507.88
Apr 82	436.05	183,271.71	23,778.03	206,555.39
TOTAL YEAR TO DATE:	1,532.60	\$640,465.79	83,920.59	\$727,295.36

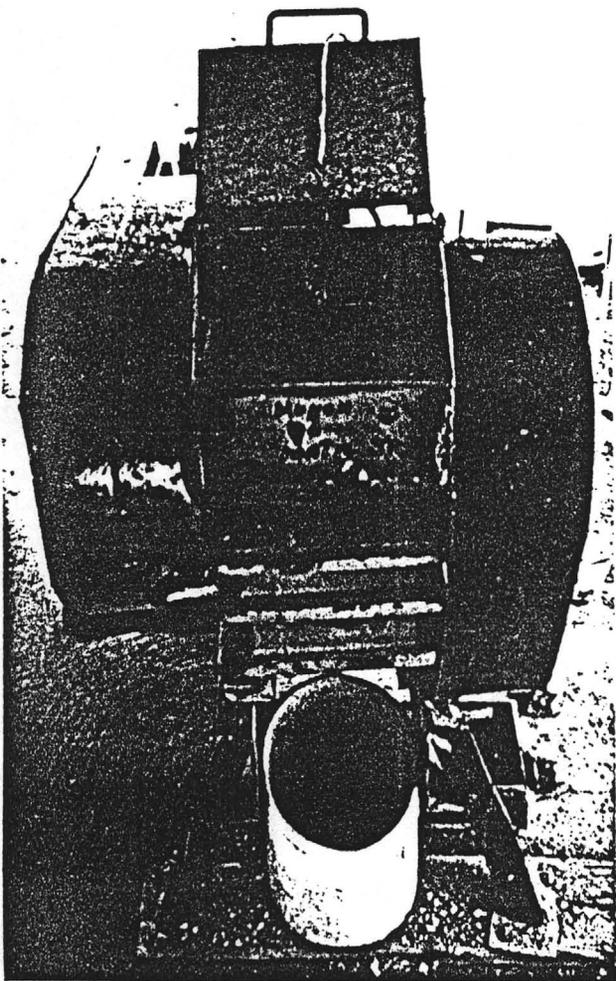
Highest 1981 price: \$591.16 per oz. gold, \$16.02 per oz. silver
Lowest 1981 price: \$365.72 per oz. gold, \$ 7.84 per oz. silver

Highest 1982 price: \$426.00 per oz. gold, \$ 8.83 per oz. silver
Lowest 1982 price: \$350.00 per oz. gold, \$ 7.34 per oz. silver

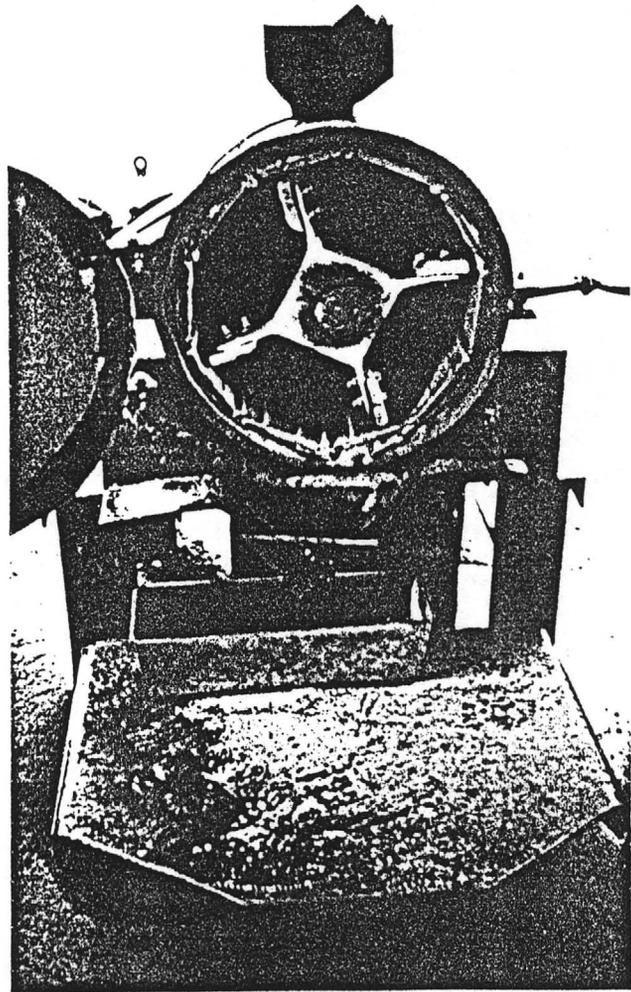
SAMPLING



Trenches and excavator



Sample crusher



Impact mill

OPERATIONS AT THE CONTENTION-GRAND CENTRAL MINE

Sampling Department

TEI considers careful and exact sampling to be of primary importance; every phase of the mining operation is dependent on a valid sampling technique.

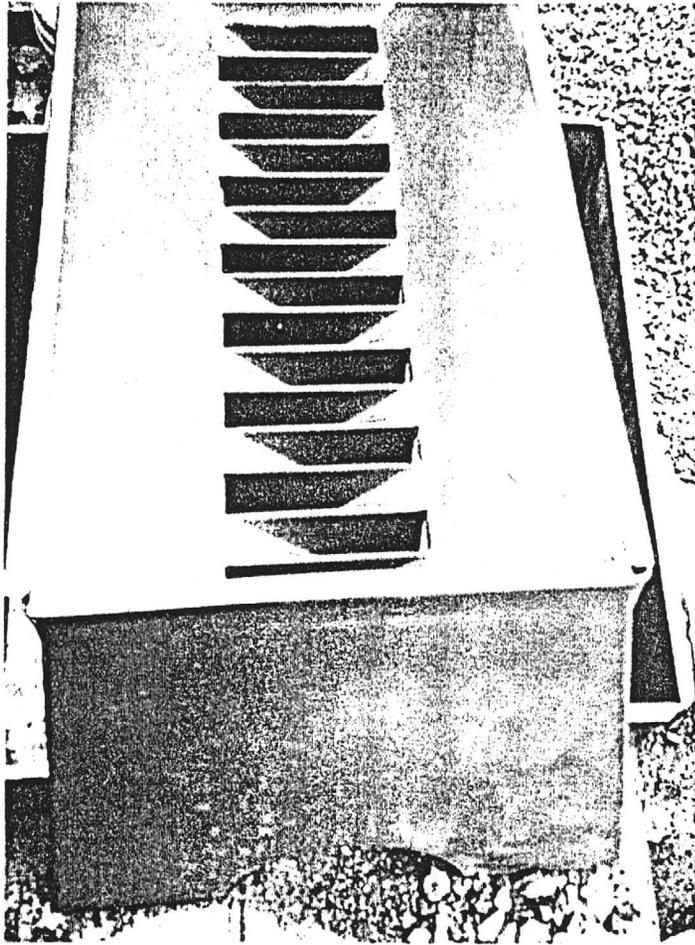
A study by TEI determined that core drilling, percussion drilling or reverse circulation drilling would not be effective in the area. It was determined that a better indication of ore grade would be provided by channel sampling, a method which also has the advantages of exposing the ore zone and preparing it for mining. Drilling costs to determine ore zones would exceed TEI's total costs of mining and processing that ore, and TEI believes that results obtained from drilling would further need channel sampling to determine accurate ore grades for the operation of the open pit mine.

TEI uses a grid system based on the Cartesian coordinate system, incorporating north, east, and elevation coordinates for its samples. A Caterpillar 225 Excavator is used to dig east/west trenches at intervals of 25 feet, and to a maximum depth of six feet. Along the trenches, at intervals of no more than ten feet, with the actual interval governed by rock formation and structure, a channel approximately three inches wide and one inch deep is cut in the rock face. This yields a sample weighing approximately twenty five pounds, which conforms to two requirements: it is representative, and it is manageable by one person.

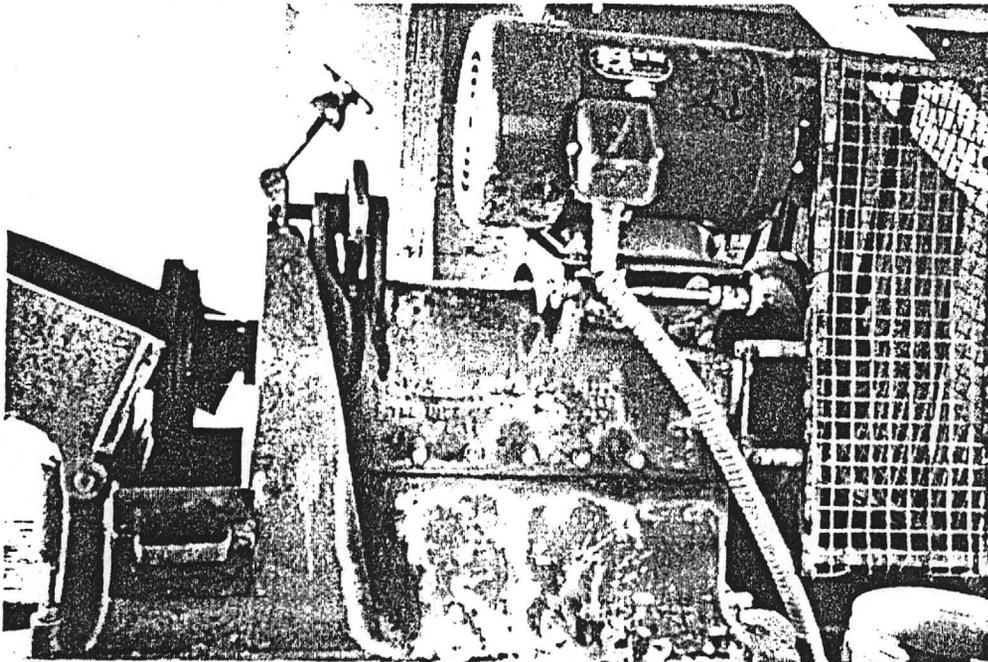
The collected sample is prepared for assay in five stages. It is crushed to minus one inch and a split is taken. This split is then impact milled and another split is taken, which is then pulverized and sent to the assay laboratory. By using progressive splitting, the final assay results are much more representative than those obtained by simple one stage pulverizing.

When the assay report is returned, the assay value of the sample, using its specific coordinates, is plotted on a map. When all the assays for a particular bench have been plotted, grades are designated for the ore, using the weighted average method.

SAMPLING



Splitter



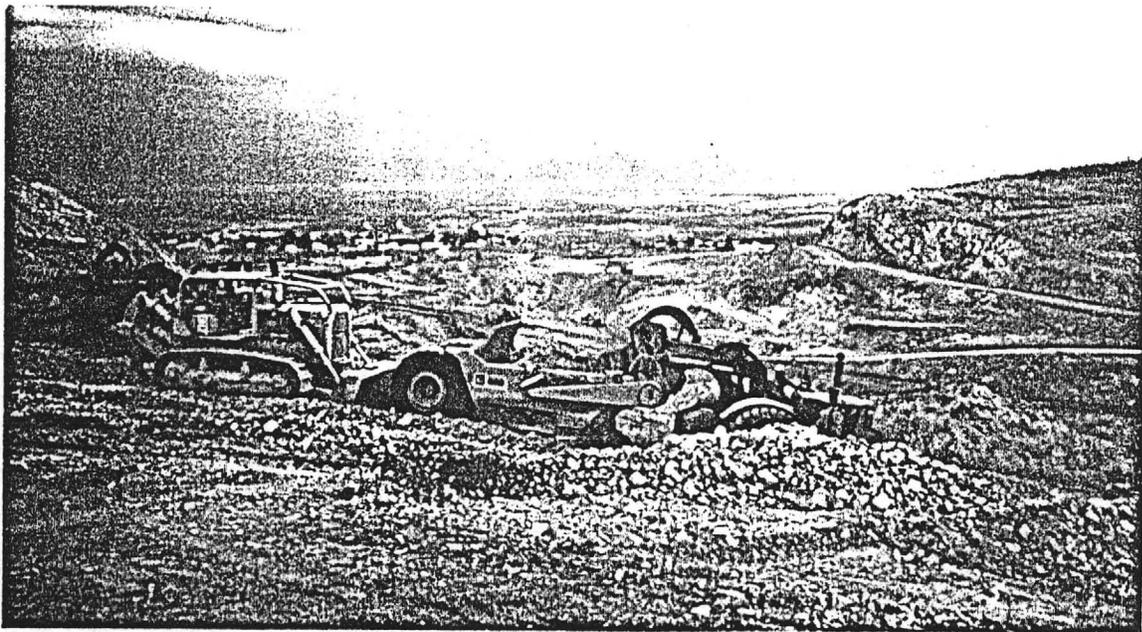
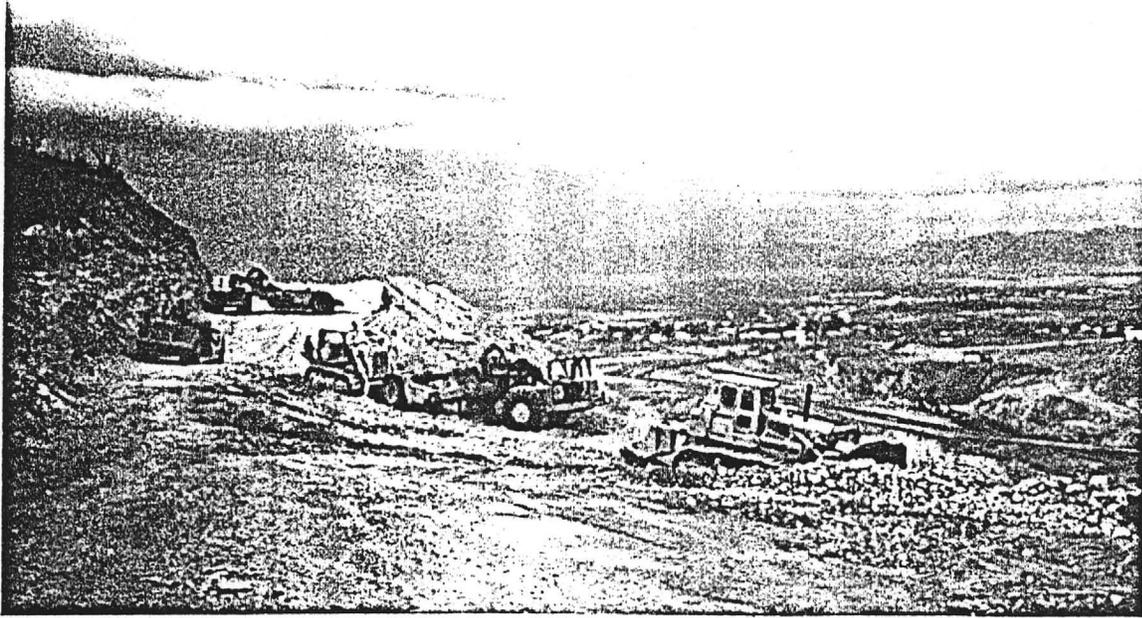
Pulverizer

TEI has established four grades for the rock which it mines, based on silver content per ton of rock, (gold content in the ore at TEI has, on average, an equivalent dollar value to the silver content) The grades are: waste (less than .25 ounces of silver per ton), mid grade (0.25 to 1.0 ounces of silver per ton), ore (1.0 to 10.0 ounces of silver per ton), and high grade (above 10.0 ounces of silver per ton).

After the average grade has been determined, tonnage is calculated for the volume of ore. The ore zone is then marked on the bench with color-coded flags for mining.

The individual samples taken are each representative of, on average, 150 tons of ore, allowing TEI geologists precise definition of ore zones and geological structures.

MINING



Minins Department

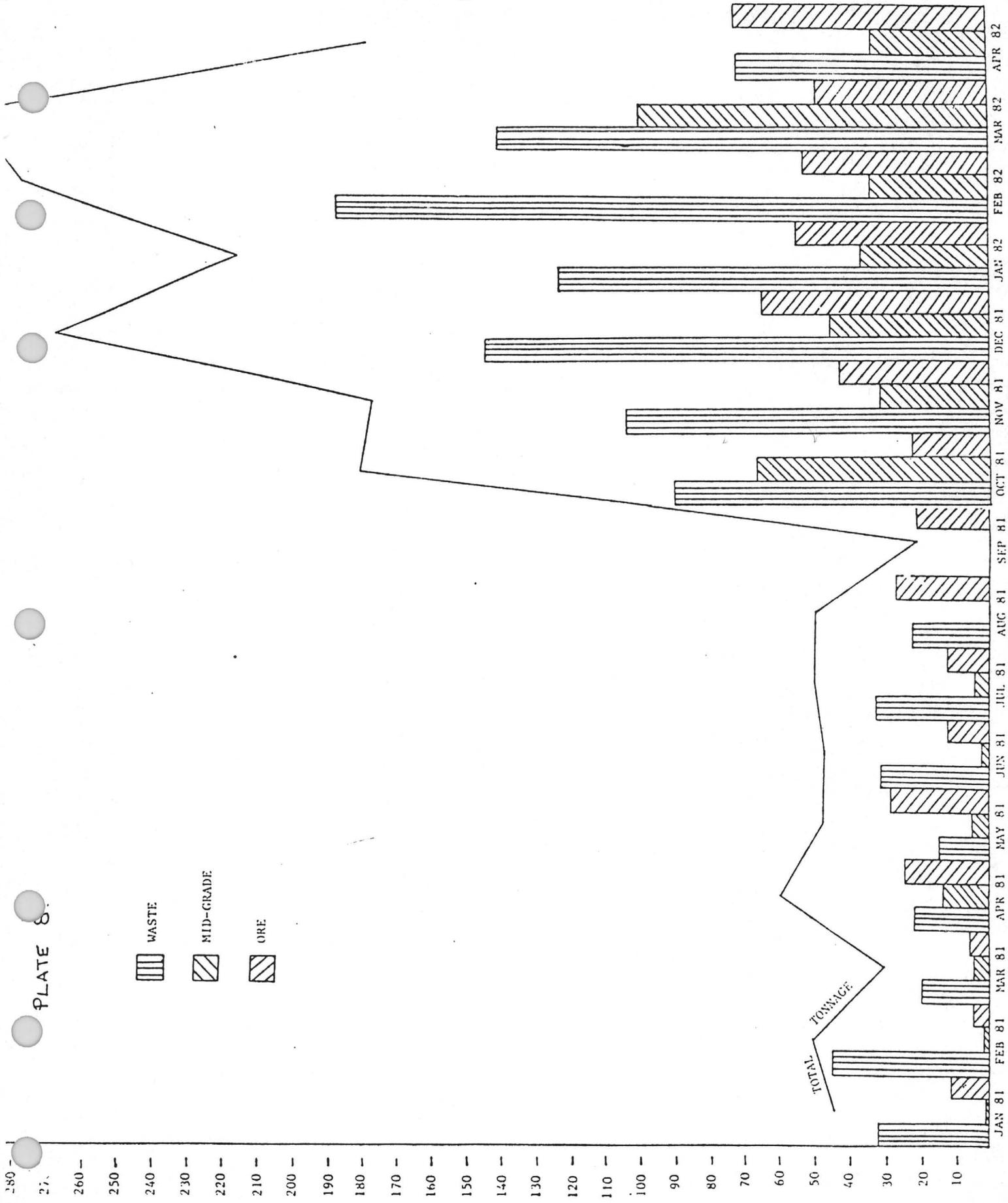
TEI uses the mining method of ripper and scraper haulage. Less than 10% of the rock requires drilling and blasting, and the resulting mining cost per ton is low for an open pit operation.

The mining is subcontracted to Magini Leasing and Contracting. Equipment employed by the contractor includes five 631B Caterpillar scrapers and three D9G Caterpillar bulldozers. Magini moves about 7500 tons of TEI material per day.

The mined ore is transported by scraper to a stockpile; from there a front end loader moves it to the crusher.

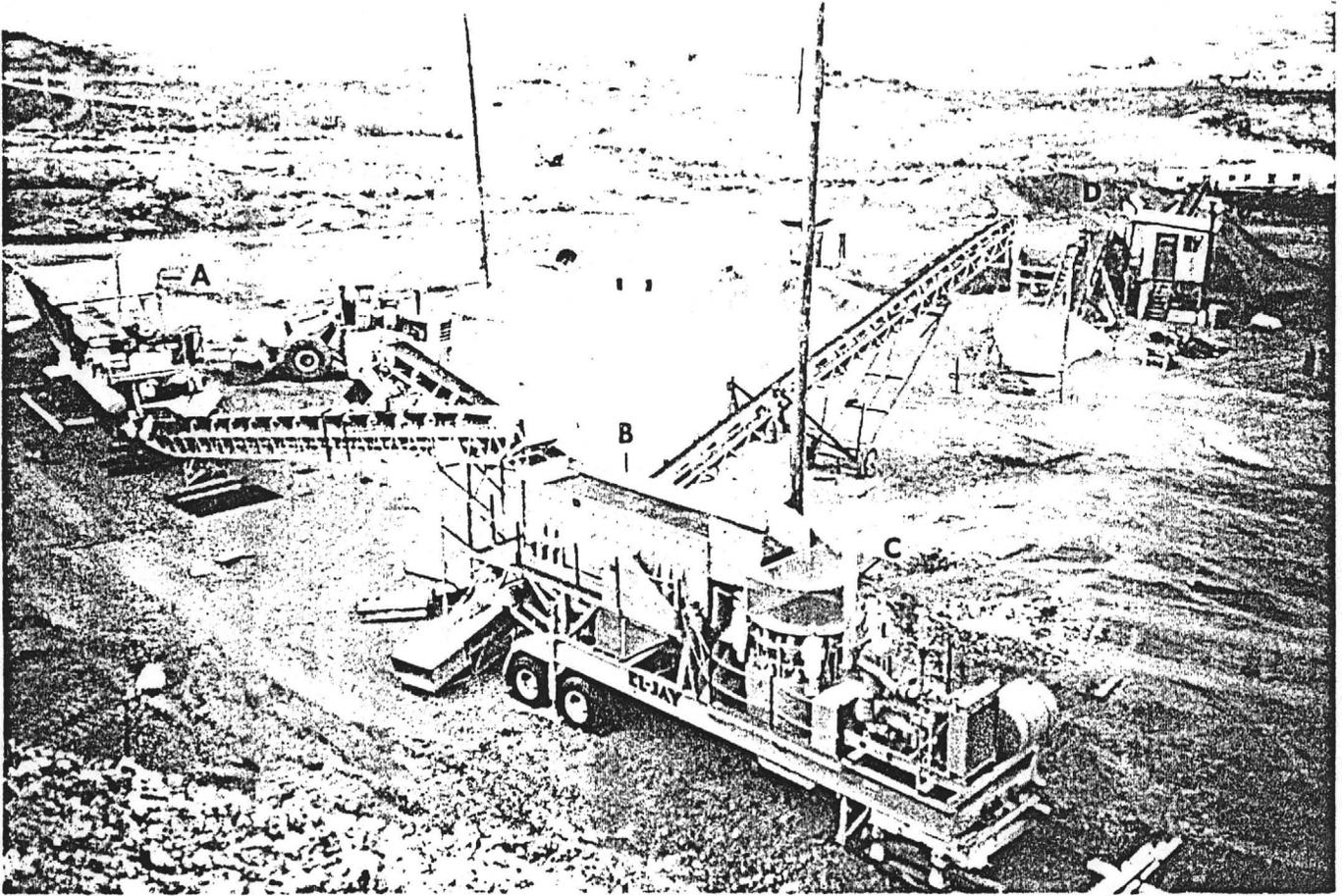
PLATE 8

 WASTE
 MID-GRADE
 ORE



TONS X 1000

CRUSHING CIRCUIT



A. Primary crusher

B. Shaker screen

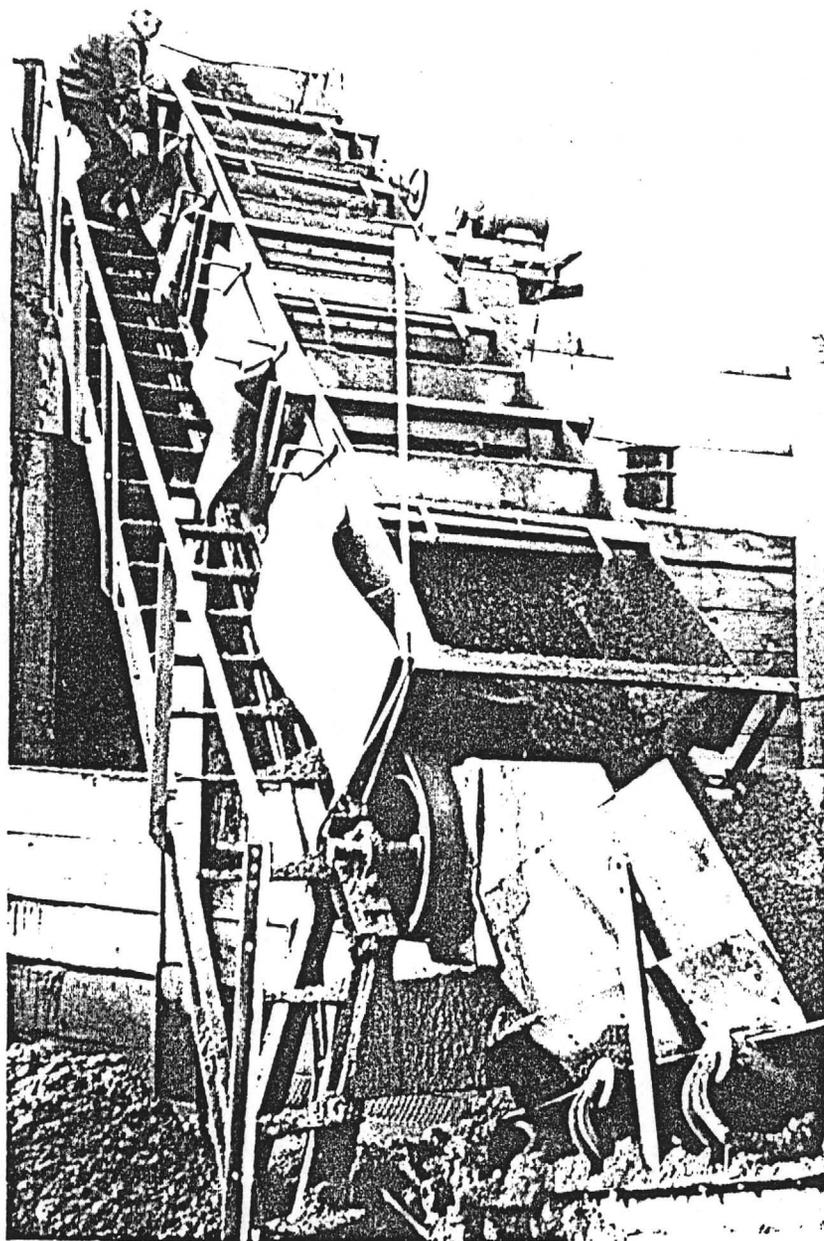
C. Cone crusher

D. Pelletizer

Crushing Department

Ore from the stockpile is fed into the vibrating hopper of the primary crusher. The oversize ore is scalped by the grizzly, and the rock is crushed to 3" to 4" in diameter. The fines and crushed rock fall onto the under primary belt, and are then dumped onto the feed belt going to the shaker screen. As the ore passes over the screen, all the fines and minus 3/4" material goes through the screens and onto the underscreen belt. The oversize material continues across the screening decks and into the secondary crusher. This ore falls onto a return belt, which dumps onto the same screen feed belt, combining the larger and smaller crushed material, which continues over the screen to join the other material already on the underscreen belt. This material is then dumped on a stacker belt which transports it to the pelletizer.

PELLETIZING



1.46

Pelletizing Department

After the ore is crushed, lime is added. Then both the fines and the larger particles and fragments are gravity-fed into the pelletizer. The crushed ore slides down an inclined conveyor belt which is moving upward against the flow of ore. The broken ore is sprayed with cyanide. The larger particles or fragments adhere to the fines, thereby increasing their own already relatively large mass. The advantages produced by this process are significant. The crushing tends to break the ore-bearing rock along its fracture or cleavage planes or lines. The smaller the post-crushing particles, the greater the total surface area exposed. The fines (particles under one half inch in diameter) tend to be captured by the larger particles or fragments. They adhere in irregular patterns, not in smooth concentric layers. This prevents compaction of fines into a non-permeable, low porosity mass. Increasing porosity and permeability facilitates greater recoveries from the leaching process in less time.

The pelletized ore is dumped onto stacker belts and piled for haulage.

Leaching Department

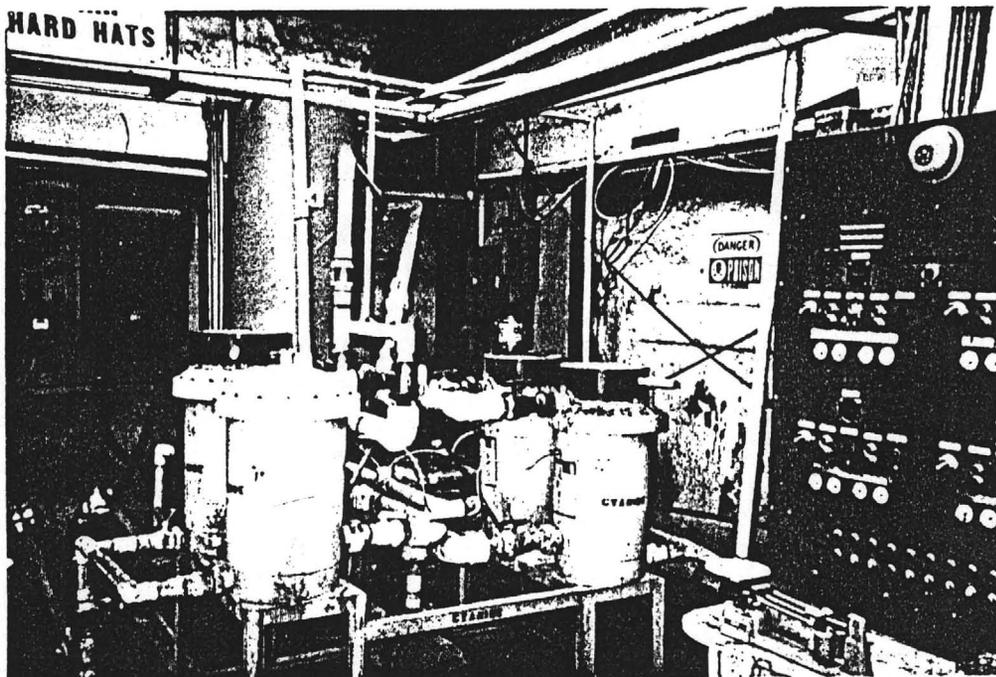
TEI has four major ponds in their production circuit (see plate #9). Spray pond "D" consists of barren solution. 250 gallons per minute of barren solution are pumped to the production pads for silver and gold stripping. The return, or effluent, from the pads is gathered in preg ponds "A" and "B". Pond "A" acts as a settling pond which overflows into preg pond "B". Pumps bring the preg-nated solution from pond "B" into the plants where an adequate amount of zinc dust is added. Zinc dust causes the precipitation of the gold and silver from the solution. Simple sodium sulfide tests are performed to justify the amount of zinc used. There is a third main preg pond "C", which collects any excess pregnant solution from pond "B". This excess is pumped back when pond "B" is low. The barren solution, stripped of silver and gold, leaves the plants, and goes directly to spray pond "D" at an average rate of 250 gallons per minute. In return, 250 gallons per minute of solution with the adequate cyanide content is pumped to the production pads. In excess of one pound of cyanide per ton of solution is needed to extract silver and gold from the ore. Lime and caustic soda are added to keep the pH level above 9.5.

The tails pad consists of ore that has already been leached. When the effluent return from an ore pad gets down to .75 ounce of silver per ton, the spraying there is stopped. All ore at that level is transferred to the tails pad for further leaching. Approximately 320 gallons of barren and recirculated slightly pregnant solution is being sprayed at one time on the tails pad. A wash plant has been installed to extract further values (see Innovations and Projects).

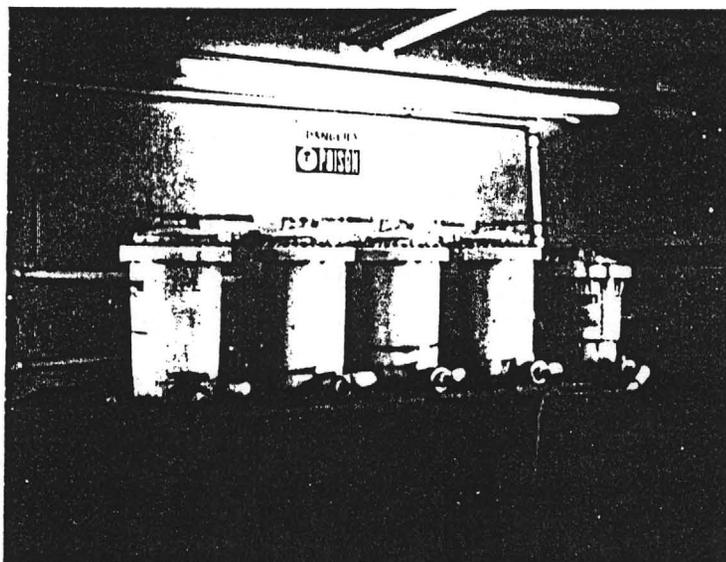
The mid-grade pads consist of uncrushed and unpelletized mid-grade ore. Cyanide and lime are added to fresh water from the reservoir in a mix tank, and the resultant barren solution is sprayed onto the pile. A three million ton mid-grade pad is currently under construction (see Innovations and Projects).

There are five ore production pads, each 100' x 200' x 8', located at the Houghton claim. Each pad holds 5,000 tons of ore. The pregnant solution from mid-grade and tailings pads is used as spray solution for the ore pads. This has the correct amount of cyanide and lime, and already has silver and gold values. These values in the solution tend to allow a greater extraction of silver and gold from the ore than if a barren solution is used.

PLANT DEPARTMENT



One precipitation plant



Secure collection area

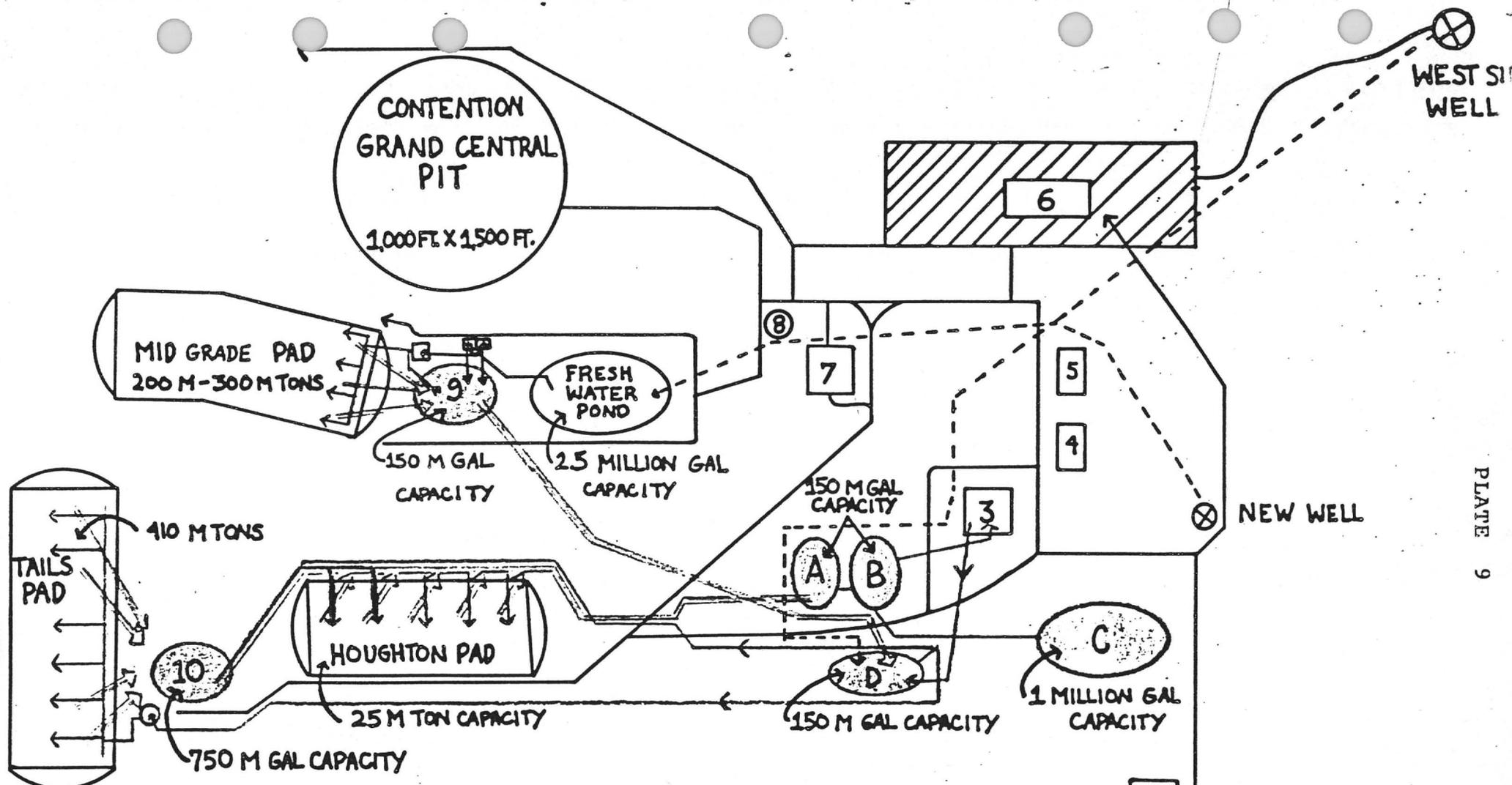
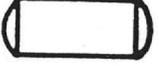


PLATE 9

- 1 GUARD HOUSE
- 2 SMELTER
- 3 PLANT
- 4 OFFICE TRAILER
- 5 OFFICE TRAILER
- 6 LABORATORY

- 7 CRUSHER + PELLETIZER
- 8 FRESH WATER TANK
- 9 MID-GRADE POND + MIX TANK
- 10 TAILS POND + MIX TANKS

- PADS 
- PONDS 
- BUILDINGS 

- FRESH WATER LINES  FROM WELLS
- ROADWAYS 

- WELLS 

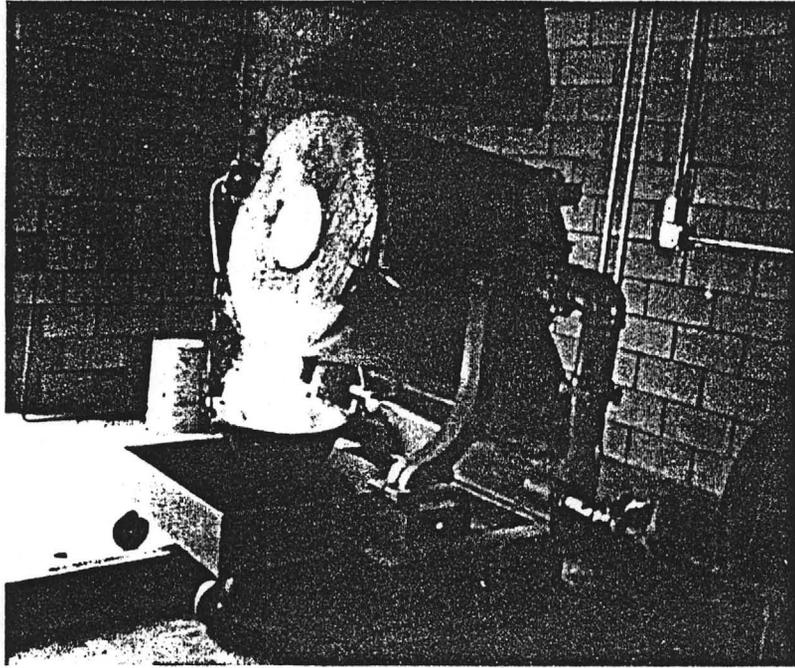
- PREGNANT SOLUTION 
- SPRAY SOLUTION 
- EFFLUENT SOLUTION 

Plant Department

TEI has incorporated four Merrill Crowe zinc precipitation plants manufactured by the State of Maine Mining Company. Each plant has a rating of 300 tons of solution per day, for a total of 1200 tons of solution per day. Innovations and efficient operation by the plant supervisor have increased the capacity of the plants to a total of 1400 tons of solution per day. Each precipitating plant can operate separately or in conjunction with the others. In the event of any component failure on one plant, the entire processing does not shut down.

The precipitates are pumped into a secure area, where access is limited to a few key personnel. They are then dried in a drying oven and shipped to the smelter, Chrysaor Laboratories, located on TEI property.

SMELTING



Smelter



Vibrating table & slag

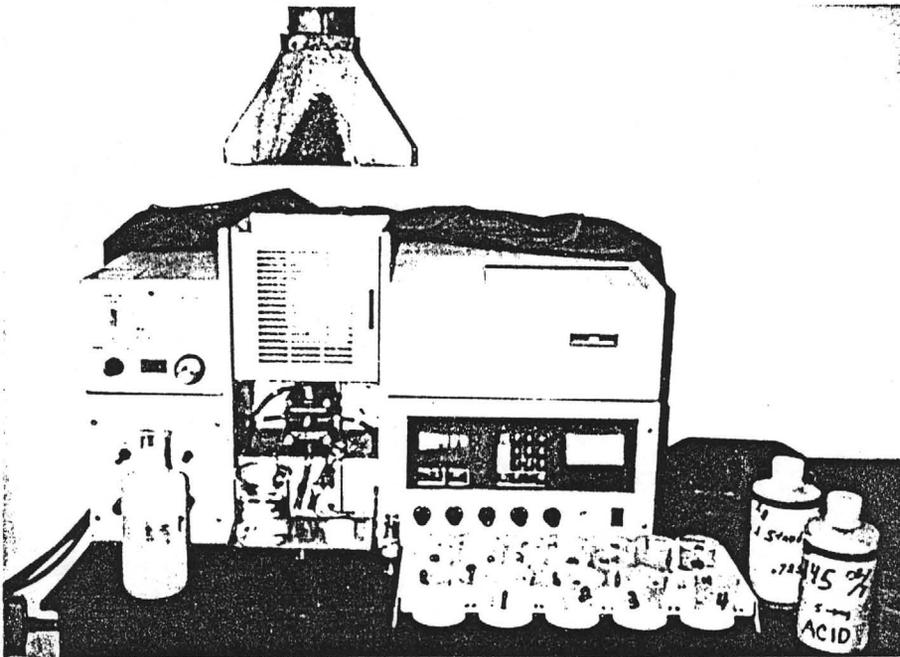
Smelting Department

Chrysaor has a fully automated tilt furnace that uses a #300 crucible. Present smelting is 96 hours or 2600 pounds of precipitates per week, approximately 50% of capacity.

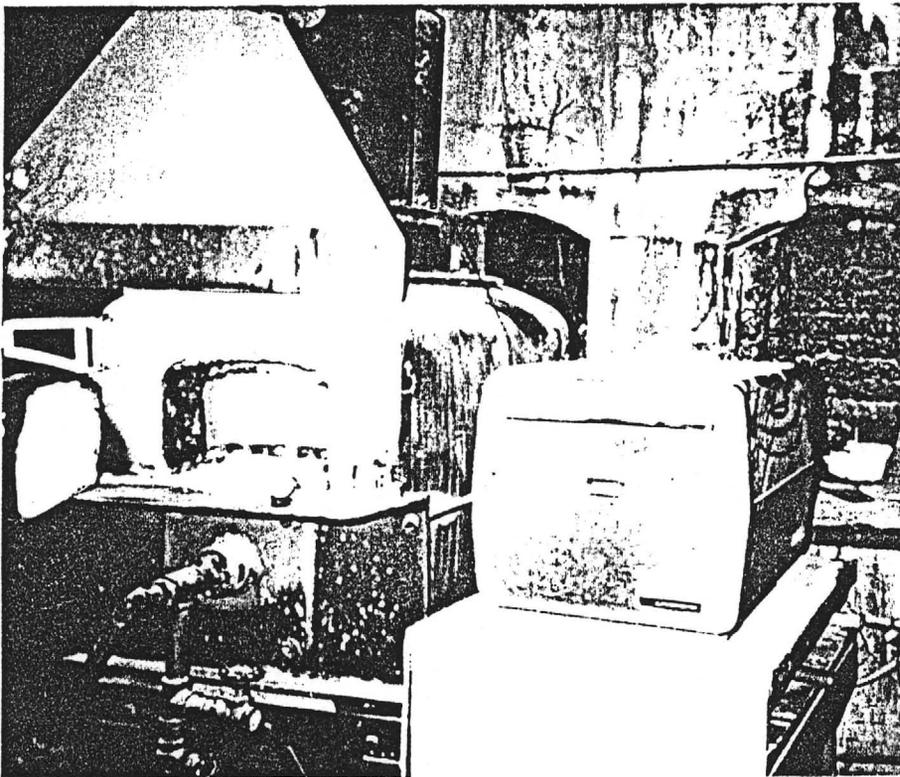
The dore', in cone form, is shipped to a refinery by armored car or by plane. A TEI representative is present at the weighing and assay of the dore'. A vacuum tube is used, under TEI's observation, to collect a homogeneous sample from the molten dore'. The sample is cut into thirds. One third remains with the refinery, one is sent to an independent laboratory, and one returns to TEI's testing department.

From the smelting process, TEI has a large volume of slag with appreciable metal values. A vibrating table and impact mill have been installed to process this material. Due to the efficient operation of the Smelting Department, this process can be done by the Smelting Department personnel, incurring no extra labor costs.

TESTING



Atomic absorption spectrometer



Fire assay equipment

Testing Department

This department uses an atomic absorption spectrometer and full fire assay equipment. Sample testing is provided for the mining, leaching, plant and smelter departments.

Mining Department:

Pit samples received daily are assayed for gold and silver by both atomic absorption and fire assay. The mining department uses the assay report to designate the sampled area as either waste, mid-grade, ore, or high-grade.

Leaching Department:

Hourly samples are taken from the ore, mid-grade, and tails pads. The testing department assays for gold and silver values in solution. A careful monitoring of pH and cyanide content is conducted.

The testing department runs controls on the heads and tails of pad ore. This includes fire assay for gold and silver, and barrel tests for leachability and expected percentage recovery.

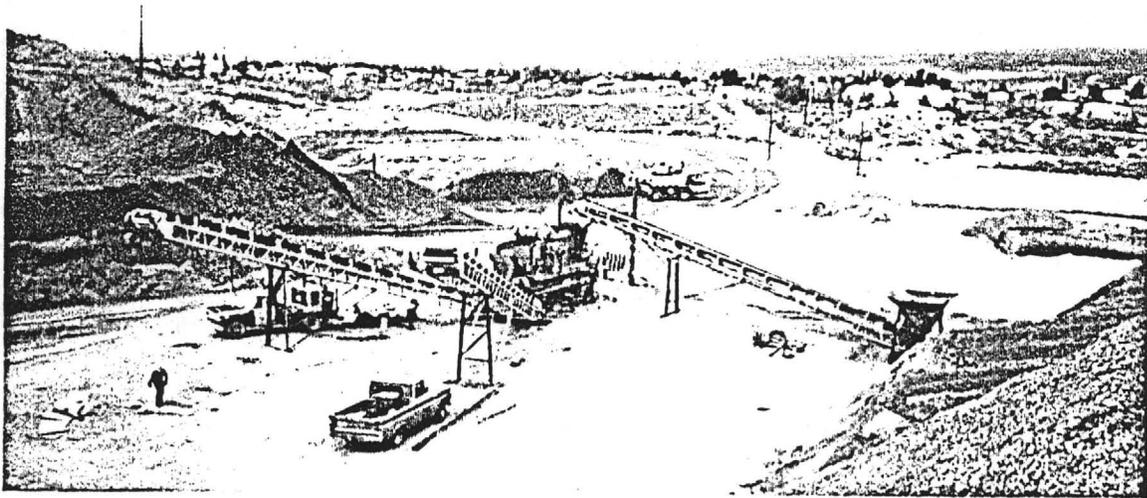
Plant Department:

Hourly samples are taken to determine the gold and silver values in the pregnant and barren solutions. Results of these assays are used for quality control by the plant supervisor.

Smelter Department:

Fire assays are run daily on precipitate lots received by the smelter from the plant department. This allows management to compare actual dore' ounces to both plant results and pit samples from the mining department.

WASH PLANT



INNOVATIONS AND PROJECTS

Wash Plant

TEI has accumulated more than 410,000 tons of crushed material which has already been leached on the production pad. 50% to 65% of the available silver and 85% of the gold has been recovered. To extract a further 10% to 15% of the precious metal values TEI has constructed a wash plant that uses a dilute cyanide solution. The material is classified and sprayed on a triple deck shaker screen, the finer material going as slurry to a settling pond. The material from the decks has the fines dropped out, leaving a clear pregnant solution to go to the processing plant.

The sorted and washed material from the screen is of specific size to be marketable as road surfacing. TEI material has an average hardness of 4, which makes it acceptable for that use. As the material is already mined and crushed, expense is minimal, so TEI can be very competitive in supplying road surfacing to Southern Arizona. The marketable price is \$7 - \$8 per ton.

Sales have already been made to the town of Tombstone and the State of Arizona. In effect, the normal waste products of a mining operation have become a valuable and marketable commodity.

Mid Grade Ore

TEI is currently leaching on approximately 220,000 tons of ore that has been assayed to be between .25 and 1 ounce silver per ton. The effluent and pregnant solution from the portion of material under leach has indicated very favorable results for a conventional heap leaching process on this mid-grade ore.

TEI's stripping ratio shows an increased amount of mid-grade ore with depth containing .25 to 1 ounce per ton of silver. To process this material, TEI is constructing approximately 20 acres of modular leaching pads, with a capacity of 3 million tons and a separate collection pond with a capacity of 3 million gallons of solution. It will be possible to spray a total of 2,400 gallons per minute in a recirculating system, until the pregnant solution is one ounce per ton or better, when it will be pumped to TEI's current processing facilities. The pads are being constructed in a natural valley, using waste material as a sub-base and an indigenous lime cement called coliche as the impermeable base. In the course of mining, waste must be moved to reach the ore of one ounce per ton and higher. By placing this waste as construction material for pads and as mid-grade ore, TEI is creating a large leaching operation at minimal expense. A conventional heap leach extracts approximately 1/3 of the precious metal values.

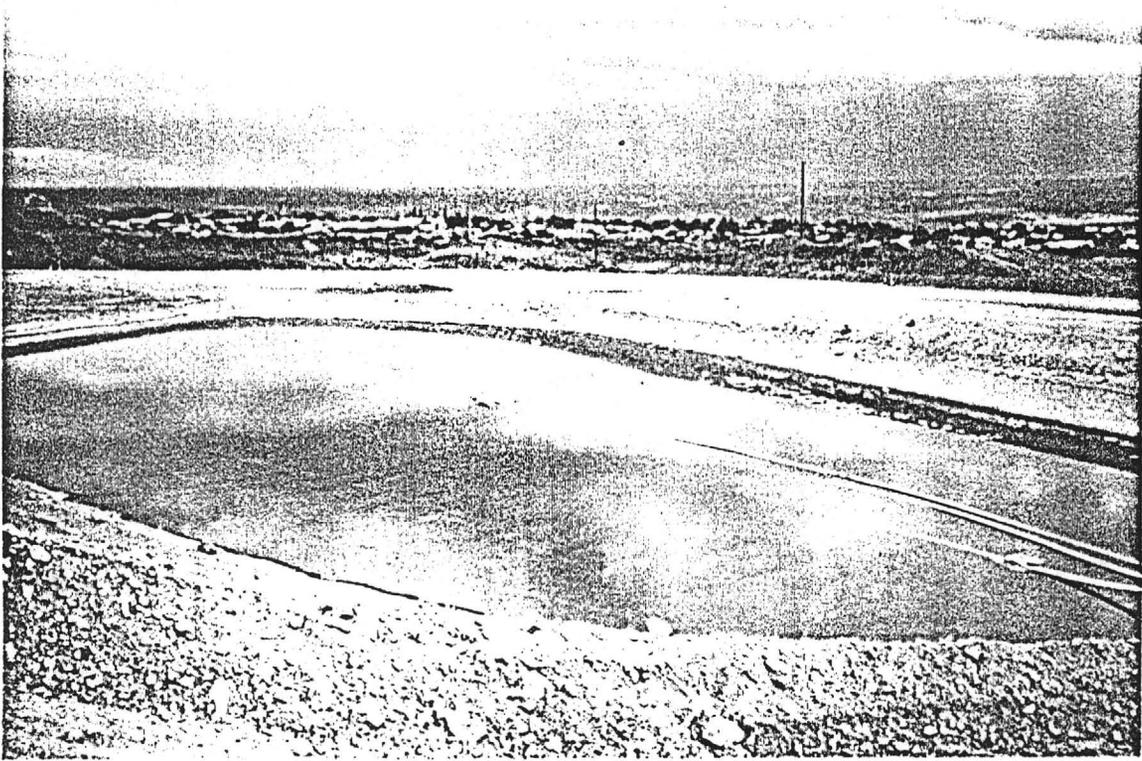
If precious metal prices increase, the mid-grade ore will be processed through TEI's crushing and pelletizing facilities. At a figure of \$16 per troy ounce of silver, the cut off in the pit would be lowered to 1/2 oz. silver per ton, tripling the volume of ore that could be economically processed. The previously leached mid-grade material would also become a processable orebody.

High Grade Ore

TEI has encountered areas in the pit that are running in excess of ten ounces of silver per ton and up to two ounces of gold per ton. With existing facilities, TEI is able to process these concurrently but separately from other production, maintaining the different controls in cyanide amounts necessary for high grade ore. The ore is crushed finer than normal and placed on a separate pad. The pregnant solution is then blended into the pregnant solution from other production pads, bringing the average pres from one ounce up to a possible three or four ounces per ton.

Any ore of above 25 ounces of silver per ton will be processed by means of a small mill. TEI has used a pilot mill to determine percentage of recovery and optimum operating procedures. Extrapolating from the results of these tests, TEI should be able to build and operate a mill with a capacity of 150 to 200 tons per day at a construction cost of about \$200,000. There is also, four miles away, a custom mill capable of handling high grade ore.

RESERVOIR



Reservoir

In the course of mining and processing operations TEI uses a large amount of fresh water. This is used at the crusher, the pads, and also by the water truck, which sprays to keep dust from the air. To ensure adequate water supply at all times, the company has built a reservoir with a capacity of two and a half million gallons. The reservoir was constructed with waste material, at a cost of about \$2,000. The water supply for the reservoir is from a well on TEI property and from wells owned by the town of Tombstone.

Conveyor

TEI's present haulage system, moving the pelletized ore to the pads, consists of one 50 ton payhauler and one 12 yard loader. With increased production this will be inadequate. A possible solution would be the purchase or lease of an additional payhauler. This option would, however, have a continuous impact on operating costs, and involve additional labor. A proposed alternative is the installation of a conveyor system. Advantages of this are:

- 1) One system generating constant delivery to the pads
- 2) Extremely low maintenance and repair costs
- 3) Elimination of operating personnel
- 4) Implementation with minimal interruption of operations
- 5) Noticeable decrease in operational cost per ton in a short period of time.

The cost of installation and maintenance of the conveyor system would be:

Pelletizer to production pads:	1500 feet at \$150 per foot	\$225,000 (one time)
Production pads to tails pads:	2500 feet at \$150 per foot	\$375,000 (one time)
Repairs and maintenance:	\$500 per month,	\$6,000 annually

The present system, utilizing the payhauler and loader, has annual costs as follows:

350 payhauler:	initial cost \$228,000	at \$5,175 per month	\$62,100 per year
400 loader:	initial cost \$195,000	at \$5,835 per month	\$70,020 per year
Repair and maintenance:			\$70,366 per year
Labor: 2 men, at \$240 per week:			\$24,960 per year
Total annual cost:			\$227,446

The projected cost of the present system, with an additional payhauler, and related additional labor and maintenance costs, is \$335,000 annually. The proposed conveyor system would have an installation cost of \$600,000, and annual costs of \$6,000. Comparison of these costs shows that the proposed system has a less than two year payback, and would then operate at 2% of the cost of a conventional system.

The conveyor system would have the capacity to move more ore than our present crusher circuit produces. The addition of another short head cone crusher and screen, installed and incorporated with the present crusher configuration, would increase crushed ore production by 50%, with a minimum total of 3,000 tons of crushed ore per day. This purchase and installation would cost \$300,000, but in conjunction with the conveyor system it is believed that the overall cost per ton could be decreased substantially.

GEOLOGY

General

Tombstone deposits are vein structures which are characteristically irregular lenses and pods in favorable geologic bedding planes or slips, faults, fissures and brecciated shear zones. The favorable geologic horizons are in or near the Naco limestone, the Novaculite and the Blue limestone. Originally the ore solutions came up through rising vertical pipes as epigenetic replacement deposits where release of pressure and the chemical changes induced precipitation of the mineral values.

Regional

The rock formations of the Tombstone Hills range from Pre-Cambrian to Recent. The Pre-Cambrian is represented by a granodiorite intrusive. Paleozoic rocks are the Cambrian Bolsa Quartzite and Abrigo Limestone, and the Pennsylvanian-Permian Naco group sediments. Mesozoic sediments are the Cretaceous Bisbee group sediments. The Tertiary Period is represented by the Schieffelin Granodiorite intrusive and andesite porphyry dikes, the Uncle Sam Tuff and the Bronco Volcanics. Recent sediments consist of Quaternary Alluvium.

The Paleozoic and Mesozoic sediments in the Tombstone Hills have been folded, faulted during uplift, and intruded by late stage dikes of the Schieffelin Granodiorite.

Folding of the sediments has produced anticlines (rolls) which trend northwest. Later tectonism produced northeast trending fissures along which several dikes intruded the sediments. Emplacements of the Schieffelin Granodiorite and its late stage dikes, along with the extrusion of the Uncle Sam Tuff, took place in the Tertiary following the structural deformation. Mineralization has been inferred to be of the same age. Several episodes of faulting followed in Tertiary times after the intrusive emplacement. Late Tertiary and Quaternary have been an erosional period for the Tombstone Hills.

Local

The rocks exposed in current operations in the Contention-Grand Central pit are Bisbee group sediments which have been intruded by the northeast trending Contention dike. The Bisbee group sediments are a sequence of altered limestones, shales, and quartzites which strike generally N30 degrees E and dip 35 degrees to the southeast. Intrusion of the sediments along northeast trending fissures, by andesite emplacement by hydrothermal solutions.

Major ore zones are developed along the Contention dike in intrusive breccias and along the fault line breccias of the Tranquility fault. Hypogene minerals in the ore zones are thought to have been tetrahedrite and various tellurides. However, subsequent leaching above the water table produced the supergene ore minerals currently being mined. The supergene minerals are primarily Chlorargyrite, Bromargyrite, Native Silver and Gold.

Currently, geological mapping of lithology and structure, on a scale of one inch = 20 feet, is providing new information to be used to expand existing ore zones and target new ones.

SEQUENCE OF GEOLOGIC UNITS

	Geologic Units	Brief Description of Units	
QUATERNARY	Phonolite porphyry dike	-very pale orange to pale yellowish-brown phonolite.	
	Basalt intrusive	-dark gray to grayish black basalt has a micro-crystalline texture.	
	Quaternary undivided	-Plio-Pleistocene Gila Conglomerate and modern gravel and alluvial deposits.	
TERTIARY	Rhyolite porphyry: 63 m.y.	-grayish pink rhyolite with medium to fine grained phenocrysts in a devitrified groundmass.	
CRETACEOUS	Hornblende andesite intrusives	-medium bluish gray to light olive gray andesite.	
	Rhyodacite	-very pale orange to dark yellowish-orange rock with porphyritic-glassy texture.	
	Granophyre dike	-grayish-orange-pink to pale yellowish-orange, medium grained rock with micrographic texture.	
	Quartz latite porphyry	-light gray, holocrystalline rock with medium grained phenocrysts. This lacks a vitric groundmass and a pyroclastic texture.	
	Uncle Sam Tuff: 71.9 ± 2.4 m.y.	-light yellowish-brown to light brown tuff- a lithic, crystal, vitric quartz latite porphyry intrusive.	
	Schieffelin Granodiorite: 72 m.y.	-light gray to grayish pink, medium grained granodiorite.	
	Andesite porphyry dikes	- 5 dikes, including the Boss dike. Dark greenish gray to grayish-orange andesite.	
	Bronco volcanics Upper rhyolite member Lower andesite member	-pale orange to light gray rhyolite (tuffaceous beds and flows.) -greenish-gray to moderate-red andesite.	
	Bisbee Formation: 3000 ft ±	-Basal Glance Conglomerate. Maroon sandstone and mudstones, minor limestone beds, and brown to buff sandstone.	
PERMIAN	NACO GROUP	Concha Limestone: 1500 ft.	-medium-gray, thin to medium thick, silty limestone.
		Scherrer Quartzite: 150 ft.	-lower-red siltstone, then white to brownish sandstone and minor limestone, limestone and dolomite, and upper light brown to pink sandstone.
		Epitaph Dolomite: 780 ft.	-lower dolomite, then calcitic siltstone, dolomite, and upper limestone.
		Colina Limestone: 635 ft.	-dark gray to nearly black, medium to thick bedded, crystalline limestone. Color weathers to pale gray.
PENNSYLVANIAN	NACO GROUP	Earp Limestone: 595 ft.	-extremely varied; lower-dominantly shale with minor sandstone; upper - pink to reddish brown, medium to very thick limestone and dolomite beds.
		Horquilla Limestone: 1100 ft.	-light to dark gray, medium bedded to massive limestone; contains red and green mudstones.
MISSISSIPPIAN		Escabrosa Limestone: 780 ft.	-lower: white to light gray, massive limestone and dolomite. Two chert horizons - dark gray to black chert beds and brown nodules. Sandstone and shale are absent; corals, crinoids, and brachiopods are present.
DEVONIAN		Martin Limestone: 230 ft.	-dark gray to brownish black; chert, limestone, sandstone, and shale. At Tombstone sandstone and shale predominates.
CAMBRIAN		Abrigo Limestone: 844 ft.	-grayish-olive green to dark greenish-gray colors, thin beds of conglomerates. 3 parts: 1. lower shale, limestone, and conglomerates, 2. med. crystalline limestone, 3. upper sandy limestone and quartzite.
		Bolsa Quartzite: 440 ft.	-pale orange on fresh surfaces; light brown on weathering. Thick to very thick bedded medium to very coarse grained, somewhat cross-bedded quartzite.
PRECAMBRIAN		Granite	-pinkish-gray to light-gray, medium grained, biotite granite, with a poorly to moderately well defined gneissoid structure.
		Pinal Schist	-dark greenish-gray to brownish-gray, moderately to well-foliated, fine grained, quartz sericite schist.

MINEROGLOGY

Memorandum on the Grand Central Contention Ore Zone, Tombstone AZ

by Sidney A. Williams

April 21, 1962

General. The Grand Central Contention ore zone has been the most productive one in the Tombstone district, and virtually all ores produced occurred in the uppermost 500 feet of it. The zone is nearly vertical and over 3000 feet long. It is really a series of veins and veinlets generally paralleling a swarm of granodiorite dikes that strike slightly East or North and are an echelon.

Host rocks include gently dipping Bisbee group beds as well as the dikes that cut them. Within shales and quartzites of the Bisbee group ore is most apt to occur in veins, whereas in limy beds replacement type ores may occur. Ore also occurs in veins cutting the dikes as well as in the matrix of brecciated portions of the dikes where they have been disturbed by faulting.

The zone was discovered and first staked in 1878 by Boyer and Williams (Grand Central claim) and quickly followed to the north. In its first ten years it produced \$10M, or almost exactly half of the entire production of the district.

Mineralization. There have been two episodes of mineralization. The earlier episode was volumetrically the major one including all of the replacement ores and most of the veins. Base metals (Cu, Pb, Zn) were a major constituent, the ores consisting primarily of galena, sphalerite, and chalcopyrite, often with abundant pyrite. Although the gold content of these ores was negligible, silver was abundant, occurring in tetrahedrite and probably as various species microscopically present in galena.

The younger episode of mineralization occurred in veins and stringers along the Grand Central-Contention zone just as the earlier episode but these ores were especially prone to occur in or close to the dikes. The minerals included tellurides of gold, silver, and perhaps of lead (as well as galena).

Both mineralizing events affected not only major structures, thus producing veins, but occurred disseminated on a myriad of fractures and joints within the Bisbee group beds. Thus, although values were concentrated in larger or more obvious veins, primary values were also dispersed in the wallrocks between them. Recent open pit mining along the zone shows

clearly that in addition to the larger veins mined in the past there are numerous small veins and veinlets, and that between them, sulfides were dispersed in small amount on virtually every joint surface within the Bisbee group rocks.

Oxidation: The role of oxidation has been critical in understanding the distribution of ores in the zone. From the present surface down to the 100-200 foot level (the depth is variable) leaching and oxidation have been severe. Except in the larger structures already mined out, most of the silver has been oxidized and generally carried downward in a continuous process of leaching and redeposition as silver halides (mainly chlorides and bromides). The halides that fix the silver as relatively insoluble ore minerals such as chlorargyrite or embolite have been provided by ground water and rain water that have continuously percolated down through the zone. Gold has behaved similarly but undoubtedly to a much lesser degree so that downward enrichment has been slight.

We know from Rosor's work that only partially oxidized and very rich ores occurred on the 400 level, and historical records indicate that ore grades dropped dramatically just below the 500 level (the current water level was then at about the 600 level). The grade of silver ore, then, should increase downward from the surface, culminating about in the region of the 400 level, for it must be remembered that all silver leached from the surface has been redeposited during its downward descent. As noted already, the gold shows similar behavior but to a much lesser degree, and grade should increase only slightly.

Sampling: Since the major veins have long since been removed, future mining must depend on the smaller veins and veinlets and on the ores disseminated throughout the zone on fracture and joint surfaces. Because of the extensive fracturing and jointing in the Bisbee group rocks they are crumbly, and separate readily on a myriad of surfaces. Because of severe oxidation, the ore minerals on these surfaces are friable and are readily dislodged from them.

Thus the best possible assay is the tenor of ore actually removed by bulk mining. But, as discussed earlier, this represents an absolute minimum value, for the silver removed from the rock already mined has been leached and carried downward. Since we know that the ore zone extends downward another 400-500 feet, how should this block of ground be best

sampled? At the upper surface this is relatively easy. Backhoe trenching can provide bulk samples that accurately reflect ore grade with minimal loss of pulverulent ores on fracture surfaces. For samples below the surface, drifts and crosscuts in the old workings should be rehabilitated and used for channel sampling or even bulk sampling (mined material).

The ore zone is essentially a vertical slab with a "matrix" of low grade ores disseminated on joint surfaces and laced irregularly with small but richer veins. To attempt to sample such a block of ground by a series of vertical rotary or churn drill holes would be prohibitively expensive, and to drill parallel to the plane of the structure is questionable practice. Also, the friable nature of mineralized material would cause some losses, resulting in unreliable samples.

Dr. Sidney A. Williams received his M.S. degree from Michigan Technological University (1957) and his PhD from the University of Arizona (1962). He is a member of the Society of Economic Geologists, the Mineralogical Society of Great Britain, the Japanese Mineralogical Society, and a fellow of the Mineralogical Society of America.

Previous positions include Assistant Professor (Michigan Technological University) 1960-1963; Mineralogist (Silver King Mines) 1963-1965; Director of Exploration Research (Phelps Dodge Corporation) 1965-1982. He is now a private consultant to the minerals exploration industry.

Dr. Williams is the author of some 50 publications, a few of which are noted below:

1. The Tombstone District; Min. Rec. 1980
2. Structural, Petrological, and Mineralogical Controls for the Dos Pobres Ore Body (with J. M. Langton); Univ. Ariz. Press 1982
3. Mineralogy of Arizona (with J. Anthony and R. Bideaux); Univ. Ariz. Press 1977
4. Oxidation of Sulfide ores of the Mildren and Steppa Mines; Econ. Geol. 1963

MINERALS PRESENT IN THE TOMBSTONE MINING DISTRICT

H designates hypogene mineralization

S designates supergene mineralization

Silver minerals	argentite (acanthite) Ag_2S	S
	stromeyerite $\text{Ag}_2\text{S} \cdot \text{Cu}_2\text{S}$	S
	hessite Ag_2Te	H
	argentojarosite	S
	native silver Ag	S
	cerargyrite AgCl	S
	embolite $\text{Ag}(\text{Br}, \text{Cl})$	S
	bromyrite AgBr	S
	argentiferous tetrahedrite	H
	argentiferous galena	H
Gold mineral	native gold Au	
Lead minerals	galena PbS	H
	bournonite $\text{Cu}_2\text{S} \cdot 2\text{PbS} \cdot \text{Sb}_2\text{S}_3$	
	cerrussite PbCO_3	
	pyromorphite $9\text{PbO} \cdot 3\text{P}_2\text{O}_5 \cdot \text{PbCl}_2$	
	vanadinite $9\text{PbO} \cdot 3\text{V}_2\text{O}_5 \cdot \text{PbCl}_2$	
	descloizite $4(\text{Pb}, \text{Zn})\text{O} \cdot \text{V}_2\text{O}_5 \cdot \text{H}_2\text{O}$	
	mottramite (cuprodescloizite) $\text{Pb}(\text{Cu}, \text{Zn})\text{OH} \cdot (\text{VO}_4)_3$	
	anglesite PbSO_4	
	wulfenite PbMoO_4	
	plumbojarosite $\text{PbO} \cdot 3\text{Fe}_2\text{O}_3 \cdot 4\text{SiO}_3 \cdot 6\text{H}_2\text{O}$	
	bindheimite-hydrous antimonate of lead	
Copper minerals	native copper Cu	
	chalcocite Cu_2S	
	stromeyerite $\text{Ag}_2\text{S} \cdot \text{CuS}$	

covellite CuS
 bornite Cu_5FeS_4
 chalcopyrite CuFeS H
 bournonite $\text{Cu}_2\text{S} \cdot 2\text{PbS} \cdot \text{Sb}_2\text{S}_3$
 tetrahedrite $5\text{Cu}_2\text{S} \cdot 2(\text{Cu}, \text{Fe})\text{S} \cdot 2\text{Sb}_2\text{S}_3$ H
 famatinite $3\text{Cu}_2\text{S} \cdot \text{Sb}_2\text{S}_5$
 cuprite Cu_2O
 tenorite CuO
 malachite $\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$
 azurite $2\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$
 rosasite $(\text{Cu}, \text{Zn})\text{CO}_3 \cdot (\text{Cu}, \text{Zn})\text{OH}_2$
 aurichalcite $2(\text{Zn}, \text{Cu})\text{CO}_3 \cdot 3(\text{Zn}, \text{Cu})\text{OH}_2$
 chrysocolla $\text{CuSiO}_3 \cdot 2\text{H}_2\text{O}$
 connellite $\text{CuSO}_4 \cdot 2\text{CuCl}_2 \cdot 19\text{Cu}(\text{OH})_2 \cdot \text{H}_2\text{O}$
 brochantite $\text{CuSO}_4 \cdot 3\text{Cu}(\text{OH})_2$
 beaverite $\text{CuO} \cdot \text{PbO} \cdot \text{Fe}_2\text{O}_3 \cdot 2\text{SO}_3 \cdot 4\text{H}_2\text{O}$

Manganese
minerals

alabandite MnS H
 hataerolite $\text{ZnO} \cdot \text{Mn}_2\text{O}_3$
 polianite MnO_2
 pyrolusite MnO_2
 manganite $\text{Mn}_2\text{O}_3 \cdot \text{H}_2\text{O}$ S
 psilomelane H_4MnO_5
 rhodochrosite MnCO_3
 "black" calcite contains minute Mn oxides

Zinc minerals

sphalerite ZnS H
 smithsonite ZnCO_3
 hydrozincite $\text{ZnCO}_3 \cdot 2\text{Zn}(\text{OH})_2$
 rosasite $(\text{Cu}, \text{Zn})\text{CO}_3 \cdot (\text{Cu}, \text{Zn})(\text{OH})_2$
 aurichalcite $2(\text{Zn}, \text{Cu})\text{CO}_3 \cdot 3(\text{Zn}, \text{Cu})(\text{OH})_2$
 calamine (hemimorphite) $2\text{ZnO} \cdot \text{SiO}_2 \cdot \text{H}_2\text{O}$

GLOSSARY OF TERMS

Adit - a nearly horizontal passage from the surface by which a mine is entered and unwatered. In the U.S., an adit is usually called a tunnel, though the latter, strictly speaking, passes entirely through a hill and is open at both ends. Frequently called "drift" or "adit" level.

Agglomerated ore - fine material clustered into larger particles for more efficient processing.

Alloy - a metal which is composed of two or more elements. In the process of alloying, intentional additions are made to improve the properties.

Alluvial - deposited by a stream.

Alteration - change in the mineral composition of a rock typically brought about by the action of hot water solutions.

Amenability - characteristic reaction of minerals to basic methods of mineral processing.

Anticline - a fold that is convex upward.

Assay - to determine the amount of metal contained in an ore.

Back - the roof of an underground room or opening.

Bed - layer in a body of sedimentary rock stratum.

Bedrock - general term for the rock that underlies soil or gravel.

Beneficiation - treatment of crude ore to improve its quality for some specific purpose.

Breccia - rock consisting of angular fragments in a matrix of finer-grained material.

Composite Heap - material leached and dumped by previous operators, still containing recoverable precious metal values.

Concentrate - the valuable mineral separated from ore undergoing a specific treatment.

Cone Crusher - a machine for reducing the size of ore by means of a truncated cone revolving on its vertical axis within an outer chamber; the annular space between the outer chamber and cone being tapered.

Contact - bounding surface between two rock units

Core Drilling or Diamond Drilling - a drilling technique that produces a cylinder of rock utilizing a hollow diamond studded drill bit.

Cross-cut - a horizontal opening driven across the direction of the main workings; a connection between two drifts, tunnels, or levels.

Development Work - work undertaken in order to open up orebodies as distinguished from the work of actual ore extraction.

Dip - the angle between a horizontal plane and the plane of the ore shot or vein, measured at right angles to the strike.

Disseminated Ore - ore in which the valuable mineral is fairly evenly distributed throughout the rock.

Drift - an underground passage, like a tunnel (but usually without portals) extending horizontally in the same direction as the long horizontal dimension of a vein. Such passages are driven and the work is called drifting, as in "drifting on the vein."

Exploration - the act of work involved in searching for ore.

Extrusive Rock - Igneous rock derived from magma that flowed at the earth's surface. Lava.

Face - in any adit, tunnel, or drift, the end at which work is progressing or was last done.

Fault - a break in a body of rock where one block moves relative to the other.

Fines - the particles of ore below a given size or mesh (undersize), as contrasted with the coarser particles.

Fire assay - the assaying of metallic ores by methods requiring furnace heat.

Fissure Vein - a crack (not necessarily a fault) in the earth's crust which has been mineralized. Open spaces not filled with minerals are called vugs.

Grade - percentage of a metal or mineral composition.

Grizzly - Apparatus used for scalping oversized material before it goes to crusher.

Horizon - Any of the distinct beds in a vertical section of land.

Igneous Rocks - rocks that are consolidated from a molten state.

Incline - an elevation or horizon in a mine which is developed for purposes of working the mine.

Leaching - the process of extracting precious metal values in solution form from ore.

Limestone - a sedimentary rock consisting mainly of calcium carbonate (the mineral calcite).

Lode - a vein or fissure in the rock filled with mineral.

Massive Sulfide - a term applied to a body of rock consisting entirely or almost entirely of sulfide minerals.

Merrill Crowe process - removal of gold and silver from pregnant cyanide solution by deoxygenization followed by precipitation on zinc dust.

Metamorphosed or Metamorphic Rocks - rocks changed by heat, pressure and other agencies, from one form to another, namely: limestone to marble; sandstone to quartzite; shale to slate; sandy shale to graywacke; most of these are further changed to various schists.

Mill - includes any ore mill, sampling works, concentrator, and any crushing, grinding or screening plant used in mining operations.

Mineral - an inorganic substance occurring in nature which has (1) a fairly definite chemical composition, and (2) distinctive physical properties or molecular structure. Most minerals are crystalline.

Gold or silver may occur in nature in the metal form or in a number of minerals. Gold typically occurs as native gold, gold-bearing pyrite (iron sulfide), gold-bearing arsenopyrite (arsenic iron sulfide), or gold bearing oxides such as hematite and limonite.

Silver typically occurs as silver sulfide or silver chloride minerals as well as native silver. Among the more common silver minerals are: argentite (silver sulfide), cerargyrite (silver chloride), proustite (silver-arsenic-sulfide), pyrargyrite (silver-antimony sulfide), and tetrahedrite (a complex copper-silver mineral with sulphur). Silver commonly occurs with galena (lead sulfide), and in some places with sphalerite (zinc sulfide).

Ore - a material from which minerals and metals of economic value can be extracted at the present time.

Ore Mineral - the part of an ore, usually metallic, which is economically desirable.

Orebody - a continuous, well-defined mass of material of sufficient ore content to make extraction economically feasible.

Outcrop - surface exposure of rocks or vein.

Overburden - clay, sand boulder clay, and other unconsolidated materials overlying bedrock.

Oxidation - the alteration of rock by weathering and the action of surface waters, with the result that sulfide minerals are converted into oxide, carbonate, or sulfate compounds or minerals.

Percussion Drilling - a drilling technique that uses an air powered percussion bit to produce drill cuttings or rock chips.

Placer - deposit of gold or other metal-bearing alluvial gravel.

Porphyry - any igneous rock with larger crystals in a finer-grained groundmass.

Precipitates - concentrates of silver, gold, zinc, diatomaceous earth, suitable for smelting and refining.

Primary Rock Minerals - those originally present in the rock, not introduced or formed by alteration or metamorphism.

Quartzite - a sedimentary or metamorphosed sedimentary rock consisting primarily of fine- to medium-sized quartz grains.

Raise - a vertical or inclined opening driven upward.

Reverse Circulation - a rotary drilling technique whereby the inside of the drill pipe is used to carry cuttings to the surface.

Rotary Drilling - the process of drilling which consists of rotating a column of drill pipe with a bit attached to the bottom. Drilling mud is pumped down through the pipe and carries cuttings (rock chips) to the surface outside the pipe.

Shaft - an opening, more or less perpendicular, sunk into the ground from the surface.

Shale - a laminated sedimentary rock in which the particles are mostly very fine-grained (clay-sized).

Shoot - Ore Shoot - that part of a deposit in which the valuable minerals are so concentrated that their extraction is commercially profitable.

Silicate - minerals containing silica, such as quartz, etc.

Sill - a body of rock similar to a dike but injected parallel to the layers of older rock.

Slag - the material left after the precious metals have been smelted from the precipitates.

Smelting - the reduction of a metal from a precipitate generally accomplished by heat.

Stone - an underground opening where the ore is broken and removed.

Strike - the bearing of a horizontal line in the plane of bed, vein or fault.

Stringer - a veinlet or small vein.

Stripping Ratio - the ratio of tons overburden to tons ore in an open-pit deposit.

Sulfide - a compound of sulfur and one or more elements. The term is usually limited to sulfides of metals.

Tailings - the resultant material from ore that has been leached for precious metal values.

Tunnel - a tunnel, strictly speaking, is a horizontal underground passage open at both ends.

Vein - a sheet-like body of mineralized rock that has filled a fracture or crack in the country rock. A typical vein consists of quartz together with lesser amounts of valuable metals concentrated in ore shoots randomly distributed in the vein.

Wall Rock - the rock enclosing a vein.

Wet Assay - the determination of the quality of a desired constituent in ores, metallurgical residues and alloys by the use of the process of solution, flotation or other liquid means.

Wasterock is separated into low grade protore which is stockpiled and barren wasterock which is discarded to a wasterock pile. In this way a low grade resource is accumulating which can easily be reclaimed when justified by higher gold and silver prices.

TOMBSTONE EXPLORATION INC.

INNOVATIONS

Several innovations were observed at the Tombstone Explopration Inc. operation which are summarised below:

1. Trenching and channel sampling of the ore zones provides a better indication of ore grades than has been found using drilling.
2. The innovative crusher & screening circuit is designed to require a minimum of operators and the crushing operation has now been innovatively integrated with the agglomeration step.
3. A recently installed magnetic scalper on the crusher circuit conveyor belt has resulted in an improved operational availability of the crushing circuit.
4. The effective fine ore agglomeration step is low cost to operate and greatly enhances recovery by heap leaching.
5. Leaching in two stages firstly on the primary pad followed by intermittant leaching on the tailings heap provides a means of getting 'two bites at the cherry.'
6. The prudent use of small inventory settling ponds for preg solutions recovered from the leaching heaps provides a means of preclarifying the pregnant solution before it is fed to the recovery plant.
7. The application of off the shelf modular Merrill-Crowe zinc precipitation units reduces capital cost of the metallurgical plant and by using multiple units the plant has a very flexible capacity and an excellent operational availability.
8. The design of the metallurgical plant layout, despite the low capital cost is nevertheless designed for optimum security.
9. Continuous solution sampling devices make it possible to measure the precious metals in the pregnant and barrens solutions and make it possible to implement an operator incentive program based on the plant throughput and metal losses in the barrens.
10. TEI have designed and installed a low capital cost but very effective precipitate drying oven.
11. Valves which can be expensive and cause downtime due to mechanical failure have been replaced by extremely rudimentary three way gate valves of home design which are not only easy to build but also very easy to operate.
12. TEI have adapted a most elegant method for sampling dore bars during the smelting step. This technique was borrowed from the steel industry.

13. By charging dried precipitate to the crucible furnace in preweighed paper bags the smelting process is simplified. This simple step makes it possible to keep the smelter room much cleaner and reduce airborne losses of precipitate.
14. The remote controlled tilting furnaces are designed for maximum operator safety and operator convenience and comfort. It is possible to operate this smelting step cleanly and efficiently because the operator can keep cool.
15. TEI have developed a mini-computer process control system for their heap leaching process which once perfected will make it possible to greatly improve the day to day control and efficiency of the process.

TOMBSTONE EXPLORATION INC.

ADVANTAGES

Tombstone Exploration Inc., despite the fact that the ore is relatively low grade, is blessed with several advantages which have an impact on both the operating and capital cost of the plant:

- o Warm, arid climate permitting year-round outdoor operations.
- o The relatively clean ore is claimed to be low in base metals and other cyanicides or species that would render the ore refractory.
- o Excellent existing infrastructure due to location in the outskirts of the small town of Tombstone.
- o Adequate local labor pool residing in the vicinity.
- o Very favorable contract for mining ore and overburden at an excellent contract price.
- o Soft oxidized ore which requires virtually no blasting.
- o Available coliche material from which to build the leaching pads.
- o Suitable topography and available land on which to build the leaching pads and the tailings and waste piles.
- o Very creative and experienced local management and staff leadership.
- o Because the ore contains both gold and silver there is some diversification of products.

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LOCATION On the outskirts of the historic silver mining town of Tombstone,
Arizona.

CLIMATE Located at about 3,000 ft altitude in southern Arizona, Tombstone
Exploration Inc. is located in a hot arid climate tempered to some
extent by altitude. The climate is ideal for the operation of a
heap leaching plant as problems with freezing in winter are
altogether avoided. Other problems avoided are the crushing
problems that can arise when wet ore is crushed .

Very occasionally storms may be anticipated which result in short
periods of very high rainfall which could temporarily upset the
water balance of the plant, but such occurrences are likely to be
very infrequent and not disasterous to the operation.

HISTORY The history of this property is described by McQuiston and
Shoemaker (1980) under the title of 71 MINERALS LTD which closed
down in 1978. 71 MINERALS LTD. processed several million tons of
wasterock from earlier deep vein mining operations in the area with
typical grades of 1.0 oz/st silver and around 0.01 - 0.02 oz gold
per short ton.

TEI now control about four square miles in the Tombstone district
covering numerous small underground workings. TEI own 87 patented
claims which is about 80% of the total number of patented claims in
the area and in addition control a further 18 unpatented claims.

A map of the claims and known underground workings in the area
shows an extensive area from which high grade veins were mined in
earlier times, and implies that a significant tonnage of lowgrade
ore backfill and ore that was below the earlier mining cutoff
grades could have been left underground.

ORE TYPE TEI have delineated an area reaching from the surface to an as yet
untested depth which is mineralised in fissures in the Bisbee
Formation along three porphyry andesite dikes which have intruded
into sandstone, quartzite, shales and limestone.

A known granodiorite intrusion is located 1-2 miles away but no mineralisation is directly associated with it. The geology of the area has been described by Ransome of the USBM first in the 1890's and later in 1926, and more recently by Butler in the 1930's and by Blake.

Ore currently being mined appears to be completely oxidized and the actual mineral species in which the gold and silver occurs was not discussed.

SAMPLING

The orebody is delineated and sampled by trenching at roughly 20ft intervals across the E-W trending ore zone, to a depth of 6 ft using a Cat 225 excavator that belongs to TEI and is operated by TEI employees. Channel samples are taken at 6' intervals along the walls of the trenches which are assayed. This technique is found to be more reliable than drilling which is the more commonly practised technique observed on other projects.

CAPACITY

2000 st per day ore is mined and prepared for leaching 5 days per week.

STRIP RATIO

About 4:1

MINING

All mining is carried out by a subcontractor, namely Magini Leasing and Contracting. The contracted price is \$0.74 per cubic yard which works out to about \$0.50 per short ton of rock moved. The contract covers mining and moving rock as appropriate to the plant crusher, to the low grade stockpile or to the waste rock dump. The ore is friable and usually does not require blasting. When necessary, however, the contractor also is responsible for blasting which is charged at the rate of \$2.84 per blasthole foot drilled.

Mining equipment employed by the contractor includes:

Seven Cat 631G Scrapers
Three Cat DG9 Dozers

GRADE

About 1.5 oz Ag per short ton and 0.03-0.04 oz Au per short ton.

PROCESS SUMMARY

Mine, Crush, agglomerate with lime and cyanide, cure, stack heaps, leach with sprinkler irrigated solution, clarify, de-aerate, zinc precipitation, vacuum dewatering of precipitate, dry precipitate in oven, smelting to Dore.

CRUSHING

The crusher system was supplied by Kolberg Manufacturing Corporation of Yankton, South Dakota. It consists of a two stage crushing and screening plant.

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CRUSHING

The crusher system was supplied by Kolberg Manufacturing Corporation of Yankton, South Dakota. It consists of a two stage crushing and screening plant.

Ore is dumped onto a vibrating feeder and screened across a vibrating grizzly. +2½" material is fed to a Cedar Rapids jaw crusher rated at 150 tph at -5/8". More recently the crusher has been set to give a product that is -3/4" and throughput has been increased to 240 tph. Operating at two shifts per day over a five day week, an average production rate of 2400-2500 st per day can be achieved.

The -2½" screen fraction is passed over a shaking screen with two decks (1½" and 3/4" apertures) in closed circuit with an ELJAY 54"Ø cone crusher set to crush at -3/4". Minus 3/4" crushed ore is stacked on a fine ore stockpile with a live bottom.

Recent improvements in the crusher circuit include the insertion of a magnetic scalper which removes considerable amounts of tramp steel including old iron tools from the earlier underground workings. Lime is added to the crushed ore directly onto the conveyor feeding the crushed ore stockpile. A new centrally located crusher control room is under construction from which the whole crushing and agglomeration operation can be observed. This is expected to make it possible to eliminate one of the crusher operators.

AGGLOMERATION

The crushed ore stockpile feeds a belt by gravity via a gate that is pneumatically controlled from the control room. About 10% of the crushed ore is minus 100# (150 microns). 35-40% is minus ¼". Agglomeration is considered necessary to achieve adequate permeability of the heaps and has been found to result in a significant improvement in gold and silver recoveries.

Crushed ore with lime already added at the end of the crushing circuit is agglomerated on a sloping 48" wide conveyor belt which runs uphill against the flow of the material which rolls down the conveyor which being sprayed with cyanide solution. In this fashion fine particles attach themselves to the larger ones.

10 lbs lime and a total of one pound of sodium cyanide per ton of ore are added. The cyanide is added by spraying as a solution with a concentration of 30 pounds of NaCN per ton.

After agglomeration the ore is stacked in a heap on the ground and allowed to cure for at least 24 hours.

The agglomeration belt at TEI functions very well and appears to be relatively simple to operate and to control. TEI offers this system to others together with their knowhow for around \$100,000.

PAD CONSTRUCTION

Leach pads are constructed from a naturally occurring coliche material that is available on the property, augmented by old mill tailings from earlier mining operations. The pads are constructed from 2' thick compacted material built up in 3-4" layers with 10-12% moisture content.

TEI property includes a considerable area of generally flat terrain that is suitable for the primary leaching pads.

A second pad also constructed of 2' thick coliche in 2-3" compacted layers has been constructed on which the tailings from the primary leaching pads are deposited in a very large heap. This provides a second leaching process applied to the same ore but this time in a heap with a new solution channel pattern and a much longer residence time

Pads are constructed using a Gallion T600 motor grader, a front end loader and a pneumatic compactor which is similar in appearance to the regular sheepsfoot compactor..

HEAPS

Heaps of cured agglomerated ore are stacked to heights varying between 10-12' on the primary leaching heaps. There are five primary leaching heaps that are rotated. Each is leached for four days before being lifted and dumped on the tailings heap which serves as a secondary leaching heap.

TEI owned equipment used for heap construction includes:

- One International 400 12yd³ loader
- One International 560 6yd³ loader
- One International 350B Payhauler dumptruck
- One Euclid R50 dumptruck.

HEAP CONSTRUCTION

Heaps are constructed using TEI owned and operated equipment.

SOLUTION APPLICATION

Solution is applied through Nelson Beta 45 sprinkler heads on a 10ft spacing along solution feeder lines.

1200 short tons per day of solution is applied to one of the primary leaching heaps containing 7000 st ore. Based on a 12' heap height and 100 lbs per ft³ bulk density, the area occupied by each primary heap would be about 12,000 ft². This works out to 0.23 US gallons per square foot per minute assuming that the full 1200 st of solution is applied to only one primary leaching heap.

If 1200 st of solution is applied to 7000 st ore for 4 days this implies that 0.68 st of pregnant solution is recovered for each ton of ore treated in the primary leaching pad. Of course there will be some reduction in the volume of solution recovered on account of evaporation.

The much smaller rate of solution application on the larger tailings heaps also generates additional solutions containing gold and silver. These solutions are irrigated over only a small part of the heap at a time and the solutions are recirculated to bring the grades up. This pump recirculates 350 US gpm.

WATER SUPPLY

TEI water is supplied by two wells. One is in an old mineshaft and the second is located near the metallurgical plant. In the old underground workings excess water was one of the problems faced in earlier years which required special pumps, consequently it is implied that despite the arid climate at Tombstone, water supply is not likely to be a problem.

MANPOWER

The TEI operation is located in the town of Tombstone where it appears to be the largest employer. Apart from tourism and one or two smaller mines in the area there does not appear to be much other industry in the area. Southern Arizona offers a pleasant living environment and consequently TEI claims that they have little difficulty attracting manpower with an adequate aptitude for this type of operation.

The Vice President and General Manager in charge of the operation Mr. Dustin L. Escapule is clearly well organized, innovative, capable and able to control his workforce.

Mining costs are very low because of the contract arrangement which is very favorable indeed. Currently while capital spending and construction is in a severe recession in other sectors of the economy, it would appear that favorable contract terms will continue to be achieved. The viability of such a favorable contract when the rest of the economy improves might require some thought.

A schedule of TEI employees was not provided, but judging by the general appearance of the operation it is clear that TEI is neither overstaffed nor understaffed. The crushing and agglomerating station is operated in a way that requires a very small number of operators and this is being further streamlined. The Metallurgical plant is operated by one operator with one helper which is very labor efficient.

CYANIDE CONSUMPTION

1.8 lbs NaCN per ton of ore maximum. Cyanide costs \$0.60 per lb delivered in 20 ton lots to Tombstone.

LIME ADDITION

A maximum of 10 lb lime is added per ton ore on the stacker belt ahead of agglomeration. By February 1982 the lime consumption had been cut back to 5 lbs per ton ore.

Lime purchased as Ca(OH)_2 costs \$0.01 per lb.

POWER SUPPLY

TEI is located literally in the town of Tombstone and is served by utility power. A standby diesel generator is however installed in case there ever is a power failure. This generator is seldom if ever used and corrosion caused by rain entering the vertical exhaust pipe during infrequent desert storms might be a problem were it not for a very simple solution to the problem developed by TEI.

SCALING

TEI experiences a scaling problem both on sprinklers and in the plastic pipes used to convey solutions. Baroid S35 is used to inhibit scaling to some degree and appears to keep the problem under control. The anti-scaling reagent is added into the preg pond.

It is found that when the weather is hot (60° water), there is less of a tendency for scale formation. Below 40°F, however, scaling becomes more serious.

DUST CONTROL

Since Tombstone Exploration Inc. is within the city limits careful dust control is exercised by applying water through a hose spray from a tank truck.

METALLURGICAL PLANT

The metallurgical silver and gold recovery plant is simple and compact. 1200st per day of pregnant solution is processed through four State of Maine clarification and zinc precipitation modules each rated at 300 stpd. These units are each rated at 50 USgpm, but were operating at 55-60 USgpm at the time of the February 1982 visit.

Solution feed lines to the plant are PVC schedule 40 pipe.

ZINC PRECIPITATION

Tombstone Exploration Inc has installed four State of Maine Mining units for clarification of pregnant liquor, de-aeration, and zinc precipitation. Each of these innovative units is rated at 300 st per day solution and cost \$20,000 each.

When one of the Merrill-Crowe modules is filled to capacity, Zinc precipitated silver and gold is backflushed from the State of Maine modules to a series of filters located inside the security zone of the plant which is separated by a locked door. Outside the security area the zinc precipitate is not handled directly by any operator.

The complete metallurgical plant is operated by one operator and one helper whose main functions are to watch for pressure buildup in the filters as a signal for the need to recycle the filters and add fresh precoat after dumping the contents of the precipitate filters.

BARRENS

The plant operates on an employee incentive basis with a bonus paid for extra throughput and penalties for high barrens exceeding 0.5oz Ag per st solution. Average barrens are 0.01-0.02 oz Ag per st solution. Gold barrens are said to be much lower than this but were not specified.

SAMPLING

Barrens are sampled hourly. There is a further automatic sampler which collects a one gallon sample of barrens solution over each 8 hour shift. This latter composite sample is used to monitor the operator performance. The automatic sampler is locked and the operator has no access to it.

SMELTING

Zinc precipitated silver and gold are backflushed from the State of Maine zinc precipitation units in the metallurgical plant and pumped to a row of filters in the secure room at one end of the plant. When these filters are filled the contents are dumped into a long trough shaped vacuum pan filter and dewatered to about 30% moisture by applying vacuum. After dewatering, the precipitate which contains some silica added as precoat, is scooped out of the pan filter into steel pans made from steel oil drum ends, and placed into a homebuilt drying oven heated by the heating elements from a household cooking stovetop. The drying oven is made from steel sheet and is insulated. After drying for several hours at about 120°F the dry precipitate is carefully removed from the oven trays and placed into paper bags.

Dry precipitate in preweighed paper bags which prevent airborne losses is next taken to the smelter building which is kept separate from the other buildings for security reasons.

The dried silver-gold precipitate mixed with flux in the paper bags is charged into the gas fired crucible furnace. By loading the precipitate in this way TEI avoids airblown losses which would occur if precipitate were to be hand charged directly into the hot furnace using a shovel. The furnaces have been designed so that they can be tipped mechanically by remote control by one operator from behind a heat shielded glass screen. The conical molds into which the slag and metal contents of the furnace are poured are mounted on rails for easy handling, and maximum operator safety. The smelter area is fitted with a powerful extractor fan to withdraw any unwanted fumes.

TEI employ a very clean glass tube sampling device as a means of drawing a sample of hot silver from below the slag level in the mold. This is a much cleaner, faster and more reliable method of drawing a sample than the older technique of drilling into the final dore bar.

MAINTENANCE

2-4 full time maintenance workers are employed in the TEI workshops. Major repair jobs are contracted out. The mining equipment is maintained by the contractors on site using their own maintenance shop.

ASSAY FACILITIES

AA - Perkin Elmer 290
Fire Assay
Test Leaching - Lab scale bucket tests.

LEACH RECOVERY TEST

Tombstone Exploration Inc. carries out leaching tests regularly on a laboratory scale. A split down crushed sample of ore is drawn to fill a 5 gallon plastic bucket with perforated lid and bottom. The bucket with ore in it is placed in a plastic trough and a standard volume of cyanide solution added to the bath. Solution is recirculated to the top of the perforated lid of the bucket by a small submerged pump.

Pregnant solutions recirculated in this way are analysed by AA to determine the percentage of the gold and silver values that can be leached. Such tests are found to provide a good comparative measure of the leachability of one ore zone to the next. The procedure is simple and inexpensive and can be performed on several samples at once.

It was pointed out that the plastic evaporative cooler pump made by American Excelsior Company which is available in most hardware stores works very well for the purpose of recirculating solutions. TEI point out that pumps with brass shafts must be avoided for this application.

In other operations it was noted that a small carbon column was inserted in the recirculating solution circuit to remove gold and silver from the solution before re-applying it to the column. It is believed that in the absence of this measure, the results obtained by the TEI test may underestimate the leach recoveries obtainable in practice.

SECURITY

Tombstone Exploration employs several levels of security precautions. Firstly, a security guard screens and records details of each person entering or leaving the premises.

Secondly, in the metallurgical plant the operator and helper have no access to zinc precipitate which is backflushed directly from the filters into a secure area which is locked except when a responsible official is present during the recovery of precipitate.

The precipitate is dried and bagged in the secure area where at most one or two employees have any access to it. Bagged precipitate is added to the smelting furnace thereby avoiding further direct handling.

The smelter building is in a separate fenced in building in sight of the security guard.

Full details of the security system were not revealed to Randol International Ltd and are known to a very limited number of people which in itself is an added safety measure.

OPERATING COSTS

Operating costs were not fully disclosed during the brief visits. However, based on the following assumptions the direct operating costs per short ton of ore appear to be in the range of \$9-\$10.00

	<u>Per Day</u> <u>(5 days/week)</u>
Supervision & Management 3 men @ \$150/d	450.00
Operators & Labor: 42 men \$ 75/d	3,150.00
Contract Mining Costs 2,000st/d ore	
8,000st/d protore & waste	
10,000st/d total @ \$0.50/st	5,000.00
Crushing, Agglomeration, Heap & Pad constr.	
2,000st/d ore @ \$1.50/st	3,000.00
Tails pile constr. & management	
2,000st.d @ \$0.50/st	1,000.00
Metallurgical Costs:	
NaCN 2,000st/d x 1.8lbs x \$0.60	2,160.00
Lime 2,000st/d x 10 lbs x \$0.01	200.00
Zinc guesstimate	500.00
Precoat guesstimate	200.00
Fluxes, crucibles etc	100.00
Power Costs guesstimate (Crushing, Pumps, etc)	1,000.00
Maintenance Supplies	500.00
Diesel Costs : Included in cost of heaps etc.	
Laboratory & Office Supplies, Telephone etc. guesst.	300.00
<hr/>	
TOTAL for 2,000 st/day ore	\$17,560.00

Based on the above hypothetical cost structure the direct cost per ton of ore treated would be \$8.78 /st. Additional costs would be incurred for taxes, insurances and claim fees, as well as any royalties payable. This together with contingencies would bring total direct costs to the \$9.00-10.00 per ton range.

MANPOWER ESTIMATE

The above cost estimate assumed 42 employees which was derived as follows:

Trenching & Sampling	2 men
Laboratory	2
Geologist	1
Mine Supervision	2
Maintenance	4
Metallurgical Plant 2 x 3 shifts	6
Heap supervision & operation	2
Heap construction	4
Tailings Pile construction	4
Leachpad construction	2
Watertruck operators	2
Refinery & Smelting	2
General Labour	1
Supplies	1
Accounts	2
Clerical	2
Security (1 per shift)	3
<hr/>	
TOTAL	42

Note: The Operating cost estimate and the Manpower Estimate are a best efforts guesstimate by Randol International Ltd. and can be used to gain an order of magnitude estimate of costs only. These numbers are subject to correction by Tombstone Exploration Inc. who can provide actual data.

T O M B S T O N E E X P L O R A T I O N , I N C .

INTRODUCTION TO THE RANDOL INTERNATIONAL, LTD.
REPORT ON TOMBSTONE EXPLORATION, INC.

Randol International, Ltd. is an independent mineral economics consulting firm specialising in extractive metallurgical evaluations.

The president of Randol International, Dr. Hans von Michaelis, compiled the report on TEI. He has a broad background in chemistry and geochemistry with a metallurgical bias, and has consulting experience in the mineral industries on four continents.

Randol International's most recent major work has been a survey of the free world's silver and gold mining industries; the six volumes include information on innovative processes, concepts, and equipment, and define metallurgical frontiers that have significant effect on the silver and gold industries. Also included are over 1,000 industry contact addresses and several thousand literary references.

The Randol investigation into Innovations in Gold and Silver Recovery was sponsored by about 80 mining and engineering companies including nearly all the leading companies in this industry.

TOMBSTONE EXPLORATION INC

Summary Report

by

Randol International Limited
7510 West Mississippi Avenue
Suite 210
Lakewood, Colorado 80226

20 March, 1982.

INTRODUCTION

At the request of Mr. Tom Schloss, President of Tombstone Exploration Inc., Randol International Ltd. has undertaken this summary review of the silver recovery operations at Tombstone Exploration Inc.'s open cast silver and gold mining operation at Tombstone, Arizona.

This report is written on the basis of information gathered during a two hour visit to the property during May, 1981 during which data was collected for the Randol multi-client investigation on 'Innovations in Gold and Silver Recovery.' This was followed up by a visit for discussions with Mr. Tom Schloss in the New York offices of Tombstone Exploration Inc. and a further half day visit to the mine and plantsite on Thursday, February 18, 1982.

All information summarised in this report was provided by employees of Tombstone Exploration Inc. (TEI) and has not been quantitatively audited by Randol International Ltd. The helpful assistance of TEI employees, particularly Dustin L. Escapule Vice President and General Manager, is acknowledged. The objectives set for this assignment are as follows:

- o To review the metallurgical process and procedure applied at TEI with a view to assessing the overall economics and efficiency of the metallurgical extraction process employed.
- o To review the many innovations employed by TEI in the recovery process.
- o To review the overall caliber of the operations, to comment on the degree of competence of the management team and the management philosophy employed at TEI.

This investigation specifically avoids the critical issue of general geology of the area as well as any assessment of ore reserves either proven, probable or potential on TEI claims as these will be independently assessed by other consultants.

It should also be noted that Randol International Ltd. has not received any remuneration from TEI other than for minor travel and accommodation expenses associated with the second visit. TEI is a Sponsor of the Randol multi-client investigation into Innovations in Gold and Silver Recovery. Randol International accepts no responsibility for any inaccuracies that may inadvertently be included in this report.

CONCLUSIONS

1. From a metallurgical point of view Tombstone Exploration Inc. is a very fine operation with competent and innovative management appropriate for an operation of this size.
2. Several innovations employed at TEI have enabled recoveries to be significantly improved over earlier operations at the site. These innovations make this operation one of the most efficient of its kind in the world.

The innovations employed by TEI are specifically described below, and most of the innovations and experience at TEI could be applied to advantage at similar operations elsewhere.

3. One particularly noteworthy aspect of the TEI operation is the elegant simplicity of most of the innovations and the operation. There are no unnecessary frills or mechanical complexities that cannot be readily optimised or easily maintained on site. Wherever possible low maintenance items have been selected.
4. The TEI operation at Tombstone, Arizona is a medium scale operation at 2,000 short tons per day. The company is operated in a practical fashion with a management structure that enables rapid decisionmaking and maximum flexibility. The operation is however large enough to justify the necessary facilities and services required for a high class operation. That is, it is large enough to be able to avoid Heath-Robinson or makeshift methods or equipment.
5. The heap leaching process as practised at TEI can readily be applied on a larger scale, and the operation could easily be expanded if additional ore reserves were to be proven. The heap leaching process is applicable to oxidised ores such as those encountered thus far in the surface ores at TEI. As deeper ores are mined recoveries may be influenced if unoxidised sulfides are encountered. This applies both to ores recovered from the surface mining operation as the pit deepens as well as to ores from reopened underground workings.
6. Grades of surface ore currently being mined runs 1.5 oz Ag/st and 0.03-0.04 oz Au/st are relatively low. Heap leaching is the only process that would be applicable for the recovery of values from ores with this grade.
7. Gold and silver recoveries of 60-70% of the silver and 85% of the gold values are considered good for this type of ore and process.
8. After agglomerated ore has been leached at TEI, it is lifted from the pad and placed on the tailings heap where it is subjected to a second leaching process. This makes it possible to 'have a second bite at the cherry.' On the tailings heap there will be a different solution channel pattern which will make some of the ore that was not wetted on the primary heaps accessible to leaching.
9. Based on ore grades and recoveries and current metal prices of \$7.25/oz for silver and \$325/oz for gold, the recoverable values are \$7.31/st for silver and \$8.29 - 11.55/st for gold and \$15.60-\$18.86/st ore total. Although generally recognized as a silver district the gold:silver ratio of heap leachable ores at TEI has been steadily increasing and the point has now been reached where gold has become the primary product.
10. TEI uses a trenching technique to sample ore which is then mined in benches. Ore from each bench is crushed and agglomerated for heap leaching on the primary pad.

T O M B S T O N E E X P L O R A T I O N , I N C .

UPDATES TO
SUMMARY OF OPERATIONS REPORT

17 East 76th Street
New York, NY 10021
212 628-8466

P.O. Box 610
Tombstone, Arizona 85638
602 457-2231

TOMBSTONE EXPLORATION, INC.
UPDATE:
SUMMARY OF OPERATIONS REPORT
AS OF FEBRUARY 3, 1983

Production results indicate that January, 1983 was a record month for TEI, with 36,000 ounces of silver and 725 ounces of gold being produced. Sales of January's production exceeded three quarters of a million dollars.

The update of October, 1982 projected that production from June 1982 to mid January 1983 would yield 210,000 ounces of dore'. This figure was actually reached January 22, 1983.

A fifth plant has been added, and a sixth is currently being installed. TEI is now using a recirculating system for the solution onto the pads, which has proved effective in economically increasing percentage recovery of silver and gold values in the ore. Work is being done to develop a heat exchange system to pre-heat the solution going to the pelletizer. TEI believes that this will increase the efficiency of the pelletizer.

TOMBSTONE EXPLORATION, INC.
UPDATE:
SUMMARY OF OPERATIONS REPORT
AS OF OCTOBER 20, 1982

On June 1, 1982, TEI predicted that the remaining material to the number one mining level would take 6 months to mine, and would yield 110,000 oz. of dore'.* To date, TEI has recovered over 128,000 oz of dore' from this material, and has 41% of it left to mine.

Assuming similar recoveries and rate of production, the material projected to yield 110,000 oz. of dore' in 6 months, will actually not be exhausted for over 7 1/2 months (from June 1) and will yield over 210,000 oz. of dore'.

*See Summary Of Operations Report, page 5.

TOMBSTONE EXPLORATION, INC.
 UPDATE:
 SUMMARY OF OPERATIONS REPORT
 AS OF SEPTEMBER 27, 1982

Open Pit Minings Operation

Production	1981 (12 Months)	1982 (8 Months Jan-Sept)
Total ore moved	282,587 tons	458,244 tons
Total midgrade moved	173,204 tons	302,885 tons
Total waste moved	592,969 tons	1,133,312 tons
Total rock moved	1,048,758 tons	1,894,441 tons
Total gold produced	2,185 oz	3,279 oz
Total silver produced	119,004 oz	179,855 oz

The percentage recoveries of gold and silver from the ore have remained stable, and production has more than doubled. TEI has now mined in places 150 feet below the surface of the pit. It has expanded the pit to the south and the northwest to the Flora Morrison where some ore was removed which showed good values.

Screening Midgrade Ore and Material from the Composite Heap

The screen from TEI's existing wash plant will be used as a dry screen. It was designed and manufactured for this specific use. TEI will run the screen two shifts per day, seven days per week, at a capacity of 250 tons per hour, for a total of 23,000 tons per week. The material will be made up of midgrade ore mined in the open pit, and material from the Composite Heap. The Composite Heap consists of material that was mined and leached by "71 Minerals", the previous lessees of the TDC properties. Records and information from "71 Minerals" management at the time this material was placed indicates high precious metal values and low recovery of these values.

Testing has indicated that screening the midgrade ore and the material from the Composite Heap will reduce by 60% the volume to be processed in the later milling stages, with the remaining 40% of the original material carrying metal values 80% higher than the original screen feed. The screen is placed next to the Composite Heap to keep the costs of moving the material to a minimum, and feeds directly onto the pelletizer. The midgrade ore has to be moved from the pit as part of the mining operation, so there will be no extra cost to move it to the screen area.

The screening plant will have lower running and maintenance costs, and will require less personnel than the crusher.

Crusher_Ore

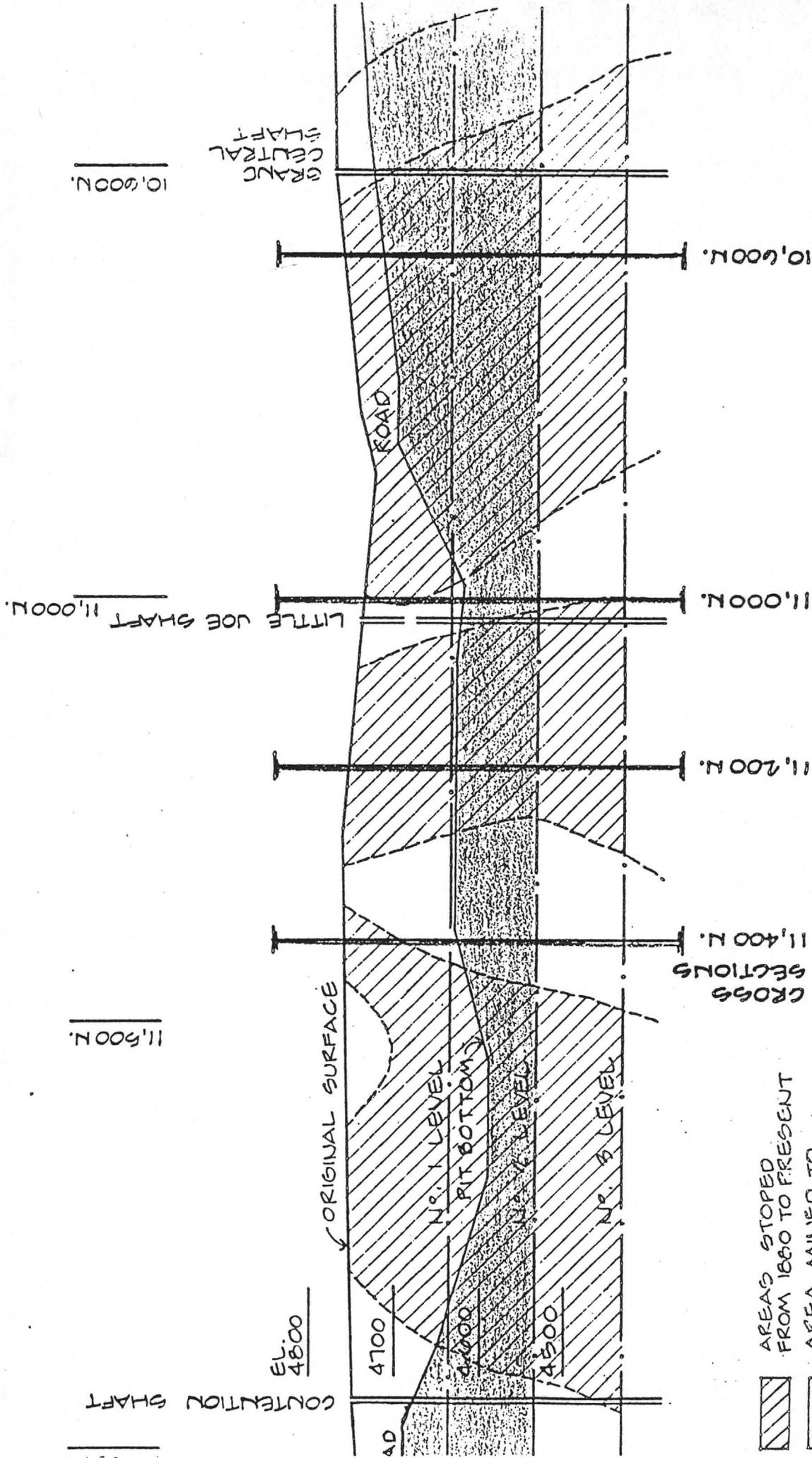
TEI is changing its ore category from 1 ounce of silver per ton to 1.5 ounces of silver per ton, and reducing daily production from the crusher from 2,500 tons to 1,000 tons per day. This will lower costs by:

1. Reducing the tonnage mined in the pit, which accounts for 40% of TEI's total operating costs.
2. Reducing cost, labor, maintenance, fuel, etc.

Higher grade ore allows a greater percentage recovery of gold and silver, and reducing tonnage will enable TEI to have greater selectivity from the pit.

Wash_Plant

TEI is currently in the market for used equipment specifically manufactured as a wash plant (scrubber, washing screen, and sand screw), which should be able to process 200 tons per hour. The plant that was in use had been adapted to that purpose, and TEI will now use it as a dry screen (see above). TEI has accumulated in excess of 800,000 tons of crushed material from its past production, and tests show that 0.1 ounces of silver and 0.002 ounces of gold per ton of this material can be recovered by a wash plant. This represents 80,000 ounces of silver and 1,600 ounces of gold. The wash plant will also create a construction aggregate to be sold as road chips.



-  AREAS STOPPED FROM 1880 TO PRESENT
-  AREA MINED TO SEPTEMBER 15, 1962
-  AREA TO MINE TO N° 1 LEVEL
-  AREA TO MINE FROM N° 1 TO N° 2 LEVEL

VERTICAL - LONGITUDINAL SECTION LOOKING EAST N 70° E

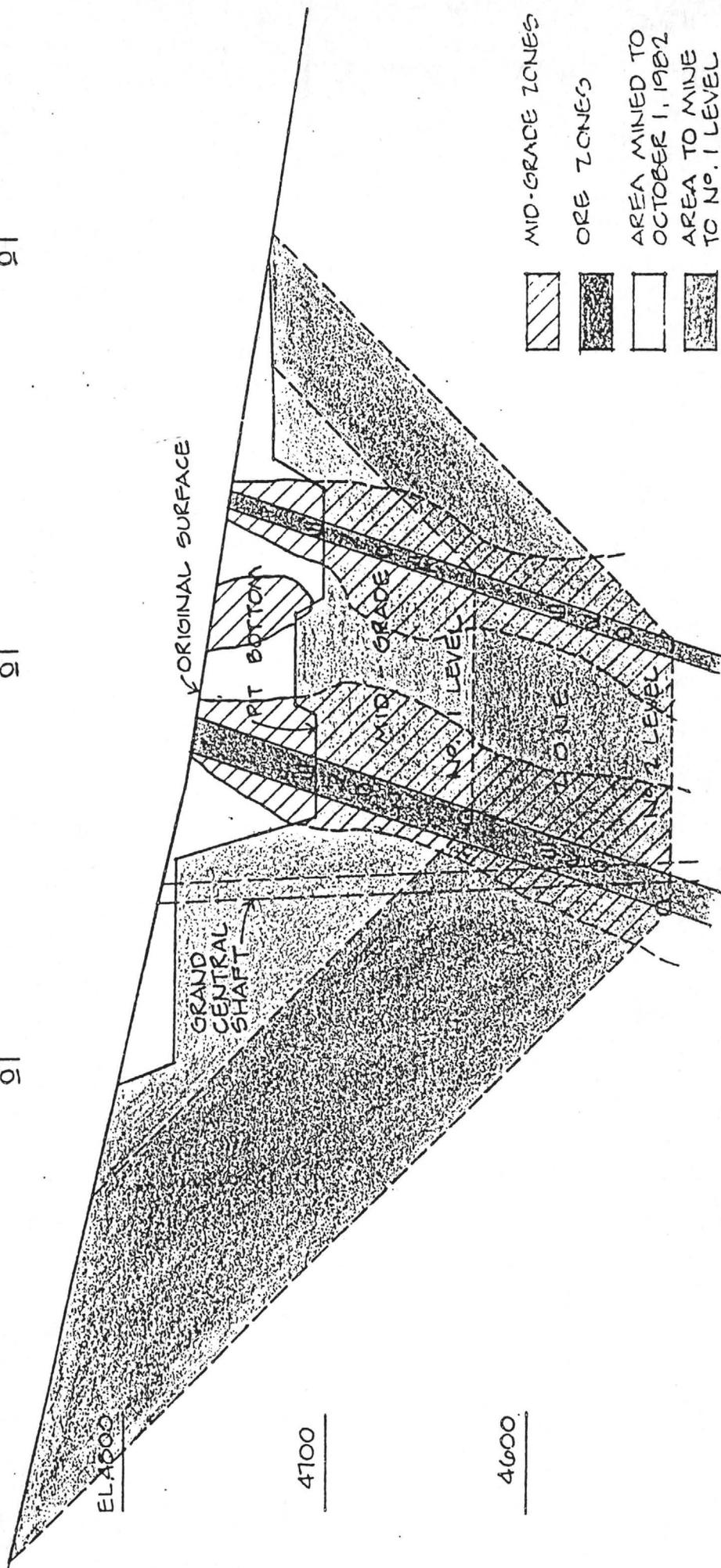
SCALE: 1" = 166'
 OCT. , 1962 A.J.GRAVES

CONTECTION - GRAND CENTRAL ORE ZONE
 UPPER LEVELS ALONG ORE ZONE

10,800 N

10,500 N

10,400 N



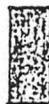
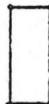
MID- GRADE ZONES

ORE ZONES

AREA MINED TO OCTOBER 1, 1982

AREA TO MINE TO NO. 1 LEVEL

AREA TO MINE FROM NO. 1 TO NO. 2 LEVELS



PIT CROSS SECTIONS

SCALE: 1" = 77'

OCT. 1, 1982 A.J. GRAVES

10600 N X-SECTION

4100

4600

4600

11,000E.

10,800E.

10,600E.

10,400E.

EL. 4600

4700

4600

LITTLE JOE SHaft

ORIGINAL SURFACE

ROAD

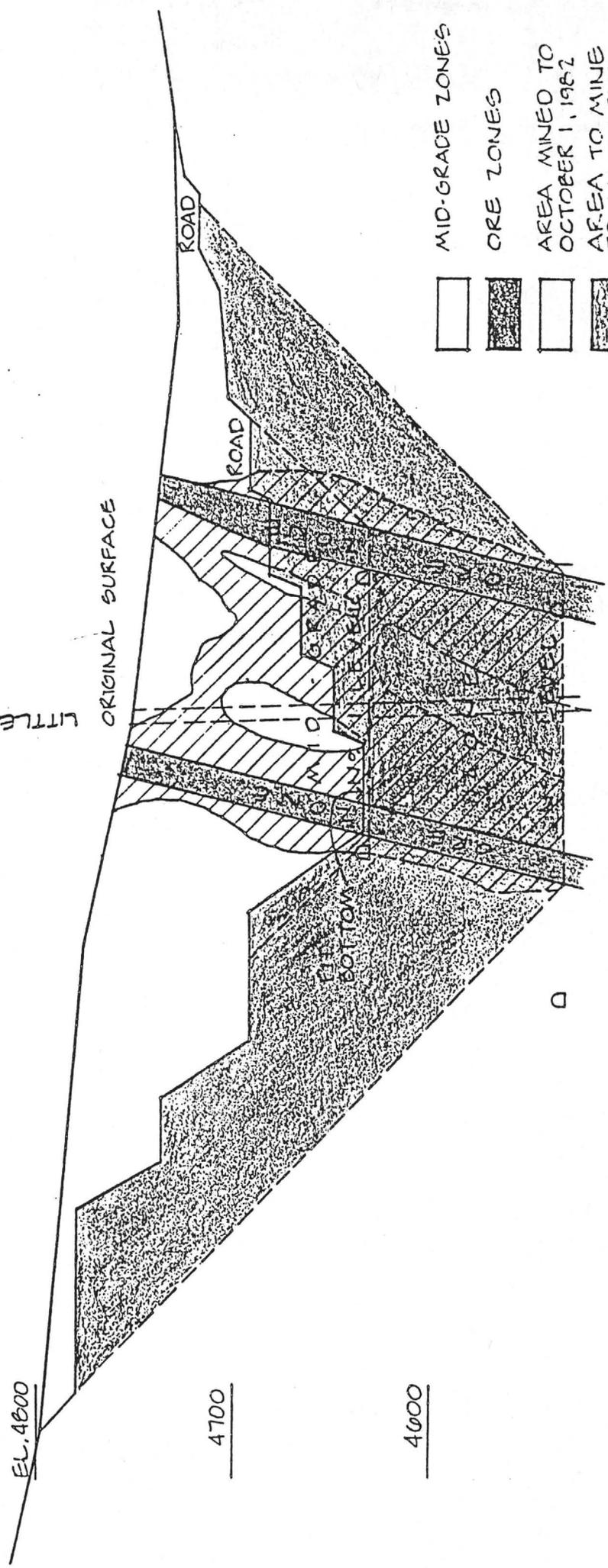
ROAD

PIT BOTTOM

- MID-GRADE ZONES
- ORE ZONES
- AREA MINED TO OCTOBER 1, 1982
- AREA TO MINE TO N^o. 1 LEVEL
- AREA TO MINE FROM N^o. 1 TO N^o. 2 LEVELS

PIT CROSS SECTIONS
 SCALE: 1" = 77'
 OCT. 1, 1982 A.J. GRAVES

11,000 N. X-SECTION



11,000 E.

10,800 E.

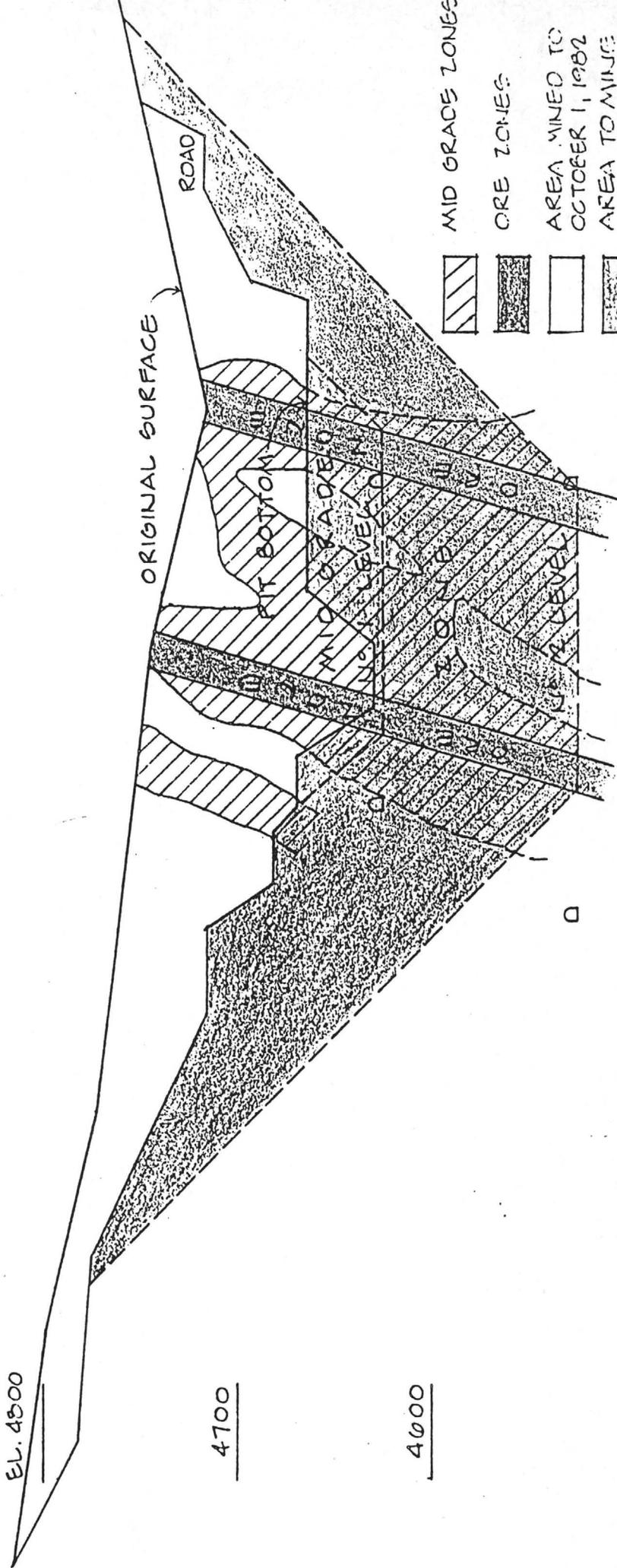
10,600 E.

10,400 E.

EL. 4500

4700

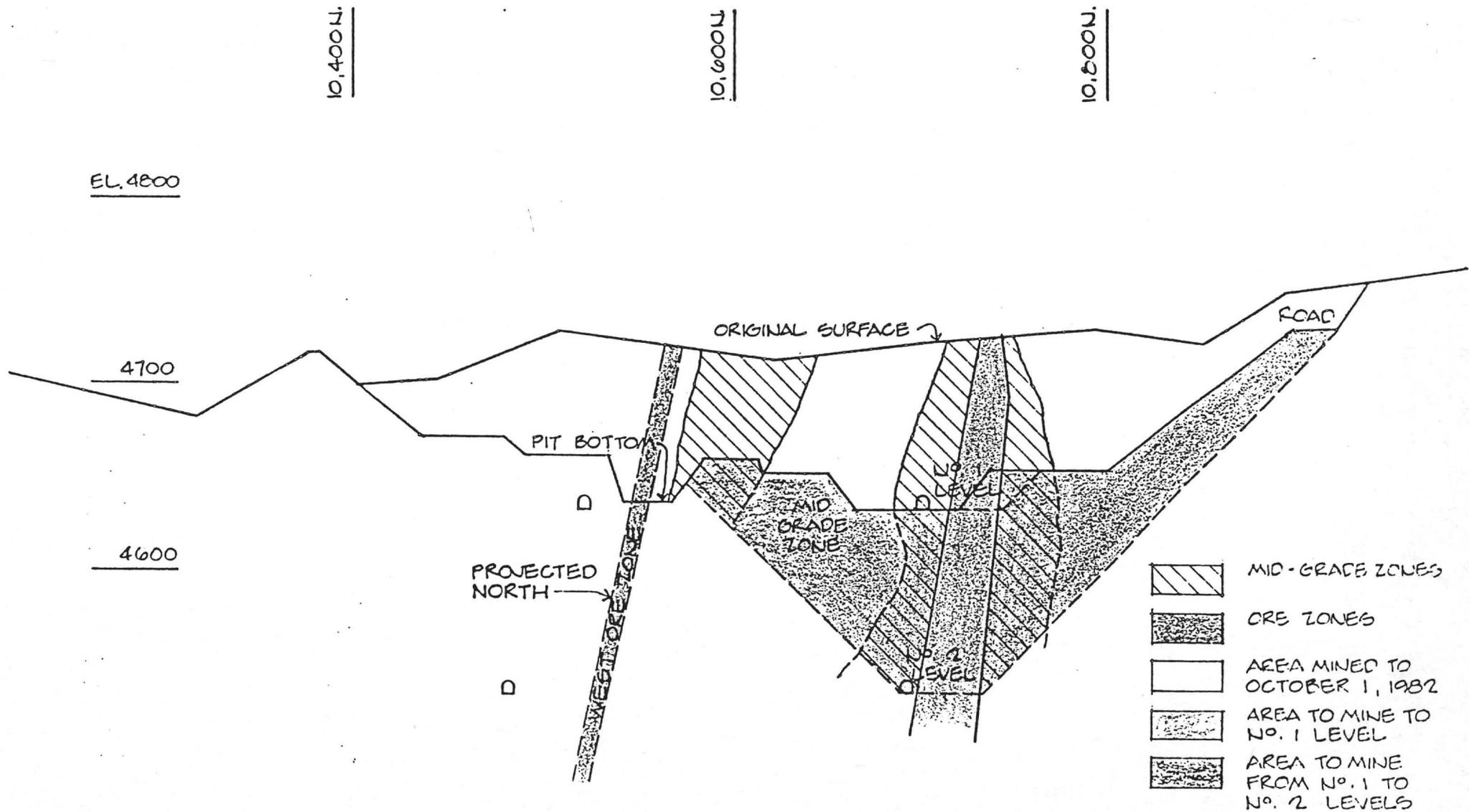
4600



- MID GRADE ZONES
- CORE ZONES
- AREA MINED TO OCTOBER 1, 1982
- AREA TO MINE TO No. 1 LEVEL
- AREA TO MINE FROM No. 1 TO No. 2 LEVEL

PIT CROSS SECTION
 SCALE: 1" = 77'
 OCT. 1982 A.V. GRAYES

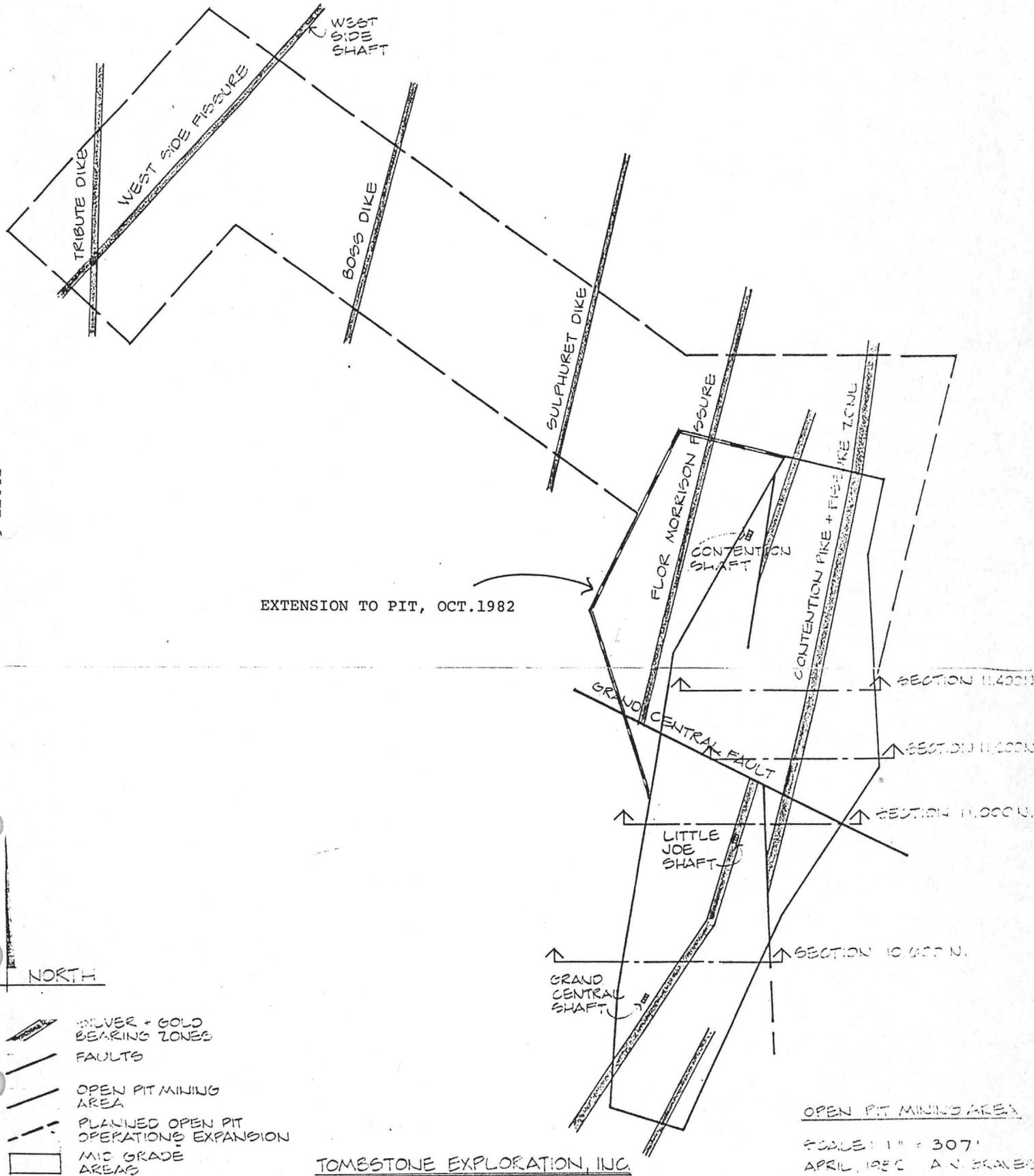
11,200 N. X - SECTION



114 00N X-SECTION

PIT CROSS SECTION'S
 SCALE: 1" = 77'
 OCT. , 1982 A.J. GRAVES

PLATE



EXTENSION TO PIT, OCT. 1982

NORTH

-  SILVER + GOLD BEARING ZONES
-  FAULTS
-  OPEN PIT MINING AREA
-  PLANNED OPEN PIT OPERATIONS EXPANSION
-  MID GRADE AREAS

TOMBSTONE EXPLORATION, INC.

OPEN PIT MINING AREA

SCALE: 1" = 307'
APRIL, 1982 A. N. BRADY

TEST PRIVATE
PLACEMENT OFFER

COMBINED PRIVATE PLACEMENT OFFERING
IN BEHALF OF

TOMBSTONE EXPLORATION, INC.

TOMBSTONE LIMITED PARTNERSHIP
NUMBER ONE

SKYLINE DRIVE
TOMBSTONE, ARIZONA 85638
(602) 457-2231

PRIVATE PLACEMENT MEMORANDUM

\$6,000,000 divided into 60 UNITS of \$100,000 each.

Each UNIT consists of:

\$70,000 in principal amount of convertible debentures of TOMBSTONE EXPLORATION, INC.

\$15,000 in principal amount of the equity interest in TOMBSTONE LIMITED PARTNERSHIP NUMBER ONE.

\$15,000 in principal amount of convertible promissory notes of TOMBSTONE LIMITED PARTNERSHIP NUMBER ONE.

The securities offered hereunder for the benefit of Tombstone Exploration, Inc. and Tombstone Limited Partnership Number One are not registered under the Securities Act of 1933, As Amended. They are offered pursuant to exemption from the requirements of registration under Section 5 of said Act as granted by Rule 506 of Regulation D under said Act and by Section 4 (2) of said Act. All of the instant offered securities, as well as all securities into which any of the instant primary offered securities may be converted as a matter of right by the purchasers hereunder, are, and shall be, restricted securities. By purchasing any of the instant securities the purchaser is representing that said purchaser understands that said purchaser is purchasing only for investment and not with a view towards resale or distribution. The purchaser also understands and agrees that all securities purchased hereunder will bear appropriate legends to the effect that they are restricted, and such status will be reflected on the registry books of the issuers. None of the instant securities can be transferred unless either their offer and sale are covered and permitted by an effective registration statement filed pursuant to the requirements of Section 5 of the Securities Act of 1933, As Amended, or their offer and sale are permitted under an available exemption from the registration requirements of Section 5 of the Securities Act of 1933, As Amended.

Each purchaser hereunder specifically represents that he (she or it) is an accredited investor within the meaning of that term as it is defined by Section 2 (15) of the Securities Act of 1933, As Amended, and by Rule 501 under Regulation D of said Act.

The instant securities can be offered only in those jurisdictions where it is legal to do so, and no offers to purchase from other jurisdictions will be entertained.

The securities offered herein are not being underwritten. There is no formal plan of distribution, and hence, there is no single underwriting spread or sales commission. The offering prices have been set arbitrarily by the issuers. The officers, employees, and consultants of the issuers will do the actual offering and selling hereunder. For further discussion of commissions, please refer to Section III, herein.

The issuers hereunder are:
TOMBSTONE EXPLORATION, INC. and
TOMBSTONE LIMITED PARTNERSHIP NUMBER ONE
Both have as an address:
Skyline Drive
Tombstone, Arizona 85638
(602) 457-2231

Date of commencement of offering: February 1, 1983.

INVESTOR QUALIFICATION SHEET

The undersigned presents the following information for the reliance of the instant issuers, and expressly to induce them to accept the undersigned's offer to purchase:

(check where applicable)

1. Investor is a financial institution.
2. Investor is a private business development company as defined in Section 202 (a)(22) of the Investment Advisers Act of 1940.
3. Investor is an organization described in Section 501 (c)(3) of the Internal Revenue Code, and has total assets of more than \$5,000,000.
4. Investor is purchasing at least 2 Units hereunder, and said purchase does not exceed 20% of purchaser's net worth (including that of spouse). (Balance sheet submission may be required.)
5. Investor and spouse have a combined net worth of over \$1,000,000. (Balance sheet submission may be required.)
6. Investor is a natural person who had an individual income in excess of \$200,000 in each of the two most recent years and who reasonably expects an income in excess of \$200,000 in the year of purchase hereunder. (Profit and loss statement submission may be required.)
7. Investor is an entity all of whose equity owners are accredited investors.

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PRIVATE PLACEMENT MEMORANDUM

I. WHAT IS BEING OFFERED.

There is being offered herein, to a select group of offerees, the opportunity to participate in the financing of the expansion of presently existing production, improvement of recovery levels of precious metals, exploration for, and development of, extensions of both known orebodies and totally new orebodies, and the further development and marketing of proprietary equipment and technology by Tombstone Exploration, Inc. and an affiliated limited partnership. The offering will total \$6,000,000 divided into 60 Units of \$100,000 each that are designed to offer to the sophisticated investor attractive possibilities for income from mining operations and proprietary equipment sales and licensing, together with income tax sheltering possibilities.

The details of the offering, background information on the issuers, their history, operations, results, and management are set forth in the following sections.

Other information, including a Summary Of Operations Report, Randol Report, Dames & Moore Report, and Butler Report, is available. These reports contain more detailed technical descriptions of TEI's operations, and historical and geological information on the TEI properties. Also available are copies of the master lease underwhich TEI operates the properties, the sublease between TEI and the Limited Partnership, and the operating agreement between TEI and the Limited Partnership.

II. THE ISSUERS.

A. Tombstone Exploration, Inc. The primary issuer and operator is Tombstone Exploration, Inc., a Delaware corporation with extensive mineral holdings in the Tombstone, Arizona mining region, and proprietary know how and technology in precious metals milling and recovery. It also is the general partner in the limited partnership described in Section B, below.

B. Tombstone Limited Partnership Number One. This Arizona limited partnership will be the instrumentality through which certain specific mineral claim groups, properties, and proprietary technology of Tombstone Exploration, Inc. will be financed, developed, operated, and otherwise commercially exploited, thus giving the investors direct participation in specific projects to go with their participation in the overall picture represented by their holdings in Tombstone Exploration, Inc.

C. Relationship Between The Issuers. The management team of the Corporation will manage the limited partnership, pursuant to, and under, the terms of the operating management contract between the parties. That management team, and, thus, the Corporation, will make all policy and operational decisions involving the properties subleased by the Corporation to the limited partnership, as well as any other property acquired by the limited partnership in the future. Under the terms of the operating management contract between the parties, any questions involving the allocation of direct costs, overhead expenses, taxes, and liabilities, or the apportionment of income as between the two issuers shall be decided, where possible, using the terms and guidelines of said contract, and in those cases where the contract does not provide direction, by the management of the Corporation in its sole and absolute discretion in accordance with standards employed by others in the minerals industry. Initially, the Corporation will process the limited partnership's ore. The Corporation will charge the limited partnership 10% above the Corporation's cost to process the limited partnership's ore. Costs will be determined using generally acceptable cost accounting techniques. After the first year, the 10% rate of cost surcharge shall be subject to annual adjustment, with Tombstone Exploration, Inc. undertaking that said surcharge rate shall never exceed 15%. The Corporation shall mine and process only such ore from the

properties of the limited partnership, and at such rates, as the Corporation shall deem economically viable. The Corporation shall be under no obligation to mine and/or process any minimum amount of ore from the properties of the limited partnership, nor to give such ore any priority of access to the processing facilities of the Corporation.

The Corporation will sublease to the limited partnership, upon the minimum sales of this offering required to make it effective having been achieved, the specified mineral leases on terms substantially identical to those on which the Corporation leases all of its initial mineral properties, with provision for pro rata reduction in the limited partnership's share of such overall lease payments should production ensue from claims other than those subleased to the limited partnership.

III. DISTRIBUTION.

The issuers thus far are not selling through regular underwriting channels. The issuers and their managements or their representatives intend to undertake the selling. All necessary legal filings will be made, and no offering of the instant securities can or will be made in jurisdictions where to do so would not be legally permissible. Independent consultants will be employed to help in the distribution, and they will be compensated on a commission basis. It is contemplated that commissions will vary with circumstances, but that in no case will they exceed 10%, plus reasonable expenses incurred with the prior knowledge, and at the direction, of the issuers.

IV. THE OFFERING.

A. General. The Units herein being offered are designed to satisfy several needs of the Corporation and of the offerees. Specifically, they are designed to raise capital for working capital, equipment purchase, facilities expansion, exploration, research and development of equipment and techniques, and debt reduction. For the investors, the Units are designed to provide high yield, participation in the overall operations of the Corporation, direct participation in specific operations, the preference accorded creditors, the capital gains possibilities inherent in equity participation in precious metals exploration and mining, and tax advantages, such as investment tax credit, depletion allowance, depreciation allowance, intangible expenses, and start up losses, accruing from direct participation in particular operations.

To provide such a package, the Corporation divided its offering into two portions, each offering a different kind of security package with its different attributes. The first portion is offered by the Corporation, and the second portion is offered by a specially created limited partnership.

While none of the existing securities holders of the Corporation are offering any of their holdings hereunder, the success of the offering, and the consequent likely use of some of the proceeds of the offering for the retirement of existing debts of the Corporation, will serve to relieve some of the existing securities holders of the Corporation of various substantial exposures in connection with said corporate debts.

While the instant securities are freely transferable in the legal sense, their transferability is restricted under the Securities Act of 1933, As Amended, and various securities laws and regulations of such state and/or foreign jurisdictions as may be applicable. In addition, any transfer other than through the laws of descent, a bona fide gift to a registered charitable organization, or pursuant to an order of a court of competent jurisdiction, is subject to the right on the part of the issuer to meet any bona fide offer to purchase, which right of first refusal shall extend for a period of ten days following receipt of notice by the issuers from the holder of the security of intention to sell and the terms of the proposed sale.

B. The Corporate Portion Of The Offering. Each of the 60 Units will include one \$70,000 principal amount debenture (for a total of \$4,200,000) maturing ten years from its individual date of issue. The debentures will not be callable by the Corporation. There will be no sinking fund and there will be no amortization of the debentures. The debentures will carry interest coupons of 10% for their first debenture year (a debenture year being the twelve month period commencing on the date of issue), and increasing one percentage point annually for five years thereafter, remaining at 15% until the tenth and final year of the life of the debentures. Accrued interest will be paid annually at the end of the year. The debentures will be senior to all future debts incurred to any party except trade creditors, financial institutions, arms length sellers of property valued at fair market value, employees for wages, consultants for fees, and governmental bodies. The debentures will be convertible into common stock of Tombstone Exploration, Inc. at varying conversion rates during the first five debenture years of their life, with the conversion rate for the first debenture year being \$5.817 of principal amount of debenture for each share of common stock of the Corporation. Partial conversions in \$10,000 increments of principal amount of debentures will be permitted, with partial sequential exercise of the conversion privilege permitted. No interest will be due for the debenture years in which conversion is elected (on the debentures converted). The conversion rates for the next four debenture years will be \$6.50, \$8, \$9, and \$10, respectively. All conversion rights will be fully protected against dilution resulting from any increase in the number of common shares outstanding (exclusive of shares issued against conversion of the debentures) beyond 3,000,000 shares. Where conversion results in partial shares, the Corporation will issue scrip which may be combined for shares or redeemed for cash. Because the Corporation has not yet had a net earnings year, there is no net earnings coverage ratio to the fixed charges of these debentures.

C. The Limited Partnership Portion Of The Offering.
The general partner is Tombstone Exploration, Inc.

The general partner, as its contribution to the equity capital of the limited partnership, has subleased to the limited partnership, on favorable terms, the following eleven patented mining claims, for a 2/3

equity interest in the limited partnership: Sidney, South Extension of the Grand Central, Moonlight, Naumkes, Grand Central, Flora Morrison, Contention, Last Chance #2, Boss, and those portions of Sulphuret and West Side as are defined in Exhibit 6. These claims cover most of the present open pit operation.

In order for the limited partners, as a group, to acquire a total of a one third equity interest in the limited partnership, the limited partners will have to purchase a total of 60 Units, thereby making a combined contribution to the equity of the limited partnership of \$900,000, divided into 60 interests of \$15,000 each. Also, the limited partners would be required to lend to the limited partnership, on a pari passu basis with their contributions to the equity of the limited partnership, a total of \$900,000 divided into 60 loans of \$15,000 each, for a grand total investment (equity and loan) in the limited partnership, by the limited partners, of \$1,800,000. The limited partnership agreement provides that, if the limited partners contribute, as equity capital, less than \$900,000, the equity interest of the limited partners in the limited partnership shall be reduced proportionately to the relationship which said lower equity contribution bears to \$900,000. In no case will the limited partnership become operative unless the limited partners contribute at least \$75,000 (and thus, also lend to the limited partnership at least \$75,000).

The limited partners' loans of \$900,000 to the limited partnership will be in the form of ten year non-callable promissory notes, maturing ten years from their individual dates of issue. There will be no sinking fund and no amortization of the notes. No interest will accrue or be due on the notes during or for the first two note years. Accrued interest will be paid annually at the end of the year, commencing in the third note year (a note year being the twelve month period commencing on the date of issue) at a rate of 10%, and at a rate of 11% in the fourth note year, 12% in the fifth note year, 13% in the sixth note year, 15% in the seventh note year and all subsequent note years to maturity.

The notes will be convertible into gold and/or silver bullion, subject to availability (availability as a concept defined as having been produced by the limited partnership from its properties), at varying conversion

rates during the second through sixth (only) note years of their life, with the conversion rate for the second note year being \$12.50 of principal amount of note for each troy ounce of silver (.999 fine) and \$550 of principal amount of note for each troy ounce of gold (.9995 fine). The silver price conversion rates for note years three through six will be \$13.50, \$15, \$17, and \$19.50, respectively. The gold price conversion rates for note years three through six will be \$650, \$800, \$1,000 and \$1,250, respectively. Partial conversions in increments of \$5,000 of principal amount of notes will be permitted, with partial sequential exercise of the conversion privilege permitted. No interest will be due for the note years in which conversion is elected (on the notes converted). No conversion will be permitted after the sixth note year. The Corporation undertakes to lend to the limited partnership at an interest rate of prime plus 2% any money necessary to fund any working capital shortfalls of the limited partnership arising from conversions into bullion. Any such loans shall be repayable to the Corporation by the limited partnership as a matter of first priority after making prudent provision for the working capital needs of the limited partnership. Bullion produced on the partnership's properties that is needed for conversion will not be sold on world markets. In order to allow the limited partnership to make rational decisions regarding optimization of production levels (including the mix of the two precious metals in the end product of the recovery operation), capital expenditures, operating costs, financing sources and costs, and, perhaps most important, bullion sales programs, it will be necessary for each note year's conversion right to be exercised (in whole or in part), with selection of principal amount of note and the quantity of each of the two precious metals selected, only during the first thirty (30) days of each of the five note years of the life of the conversion privilege. Because the limited partnership has only just been formed, it has no operating history, and hence, it has no net earnings coverage ratio to the fixed charges of these promissory notes.

Delivery of the bullion into which note principal has been converted will take place, in accordance with the converting note holders' delivery instructions, during the last thirty (30) days of the note year in which the applicable conversion right is exercised.

The bullion will be in bar form, the silver .999 pure, the gold .9995 pure. TEI has existing refining contracts with Englehard and Handy & Harmon, and is currently negotiating with Johnson & Matthey.

In the event that the limited partnership shall receive a bona fide offer from an arms length third party for all or substantially all of its leasehold and other interests, such offer will be put to a vote of the holders of the equity interests in the limited partnership, and upon approval of such offer by both the general partner and a majority of the limited partnership equity interests, such offer shall be deemed accepted by the limited partnership.

D. Further Option Rights Of The Investors. All investors in the instant offering will also receive personal non-transferable (except by reason of death, incapacity, or order of a court of competent jurisdiction) option rights to participate in the next four offerings of securities, either public offerings or private placements, to the extent that the Corporation shall deem such number of offerings necessary or advisable, and regardless of whether the Corporation proper, the present limited partnership, or some other legal entity then controlled by the Corporation shall be the issuer. Each participating investor in the instant offering shall have the right to subscribe to one or more of any such future offerings in the same percentage that his (her or its) investment participation in the instant offering represents of the total of said instant offering. The subscription option right also shall entitle the investors in this offering to subscribe to the first future offering, assuming that there is one or more future offerings, at a discount of 10% from the base offering price of such first future offering. For each succeeding future offering subject to these preferred subscription option rights, the subscription option exercise price (expressed as a percentage of the base offering price for such offering) to the investors hereunder shall be reduced by an additional ten percentage points. However, it must be clearly understood that, while the investor may elect to reduce his (her or its) percentage of participation in any such future offering which is subject to the instant preferred purchase price subscription option, said preferred purchase price subscription option right of any investor for any such future offering shall be limited, with respect to such investor, to the same

percentage of any such offering that such investor subscribed for in the then next immediately preceding offering.

E. Minimum Subscription Protection. All monies subscribed hereunder will be held with a commercial bank in New York City, with full insurance membership in the Federal Deposit Insurance Corporation, until such time as at least \$1,000,000 (ten Units) has been subscribed and deposited, at which time all of said monies, plus all further monies invested hereunder, shall be freely available to the issuers for their use according to the terms of the offering. If a minimum of \$1,000,000 is not subscribed and deposited on or before May 31, 1983, all monies then already subscribed shall be offered back to the investors without diminution for sales commission or any other purpose, and without interest. However, if such subscribing investors elect, they can waive such refund rights and the issuers may proceed with the offering and apply all proceeds therefrom as though the minimum amount had been raised.

F. Management Undertakings. Management of the issuers will issue detailed audited financial statements to the investors annually, with unaudited statements to be issued semi-annually. Management of the limited partnership will provide sufficient detail to permit the investors and their tax counsel to make appropriate determinations with respect to tax implications for the individual investors.

In the event that either of the two, or both, issuers shall register a public offering, then, in such event, all of the investors hereunder, or their assignees, shall be invited to register for sale any or all of their holdings of the registering issuer(s), at no cost to the investors, on the same, or, if different classes of securities are involved, on substantially similar terms to those on which the issuer(s) shall then be offering.

V. RISK FACTORS.

In addition to the normal risks inherent in any investment, the instant offering presents risk factors that are general within its industry and even unique within that industry. All should be carefully considered before any investment decision is made.

This offering involves mining. No assurance can be given that any substantial tonnage of ore of any particular grade or characteristic exists on the issuers' properties, or that, if it exists, that it can be found, or that, if it can be found, that it can be mined and milled economically at any given time, in the light of then prevailing market prices for gold and silver, or, even that a free market will continue to exist for either or both metals, or even that the right to explore for, and to mine, either or both of said metals will continue to exist free of federal restriction. Likewise, no assurance can be given that the issuers always will have the managerial expertise and labor available with which to operate successfully. The risk of sudden and prolonged price fluctuations, particularly downward ones, must be weighed carefully. Many organizations exist in the raw materials extractive fields with vastly greater experience and resources than the issuers. They may prove disastrously competitive for available professional skills, labor, supplies, equipment, risk capital, and water. Likewise, they might preclude participation by the issuers in the industrial silver market. Environmental problems ranging from water shortage to effluent disposal, to worker endangerment, to surface disturbance, to general subsidance, might serve to impede, make infinitely more costly, or even, close completely, all contemplated operations. Adequate insurance may not always be available.

The issuers may not prove to be adequately capitalized for their contemplated operations. Existing creditors may press to the extent that capital needed for expansion, exploration, and even continued operation may not be available. Neither issuer presently has any net earnings coverage of fixed charges of the securities offered herein.

While all reasonable efforts to segregate ore to be processed by the Corporation according to its origin (limited partnership properties or Corporation properties) will be taken, there can be no assurance that this segregation will be effective.

Because the Corporation has the right to accord priority access to its processing facilities to ore originating elsewhere than the properties subleased to the limited partnership, there exists the possibility that the ore deposits of the limited partnership will not be exploited at their optimum rate.

The issuers are attempting to raise \$6,000,000, a formidable sum, thus far without any underwriting assistance. No assurance can be given that any amount will be raised, or that any amount raised will be adequate to permit profitable operations.

Dilution constitutes a form of risk. The prospective investor's attention is directed to the fuller discussion of dilution in Section VI.

None of the securities being offered hereunder is being registered with the Securities and Exchange Commission under the Securities Act of 1933, As Amended. Nor has any security of either issuer ever been so registered. Neither issuer is a reporting company under the Securities and Exchange Act of 1934, As Amended. There is no present public trading market in any of the securities offered herein, or in any other class of security of either issuer, and there is no expectation that any such public trading market is likely to develop at any time in the future. Thus, any investor should view any investment hereunder as long term and illiquid.

The unsettled litigation could conceivably result in a decision, however remote such a possibility is viewed by legal counsel, that could cost the Corporation large sums of money and/or carve out of its present holdings a significant interest (possibly in the form of undivided fraction interest) for the Corporation's litigation adversaries.

In view of the foregoing, the problems that must be overcome to achieve meaningful success must be viewed as substantial. In short, the proper caution is that no party should invest more than he (she or it) can afford to have in a sterile investment for a prolonged period of time, or, indeed, can afford to lose absolutely.

An element of risk stems from the fact that the holdings of the limited partnership can be sold over the contrary vote and objection of a minority of the investors, possibly at prices judged inadequate by any objecting investor. Such sale, if made in the first six years following subscription by the investors, and if it involved the bulk of the limited partnership's production, would likely eliminate the investors' right to convert promissory notes into bullion.

VI. DILUTION.

The complexity of this financing makes the usual type of dilution analysis somewhat inappropriate. This dilution commentary should be read and studied carefully, and discussed fully with financial and legal advisors.

First, that portion of the investor's investment hereunder which goes to Tombstone Exploration, Inc. will be discussed. The entire \$70,000 portion of each Unit offered hereunder which is earmarked for the Corporation will purchase a debenture. Inasmuch as a debenture is a debt instrument without immediate direct equity participation in the issuing Corporation, the question of immediate dilution of the investor's investment is moot; the founders purchased some of their stock in the Corporation outright, directly for cash; they acquired some of their stock in the Corporation in partial consideration of making loans to the Corporation, guaranteeing loans made by third parties to the Corporation, serving as a conduit for loans by third parties for the benefit of the Corporation, and for commuting accrued salaries; the instant investors are paying cash for debt securities. The investors' debentures are freely and directly convertible into shares of common stock of the Corporation, the same kind of equity securities held by the founders. A number of variables are encountered when trying to establish some kind of measurement of dilution. Dilution will vary with the cash value assigned (for analysis purposes only) to the non-direct cash portion of the consideration given by the founders for shares. It will also vary with the time when particular amounts of debentures hereunder are converted. Two possible parameters of result will be set. In both cases, the founders' shares acquired on other than a direct cash for shares purchase basis will be valued at the same value accorded them by the Corporation at the time of issuance. Thus, the only analytical variable will be the conversion rate.

In case number 1, it is postulated that all of the debentures are sold and immediately (during the first, and most favorable to the investor, of their available annual conversion periods) converted into common shares of the Corporation. That means that each of the investors herein will have paid \$70,000 (of their \$100,000 Unit investment) cash for each debenture. Sixty debentures will have been sold, for a total cost to the

investors of \$4,200,000. Upon conversion to common stock, the converting investors will own 722,015 shares or 1/3 of the common stock in the Corporation, at an average cost to said investors of \$5.817 per share. The founding group, on the other hand, will own 1,444,030 shares, or 2/3 of the common stock in the Corporation. Of this total, they will have purchased 21,900 shares outright for a total direct cash investment of \$130,000, or an average cost of \$5.936 per share; they will have received 931,054 shares as partial consideration for their having themselves borrowed \$3,824,220 and loaned said sum, in turn, to the Corporation on the same terms as those on which they had borrowed the funds, remaining personally at risk for repayment to the lenders; they will have received 225,513 shares for having advanced, on behalf of the Corporation, to the lenders on said loans, the interest accrued thereon but not paid by the Corporation in the total amount of \$902,048; they will have received 215,562 shares for having guaranteed loans with a total principal amount of \$862,250; they will have received 50,000 shares in satisfaction of claims for accrued salary (without interest) owed by the Corporation. So long as it is impossible to forecast the eventual total cash exposure of the founding group on the foregoing items, it is difficult, if not impossible, to present a meaningful dilution equation. However, if all of the actual cash paid directly for shares, and the values assigned by the Corporation on its books for those shares issued to the founders for other than outright direct cash consideration are added together, the founders will hold 1,444,030 shares with a total book consideration (par value and additional paid in capital) of \$131,422.13, or an average book value of \$0.091 per share. On that, admittedly, arbitrary and deliberately distorted basis, the converting investors would suffer a book dilution of 65.65% in the paid in book value of the debenture portion of their investment that they convert to common stock. However, in order to present a more balanced economic analysis, the index of maximum potential total exposure of the investors on the one hand and the founders on the other hand must be considered. The maximum potential total exposure of the investors is identical to their cash investment in the debentures, i.e., \$4,200,000. However, the maximum potential exposure of the founders is vastly greater than their original outright direct cash investment in common stock. To that basic sum must be added the \$3,824,220 of loans that the founders were able to make available

to the Corporation by serving as fiscal conduits. Also to be added is the cash sum of \$702,048, representing interest on such loans that was actually advanced to the lenders in behalf of the Corporation by the founders. Also to be added are the loan guarantees totalling \$862,250. Finally to be added is the book value assigned by the Corporation to the shares issued in commutation of accrued salaries (this last item is a cash exposure item because it must be recorded as income by the recipients) in the total amount of \$200,000. Hence, the founding group's index of maximum potential total exposure is \$5,918,918. Using this technique, the current new investors would have a dilution factor on index of exposure risk of only 19.73%. Nor would any cash cost dilution analysis in any way take into account the then present value of one third of the Corporation's assets, which assets were, in effect, originally acquired by the founding group, given greater value through further development, and then shared with the investors in exchange for their investment.

In case number 2, again, all of the debentures are sold. But in this case, they are converted during the last, and least favorable to the investor, of their available annual conversion periods. That means that each of the investors herein will have paid \$70,000 (of their \$100,000 Unit investment) cash for each debenture. Sixty debentures will have been sold for a total cost to the investors of \$4,200,000. Upon conversion to common stock, the converting investors will own 420,000 shares, or 22.53% of the common stock in the Corporation, at an average cost to said investors of \$10.00 per share. The founding group, on the other hand, would still own 1,444,030 shares or 77.47% of the common stock. These shares would have been acquired in the same manner and at the same cost as in case number 1. Again, in this case, on the admittedly arbitrary and deliberately distorted basis of using only outright purchases of common stock directly for cash, the converting investors would suffer a dilution of 76.76% in the value of the debenture portion of their investment (that they convert to common stock). Here again, as in the analysis of case number 1, in order to present a more balanced economic analysis, the index of maximum potential total exposure of the investors on the one hand and the founders on the other hand must be considered. The maximum potential total exposure of

the two groups is unchanged from case number 1; only the number of common shares of the current new investor group changes. Predictably, the current new investors would have a higher dilution factor on index of exposure risk, viz., 45.72%.

It should be noted that when the figures for all of 1982 become available, the Board of Directors of the Corporation probably will issue additional shares to Mr. Schloss, at the rate of one share for each \$4 of new loans during the year which were made to the Corporation via Mr. Schloss in his role as conduit for said loans. It is anticipated that said shares will not exceed 150,000 in number.

Next to be discussed is that portion of the investor's investment hereunder which goes to Tombstone Limited Partnership Number One.

Of the \$30,000 portion of each Unit offered hereunder for the Limited Partnership, \$15,000 is for a loan to the Limited Partnership and will be evidenced by promissory notes of the Limited Partnership. Inasmuch as a promissory note is a debt instrument without immediate direct equity participation in the issuing Limited Partnership, the question of dilution of this portion of the investor's investment is moot; the founders paid for stock in Tombstone Exploration, Inc.; they did not thereby acquire individually priced interests in the instant mining properties; rather, they acquired shares in the Corporation, which, in turn, acquired an (unpriced) interest in all of the Corporation's mining properties; the Corporation then subleased to the Limited Partnership its interests in certain specific mining properties in exchange for a two thirds (2/3) equity interest in the Limited Partnership and the assumption by the Limited Partnership of certain obligations; it is impossible to separately price out the cost to the Corporation of the interests in the mining properties so subleased to the Limited Partnership; the instant investors are paying cash for promissory notes of the Limited Partnership, which promissory notes are not convertible into residual equity interest in either the Limited Partnership or the Corporation. However, the notes can be converted into gold and/or silver bullion. But that is a plus factor (in a sense, a call upon available bullion at pre-set prices over a period of years) and not a dilution factor. No value can be placed on such bullion conversion privilege.

If all sixty (60) Units are sold, the investors will own a 33.29% equity interest in the Limited Partnership, which owns the mining interests subleased to the Limited Partnership by the general partner (Tombstone Exploration, Inc.). But these same investors also invested in the Corporation. Thus, in case number 1, they would own (after conversion) 1/3 of the Corporation, and, indirectly, the same fraction of the Corporation's two thirds equity interest in the Limited Partnership. In such case, the investors would actually own 55.51% of the entire Limited Partnership. Even in case number 2, where, after conversion, the investor would own only 22.53% of the Corporation, the investors would still actually own almost half, viz., 48.31%, of the equity interest of the entire Limited Partnership.

VII. CONTROL.

Thomas H. Schloss, the President of the Corporation, owns individually 74.95% of its issued and outstanding common shares. Members of his family own an additional 25.02%.

VIII. OPERATING RESULTS.

The results of operations for 1981, together with a balance sheet as of December 31, 1981, are appended as Exhibit 1. The results of operations for the first half of 1982, together with a balance sheet as of June 30, 1982, are appended as Exhibit 2.

Results for operations to date reflect the depressed prices for gold and silver (in what management believes was a major cyclical trough), the high costs of pit development work (which can now be materially reduced by management's proposed raising of the cut off grade for pit mining), normal learning curve costs attendant upon bringing a substantial mining and complex milling operation into production, and the second hand or modified nature of some of the equipment used.

IX. THE MINERAL PROPERTIES.

A. Of Tombstone Exploration, Inc.

1. Location. All of the Corporation's present mineral properties are located in Cochise County, Arizona, about 70 miles southeast of Tucson. The properties extend approximately 2 miles in a southerly direction from the center of the present day town of Tombstone, which town came into sudden existence in 1879, as a direct result of the discovery of silver at claims now leased by TEI.

2. Description.

a. legal. Tombstone Exploration, Inc. holds a valid mining lease from Tombstone Development Company covering 87 patented and 18 unpatented mining claims totaling almost 2,000 acres. This lease is renewable yearly in perpetuity upon payment of stipulated rents and/or royalties. Minimum royalties of \$7,500 per month shall be due. Actual royalties will vary with total production volume and grade, with the rate of such royalties ranging from a low of 5% of net smelter returns on ore with less than an average of \$15 per ton gross value (as defined in the master lease to the Corporation) to a high of 20% on ore values above \$150 per ton.

b. map. The instant claims are shown on the accompanying map (Exhibit 5).

c. narrative. The properties are all contiguous, thereby facilitating exploration, development, and production. Tombstone Exploration, Inc. is currently mining on only 4 of its claims, but has identified further targets for development and production. They include open pit and underground operations.

3. General geology and mineralogy. There is no simple key to the complex geology, structure, and mineralogy of the Tombstone mining district. However, it would appear that two generalizations can be made. Much of the ore, and particularly the richer ore, that has been produced in the camp has come from faults and fissure veins which cut both sedimentary formations and dikes. Also, considerable ore has been produced from replacement types of deposits. The general host formations are sandstone, quartzite, shale, and limestone. The ore mineralization occurs both as (generally, higher grade) veins and as

(generally, lower grade) disseminated material (sulphides and oxides). The very rich bonanza ores that were mined in the early days of the camp were generally tellurides.

4. Operating history.

a. prior to 1900. Mining operations as close as 5 miles west of the Tombstone district proper commenced as early as 1857, but the Tombstone deposits of gold and silver with which we are now concerned were not discovered until 1877. Although old records were often inaccurate, and many have been lost, it appears that yearly production (valued at the then low prices for gold and silver) peaked at something over \$5,000,000 circa 1882, with total production of the two metals to the end of the 19th century around \$40,000,000. Total production of the Tombstone district from 1879 to 1977 was 129,805 ounces of gold and 31,891,705 ounces of silver, which at prices of \$400 and \$10 per ounce of gold and silver respectively, would have a total value of over \$370,000,000.

By present standards, 19th century operations were inefficient and primitive. The camp was a mass of fragmented claims with classically independent operators pursuing their own (often intuitive) theories of ore deposition and extraction. Secrecy prevailed to the point that key basic geologic and mineralogical information was neither exchanged nor correlated. As a result, the same producing horizons and vein structures often were given different names by adjoining operators. Further, many mistakes were made in identification of horizons, rocks, and minerals. Power sources and equipment were reflective of the age and the remoteness of the region. Economies of scale were not achievable under the conditions of fragmented ownership.

In the 1880's and 1890's, as the shaft mining operations followed the rich vein structures below the water table line, dewatering became an increasingly uneconomic proposition in the face of lower silver prices.

b. 1900 to 1977. Depressed metal prices and greatly increased labor and mining costs effectively precluded the opportunity of economic mining of silver and gold during most of this century.

c. since 1979. In February, 1979, Tombstone Exploration, Inc. acquired the mineral leases to its present properties. Detailed sampling and mapping, together with exploration, have been accomplished on the Contention and Grand Central mine sites, which has resulted in substantial production at the open pit mine on these properties. All ore is first subjected to crushing and pelletizing, an innovative pre-leach treatment that the Corporation has found to be effective, or screened and pelletized, or conventionally heap leached. Proprietary equipment and know-how regarding metallurgical and milling techniques have been developed. Operations have reached substantial dimensions, with approximately 8,500 tons of rock being moved per operating day. Since 1979, Tombstone Exploration, Inc. has committed in excess of \$3,000,000 to its program. From January 1, 1981 to September 1, 1982, combined gold and silver bullion sales exceeded \$5,000,000.

5. Reserves estimates

a. by Tombstone Exploration, Inc.

(1) Composite Heap (tailings). Management estimates a combined total approaching one million tons of previously milled or leached ore from old mining operations. These mill tailings have been moved to one central location next to TEI's present crusher. A previous lessee of the property leached this ore on twenty-five foot lifts. TEI believes it should have been leached on six to eight foot lifts to avoid channelling and other recovery problems. As a result, their recoveries were low and the material still contains significant precious metal values.

(2) Contention-Grand Central mine site. At the Contention-Grand Central mine site TEI has mined 2,943,000 tons of material. Of this, 740,000 tons was classified by the Corporation as "primary ore" whose relatively high degree of precious metal content justified crushing and pelletizing, and 476,000 tons of "mid-grade" ore which is treated by conventional heap leaching recovery technique. In addition, the Corporation has removed 1,726,000 tons of waste. These tonnages have been classified according to today's current depressed bullion prices. As prices increase, it is to be anticipated that significant percentages of ore will move up from the "mid-grade" classification to "primary ore" classification, which will allow TEI to use its multi-faceted recovery technique. This becomes significant when it is realized that the processing applied to "mid-grade" ore recovers only approximately

1/3 of the bullion content, whereas the "primary ore" recovery technique results in recoveries of approximately 3/4 of the silver content and even higher proportions of the gold content. TEI, in mining over 2,940,000 tons of rock, has effectively taken the ultimate in bulk samples. Out of the almost three million tons of rock mined or moved, the Corporation has recovered over 320,000 troy ounces of dore' (smelted material containing above 90% precious metals), of which the gold and silver content averaged 1.5% and 92%, respectively. While the 320,000 ounces of dore' production is statistically significant, it must be noted that neither the "mid-grade" ore nor the 740,000 tons of tailings from "primary ore" have yet been finally processed. From the U.S. Bureau of Mine's files, TEI has determined past production at the Contention mine, and postulated distribution of production at different levels of the mine. By comparing TEI's production with the previous production, a ratio that suggests available metal values has been constructed. This ratio is anticipated to remain fairly constant at lower levels.

b. by Dames & Moore. This noted firm of consulting mining and geological engineers (headquartered at 1626 Cole Blvd., Golden, Colorado 80401) spent several professional man days sampling and examining the properties, and studying operations and old production records and reports of the Gerard Underground Mine, which is contiguous to the open pit operation. They assayed 97 samples. Of these, 29 assayed at least 5 ounces of silver or the equivalent of gold value and silver combined per ton, using a ratio between gold price and silver price of 33.3:1.

Their conclusion was that "analysis of assay and literature data, coupled with the physical examination, indicates that the property has the potential to become a producing mine."

6. Development work. In addition to several old production shafts of varying depths, some of which are in good repair, and much underground lateral and inclined production and development workings, the Corporation has a very large working open pit operation. The pit is 1,500 feet long, 1,000 feet wide, and has a current working surface reaching, in certain areas, over 160 feet below the original surface of the land. It is anticipated that the pit along the present ore veins will extend over one mile in length.

7. Equipment.

a. conventional. The Corporation uses a substantial amount of mining, milling, and hauling equipment. Major items that are either owned or leased include:

YEAR	MAKE	CAPACITY	EQUIPMENT
1980	IHC	50 Ton	350 Payhauler Truck
1979	HOUGH	12 Yard	400C Loader
1980	IHC	2 Yard	515 Payloader
1972	IHC	6-1/2 Yd.	560 Wheel Loader
1981	CAT	3 Foot	225 Excavator
1980	IHC		20E Crawler/Tractor
1979	FIAT		HD31 Crawler/Tractor
1981			36" x 24" Jaw Crusher with 54" standard head cone and 3 deck screen.

b. proprietary. The Corporation has developed a unique combination of equipment and technique for processing ore. The basic equipment unit which is called an agglomerator is a conveyor pelletizer system. Its use permits greater recoveries of precious metals. The system works as follows. After the ore is crushed, lime is added. Then both the fines and the larger particles and fragments are gravity-fed into the agglomerator. The crushed ore slides down an inclined conveyor belt which is moving upward against the flow of ore. The broken ore is sprayed with cyanide. The fines adhere to the larger particles or fragments, thereby increasing their own already relatively large mass. The advantages produced by this process are significant. The crushing tends to break the ore-bearing rock along its fracture or cleavage planes or lines. The smaller the post-crushing particles, the greater the total surface area exposed. The fines (particles under one half inch in diameter) tend to be captured by the larger particles or fragments. They adhere in irregular patterns, not in smooth concentric layers. This prevents compaction of fines into a non-permeable, low porosity mass. Increasing porosity and permeability facilitates, speeds, and results in greater recoveries from the leaching process. The leaching dissolves disseminated mineralization in the broken ore. The pelletizing, or restructuring of the crushed ore into larger, angular, multi faceted particles, reduces leaching time from one month to one

week, thereby dramatically reducing the need for greater capital expenditures to provide more leach pads to accommodate expanding mine production. Also, the increased recoveries represent absolute increases in operational profit on the same operating cost base.

Because the ultimate value of this system depends upon the application of careful monitoring, computer assisted analysis, and process modification, it has been decided not to seek the limited protection of one or more patents but, rather, to rely upon maintaining the secrecy of proprietary know-how and offering same with the hardware.

8. Metallurgy and recovery. After pre-treatment with the agglomerator, the ore is leached in place for up to 24 hours. It is then stacked in heaps about 6 feet high and continuously sprayed for approximately four to five days. The leached material still contains some precious metal values, and is moved to a "primary ore" tailings pad for further gold and silver extraction.

The gold and silver bearing precipitates are transported to affiliated Chrysaor Laboratories where they are smelted and reduced to dore'. The dore' is sold to a refinery.

B. Of Tombstone Limited Partnership Number One.

While the general comments made in Section IX A, supra, obviously apply to all of the properties, it is important to note that the instant offering Partnership involves eleven patented mining claims (see Exhibit 6). These have been chosen for their apparent potential as producers, and as a natural extension of the present pit. They are the Sidney, South Extension of the Grand Central, Moonlight, Naumkes, Grand Central, Flora Morrison, Contention, Last Chance Number 2, Boss, and those portions of the Sulphuret and West Side as defined in Exhibit 6.

X. USE OF PROCEEDS OF THE OFFERING.

The Corporation will use its share of the proceeds of the offering primarily for costs of the offering, capital expenditures (equipment and facilities), and debt service. The limited partnership will not be burdened by costs of the offering, and will use its share of the proceeds of the offering for working capital.

If 10 Units (for \$1,000,000), the minimum required to be sold for the issuers to be free to commence using the proceeds of the private placement, are sold, then, the proceeds of the offering will be used approximately as follows. Approximately \$100,000 will be used to defray estimated costs and expenses of the offering. This sum will include commissions, professional consulting fees, and presentation costs. Approximately \$417,000 will be used by the Corporation for equipment and buildings, estimated to cost as follows.

A wash plant with a sand screw and a scrubber	\$80,000
Five conveyor belts for use with the wash plant	\$60,000
A Telesmith shaker screen for the crushing plant	\$25,000
A conveyor belt for use with the crushing plant	\$12,000
Ancillary electrical equipment for the crushing plant	\$5,000
A fresh water well	\$80,000
A mine site office building	\$40,000
A combination shop and warehouse	\$100,000
A shower and change room	\$15,000

Of the remaining \$483,000, \$183,000 will be used by the Corporation primarily for existing debt service, at management's discretion, depending upon the needs of the Corporation, and bearing in mind the cost of said non-convertible debt at one percent over prime.

The remaining \$300,000, which will be the limited partnership's portion, will be used by it for working capital.

The aforementioned wash plant would have a rated capacity of 200 tons per hour. It would permit production of four different types of saleable road surface aggregate, and recover additional gold and silver values from the tailings.

TEI anticipates achieving a 30% increase in crushing capacity by installing the Telesmith shaker screen and the conveyor in the crushing circuit.

The proposed fresh water well would be about 800 feet deep, with a 12 inch diameter. Casing probably would be set for the entire depth. A 50 horsepower submersible pump should be capable of lifting 250,000 gallons of water per day. This would provide a backup system to the existing procedures, thus insuring against water shortage problems.

The office building would be 24 feet by 60 feet and most likely constructed of cinder blocks, with a wood roof. It would be used by production staff and should prove more efficient and economical than present outgrown trailer facilities. Likewise, the proposed 60 feet by 120 feet shop and warehouse would enable TEI to put repair facilities, tools, and supplies under one roof, close to operations, with designed-in security. The shower and change facility of 24 feet by 50 feet would enable TEI to complete its mine security and safety system. A mandatory showering (with a metal recovery system built in to the plumbing system) and clothing change should almost totally eliminate any problems of theft of equipment, tools, or ore. Any remote chance of environmental contamination will be eliminated by the leaving of clothing that may have come in contact with cyanide solution on the premises.

In the event that the target minimum sales hereunder of ten Units (\$1,000,000) is not achieved within the prescribed time, and in the further event that some of those who have subscribed hereunder will elect to waive their right of investment recall, the anticipated use of proceeds hereunder will vary. The expenses of the offering are estimated to run no higher than fifteen percent (15%) of the investment which remains available to the issuers after any exercise of the right of investment recall. The net remaining funds would probably be allocated to the purchase of some of the equipment and facilities mentioned above, and, most probably, in the same sequence, some debt service, and, for the limited partnership's portion, to working

capital.

If more than the minimum of 10 Units (\$1,000,000), but less than 20 Units (\$2,000,000), are sold hereunder, the first million dollars of investment would still be allocated as indicated above. The second million dollars, or any portion thereof raised, probably would be allocated approximately as follows. Up to ten percent (10%) would go for expenses of the offering. The remainder of the Corporation's portion would be allocated to debt service, mine development work, exploration, and technology improvement. The limited partnership's portion would go to working capital.

Such new mine development work probably would focus on two claims. It is believed that the Flora Morrison claim could show additional ore of some 111,700 tons through development of its known ore zone to 40 feet of depth on its east side and 20 feet of depth on its west side. Three development projects are envisioned for the Grand Central claim. It is believed that, by extending its known east zone some 300 feet to the south, another 37,000 tons can be developed. Likewise, it is believed that, by extending the known west zone on its upper bench another 300 feet, another 46,000 tons of ore can be developed. And, finally, it is believed that, by deepening both the east and west zones on their north faces by some 20 feet, another 73,000 tons of ore can be developed. Assuming ore development costs of \$.60 per ton, such development work would cost an estimated \$160,600.

While no definitive estimated allocation of proceeds from sales hereunder in excess of 20 Units (\$2,000,000) has as yet been made, it would seem logical to assume a probable cost of obtaining such funds of no more than ten percent (10%) of any such total raised. Because of the prime plus one cost of debt service, it is reasonable to assume that approximately one half (1/2) of the proceeds available to the Corporation, after deducting applicable costs associated with the offering, from the next 40 Units (\$4,000,000) sold would be used primarily for debt service. Please refer to the financial statements section of this private placement memorandum, and to the footnotes to the Corporation's balance sheets of December 31, 1981 (audited) and June 30, 1982 (unaudited) for a discussion of the nature and extent of the financial involvement of the founders as direct lenders to the Corporation, conduits for loans to the Corporation, and

guarantors of debt obligations of the Corporation, in order to understand the degree to which said founders will benefit from any such debt servicing use of the proceeds hereunder by the Corporation from its share of the proceeds hereunder. Inasmuch as the Limited Partnership is debt free as of the date of commencement of this offering, its share of the proceeds hereunder can be used for working capital. The management of the Corporation may elect to allocate more than half of the Corporation's share of the proceeds hereunder, after the costs of the offering, for debt service.

XI. PRESENT OPERATING TECHNIQUES AND RELATIONSHIPS.

A. Mining.

At present, TEI operates an open pit mine. Studies of ore qualities and location, and current precious metal prices, have shown this kind of open pit operation currently to be the most effective type of mining the properties.

Heavy equipment at the open pit mine on the Contention and Grand Central claims moves about 8,500 tons of waste overburden and ore per working day. The equipment fleet, which is employed by the contract mining company, includes five 631-B Caterpillar scrapers and three B-9 Caterpillar bulldozers.

During the past 20 months the Corporation has moved over 2,943,000 tons of waste rock and ore. Starting from the original surface, it has mined in certain areas to below the original 100 foot depth of the first underground mine levels.

Current pit surface dimensions are approximately 1,500 feet by 1,000 feet. Planned operations should extend the pit by some 800 feet in a southerly direction and some 2,600 feet in a northwesterly direction thus increasing the pit to nearly one mile in length.

The rock is ripped and hauled by scraper. Because of the friable nature of the rock, less than 10% of the pit rock requires blasting (with its attendant, and costly, drilling). This also lowers crushing costs substantially. TEI has thus far experienced a stripping ratio of 4:1 in its open pit.

B. Processing.

The ore is fed to the crusher at a rate of about 185 short tons per hour. The crusher reduces the feed to minus 3/4 inch size. The previously described pelletizing, using the agglomerator, is the next step in processing the ore. After spraying, the ore is loaded into a fifty-ton truck by a front end loader and dumped onto the "primary ore" pads at a 6 degree slope to ensure good drainage. The .05% cyanide solution with which the heaps are sprayed percolates through the heaps dissolving much of the gold and silver, and then flows to a collection pond. Solution from the collection pond is pumped to a treatment facility where

most of the silver and gold is extracted from the solution. The then semi-barren solution is pumped back to the leaching pads for another cycle of use in the leaching process. The resulting precipitate is then baked into semi-dry powder and then smelted into dore'.

C. Exploration.

A study by TEI determined that core drilling, percussion drilling, or reverse circulation drilling would not be effective in the area. Drilling costs to determine ore zones would exceed TEI's total costs of mining and processing that ore, and TEI believes that results obtained from drilling would further need channel sampling to determine accurate ore grades for the operation of the open pit mine. Two major advantages of mining over drilling are the exposure of the ore zone and the creation of a cash flow as the pit is developed. Controlled production with careful detailed sampling becomes the current exploration technique. Trenches are dug on 25 foot centers to a depth of six feet. Channel samples are cut from the lower walls of each trench, not exceeding 10 feet in length per sample. Thus, each sample is deemed representative of no more than 250 tons, and, on average, about 150 tons of material. This technique defines structure and mineralization and permits fine tuning of the milling operation.

D. Equipment Development.

Much has already been said about the Corporation's agglomerator. Continuing efforts will be made to improve this already fine piece of equipment and the procedures for its optimum utilization. Further work is also being undertaken in computer software development that can be employed in the control aspects of these and other operations of the Corporation.

E. Consultants And Contractors.

1. The Board of Advisors.

a. Technical Panel. Consists of a group of distinguished experts from the academic, professional, government, and business communities, and will advise the Corporation on such matters as geology, mineralogy, metallurgy, engineering, exploration, mining, hauling, milling, testing, safety, and environmental protection equipment and practices. They will be available to consult on practical problems, current state of the art

in technology, and potentially fruitful areas of research and development. Eventually, TEI hopes that they will be employed in furthering its long range goals of expansion into other natural resource situations. A list of the members of the technical panel of the Board of Advisors is appended as Exhibit 3.

b. Financial Panel. Consists of a group of distinguished experts from the academic, professional, government, banking, investment banking, securities, and commodities communities, and will advise the Corporation on such matters as macro and micro economics, bullion and commodities price fluctuations, political matters, interest rates, securities and commodities regulation, monetary policy, taxation and incentives, and securities marketing. A list of the members of the financial panel of the Board of Advisors is appended as Exhibit 4.

2. Mining. Actual mining and haulage is performed under contract, at a charge of about \$.60 per ton of rock mined or moved, by Magini Leasing and Contracting, a reputable local independent contractor whose low prices reflect the surplus of good labor in the area. When blasting is required, an additional charge of \$2.84 per foot of drilled blasthole is made.

3. Refining. Smelting is performed by the Corporation's affiliate, Chrysaor Laboratories, Inc., which is owned by the majority stockholders of TEI. That company's facilities are located on Tombstone Exploration, Inc.'s property, and are adequate for the substantially increased levels of production to which the Corporation aspires, and to achieve which the instant offering is designed as a first step.

Chrysaor Laboratories has a tax loss carryforward and it is anticipated that when this has been utilized, Chrysaor will be merged into TEI or will operate as a separate company at a breakeven rate.

4. Sales.

a. equipment and know-how. The Corporation has initiated efforts to market the agglomerator system and associated computerized control systems. The basic hardware will sell for between \$100,000 and \$200,000 per unit, depending upon size. Software pricing will vary with the kind of package desired. Also available for sale is proprietary know-how relative to the

leaching techniques developed by the Corporation. Present marketing is being done directly by the Corporation, but future efforts may involve professional marketing organizations. The agglomerator is designed to be price competitive in a tough market. It is believed that it can replace equipment costing substantially more, and with at least equal operating efficiency. To TEI's knowledge, no other company is producing this type of equipment.

In June, 1981, the Corporation and the State of Maine Mine Corporation established a jointly owned marketing company to sell Merrill-Crowe type processing equipment, general smelting and refining equipment, and mobile and stationary agglomerators. This agreement does not commit the Corporation to an exclusive relationship with the State of Maine Mine Corporation.

b. bullion.

(1) conventional. Net smelter returns of gold and/or silver bullion are sometimes sold on an immediate, or spot, market. This happens when the Corporation believes that the prices for either or both of the two metals will remain fairly stable for some period of time.

(2) hedging. While the Corporation is not in the bullion futures trading business, it does try to protect itself against swings in bullion prices by selling substantial portions of projected production into the futures markets. For example, when bear markets for bullion prices are anticipated, the Corporation will commit, on an immediate cash sale basis, some or all of its future production over a period of time varying with the length and depth of the anticipated bear market. As the Corporation turns bullish on future bullion prices, it will tend to reduce its forward delivery commitments and their duration. Built into all of the Corporation's hedging agreements is the contractual right to cover future delivery obligations by buying back the contract. This affords the Corporation some measure of protection against dramatic bullion price increases.

c. road surfacing. TEI has set up its operation in such a way that the final barren waste is of ideal size and suitable hardness for use as road surfacing material. As this material already has been mined and crushed, additional expense in preparation is minimal. The Corporation is currently selling road surfacing at

competitive prices, and believes that this marketing effort will provide substantial income.

d. base metals. At present, no sales of any of the base metals on the Corporation's properties are being attempted. The production of the Tombstone Mining District from 1879 to 1977 included 7,700,000 pounds of copper, 47,400,000 pounds of lead, and 652,000 pounds of zinc. As funds for expansion become available, and if base metal prices warrant, serious consideration will be given to changing the recovery systems so as to produce one or more base metals as by-products. It is not contemplated, however, that the Corporation's present properties will ever become primarily base metal producers with gold and silver as by-products.

e. minerals, rock specimens, and decorative items. The Corporation is exploring with local, national, and international groups the possibilities of selling to collectors, students, and tourists various crystal mineral and rock specimens from its mines. Also, the possibility of incorporating mineral and rock samples into jewelry, souvenirs, and executive desk furnishings is also being explored. Many special profitable promotional tie-ins appear possible because of the spectacular variety of local mineralization and the romance that still attaches to the legendary mines of Tombstone.

XII. PERSONNEL.

THOMAS H. SCHLOSS

Chairman of the Board of Directors and President

Mr. Schloss founded the Corporation in February, 1978 and in February, 1980 he founded Chrysaor Laboratories for the smelting of TEI precipitates and the reclamation of precious metals from computer electronics parts.

In February, 1974 Mr. Schloss founded First Arbitrage Management Company, a member firm of the New York Stock Exchange, American Stock Exchange, and the Chicago Option Exchange. One of that company's activities was the investment in cash and carries in silver and gold. This is a sophisticated arbitrage and hedging technique for investment purposes. He was Chairman of the Board of that company until February, 1979.

Mr. Schloss serves on various boards of directors. His early professional experience included being Assistant to the President of the Economy Finance Co. in Indianapolis, and participation in training programs with A. G. Becker & Company, Walston & Company, Bank of New York, Continental Illinois National Bank, and Security Supervisors. He holds a degree from Indiana University and also received an MBA from American University. He is 40 years old.

DUSTIN ESCAPULE

Vice President

Mr. Escapule is Manager of Operations at the Corporation's Tombstone properties, a post he has held since September, 1979.

From February to September, 1979 Mr. Escapule was Assistant Project Manager for Southwest Exploration Associates, a firm of consulting geological engineers. From February, 1978 to February, 1979, he owned and operated Tombstone Silver Enterprises, a company engaged in lost wax casting of silver. As manager of Airtex Mining, from December, 1977 to July, 1978, he supervised a heap leaching operation in the Tombstone area. From March, 1976 to July, 1977 he instituted an underground leaching operation for 71 Minerals,

previous lessees of the properties now controlled and operated by TEI. For the previous seven years he was in the Cochise County Sheriff's Department, and left as an Under Deputy.

He is 33 years old and has always lived in the district.

HARRIE G. SCHLOSS

Vice President, and a Director

Mrs. Schloss is Administrative Manager of the Corporation, and has been active in the administrative management of the Corporation since its inception.

From June, 1977 to February, 1982 she was Vice President of Ares Antiques, a company dealing in fine jewelry. In 1976 she was Production Manager for Triangle Publications. For the previous 8 years she worked for Saturday Review Publications, her last position being Manager of the New York office.

She received a B.A. from Sarah Lawrence College, and an M.A. in international affairs from Columbia University. She is 44 years old.

BOBBY D. LEE

Superintendent

Mr. Lee supervises the day to day activities of all mine and process plant personnel. He also manages TEI's contact with federal, state, and local regulatory agencies. He has been with the Corporation since January, 1980.

Mr. Lee managed budget and personnel for the Cochise County Sheriff's Department from January, 1965 to January, 1973. He owned and operated a used equipment business from January, 1973 to October, 1977. He worked for ten years as an underground miner with the Phelps Dodge Corporation. He is 57 years old.

JEROME ECKERS

Secretary, Treasurer, and a Director

Mr. Eckers is responsible for the financial and accounting work of TEI. He also develops and implements TEI computer programs. He has been with the Corporation since May, 1980.

He was an accounting supervisor and office manager for Drescher, Dorkin, Kaplan, & Co., Certified Public Accountants, from August, 1978 to May, 1980. He was a senior accountant with the CPA firm of Shelowitz, Sandler and Company from June, 1976 to August, 1978, and a semi senior accountant with the CPA firm of Saverin & Di Vittoria from June, 1972 to June, 1976.

Mr. Eckers received a BBA from Baruch College of the City University of New York. He is 33 years old.

ARTHUR J. GRAVES

Mining Superintendent

Mr. Graves joined the Corporation in December, 1981. He is senior geologist and is in charge of planning for TEI's pit, and he calculates ore reserves and stripping ratios. He also acts as liaison with geologists of prospective joint venture affiliates.

He was a senior mine engineer for Anaconda Copper Company from August, 1979 to December, 1981. He was a technical service engineer for Apache Powder Company from March, 1972 to April, 1979. He also worked for eight years as a geological engineer for Congdon and Carey, Ltd., and for five years as a mine engineer for Goldfield Corporation.

Mr. Graves graduated from the Colorado School of Mines and is a member of the Society of Mining Engineers, the New Mexico Mining Association, and the Arizona Geological Society. He is 53 years old.

XIII. MANAGEMENT COMPENSATION.

Because of the need to conserve cash during the Corporation's developmental phase, total compensation to officers and directors as a group has been limited to approximately \$165,000 on an annual basis.

It is contemplated that the instant funding will permit such total to increase to approximately \$190,000 on an annual basis.

While the limited partnership has, of course, thus far incurred no partner level compensation expenses, it is contemplated that some appropriate allocation of salary expense to the account of the limited partnership will be made by the general partner.

XIV. STOCK OPTIONS.

As of the commencement of the instant private placement, the Corporation had qualified stock purchase options outstanding for only 36,286 shares, or 2.51%, of the total number of shares presently outstanding (excluding the shares under option).

If all of the Units offered hereunder are sold, and if all of the debentures thus sold are converted into common shares of the Corporation on the most favorable conversion rate (to the converting investors), then, the shares represented by the existing stock purchase options will represent only 1.69% of the total number of shares then outstanding (excluding the shares under option).

All of the stock purchase options outstanding are exercisable at a price of \$.125 per share.

Specifics of holdings are as follows. Mr. Dustin Escapule, Vice President and Manager of Operations, has an option, good until March 1, 1987, on 12,060 shares. He has a second option, granted October 1, 1982, good until October 1, 1987, on 8,000 shares. Mr. Bobby D. Lee, the Superintendent, has an option, good until March 1, 1987, on 5,412 shares. He has a second option, granted October 1, 1982, good until October 1, 1987, on 2,814 shares. Mr. Jerome Eckers, a Director and the Controller, has an option, good until March 1, 1987, on 8,000 shares.

Exercise of all outstanding options would represent only minor dilution of the investors' investment.

XV. LEGAL.

A. Property Status. The Corporation is current in all of its lease obligations concerning the various claims. All of the Corporation's assessment work obligations on the unpatented claims are current. All local real estate and other tax obligations pertaining to the properties are current.

B. Patent. The Corporation has thus far taken the position that the best way to protect its proprietary equipment, computer software, and milling techniques is to treat them as proprietary know-how and to avoid the disclosures inherent in patent applications which, once revealed, would be difficult to protect because of the near impossible task of policing the operations of every potential user.

C. Corporate. The Corporation is a duly organized and subsisting corporation in good standing under the laws of Delaware, with all reporting, filing, and tax obligations of the Corporation under Delaware law currently satisfied and up to date. Likewise, the Corporation is duly qualified, as a foreign corporation, to do business in Arizona, is in good standing, and all reporting, filing, licensing, and tax obligations of the Corporation under Arizona law are currently satisfied.

D. Limited Partnership. The limited partnership is duly organized and subsisting in good standing under the partnership laws of Arizona, with all reporting, filing, and tax obligations of the limited partnership under Arizona law currently satisfied and up to date.

E. Litigation. The Corporation and its major shareholders have brought suit in the Superior Court for the County of Pima, Arizona, against the parties, both individual and corporate, who originally brought the instant properties to their attention, and who appear on the Corporation's lease under which it holds and operates said properties as co-lessees, for, essentially, fraudulent misrepresentation regarding proved reserves, revolutionary new recovery techniques, and capital required to commence profitable production, as well as failure to dilute their interest in the lease in recognition of the very substantial additional capital investment of the plaintiff Corporation and its major shareholders. As a litigation tactic, the defendants have counterclaimed, essentially, for a

nominal sum, for services allegedly performed but not paid for. At least one of the corporate defendants has filed in bankruptcy. The Corporation's trial counsel is of the opinion that the Corporation should prevail on all points and that its probable downside risk is a determination (in the nature of a compromise verdict) that the defendants should receive some (small) percentage in the operating lease of the Corporation. Inasmuch as the defendants do not even attempt to contest the control exercised by the Corporation, the Corporation does not deem the litigation to be of a nature that would either preclude or even hamper operations.

XVI. TAXES.

The tax consequences to the investors in that portion of the instant offering represented by the securities of the Corporation, i.e., Tombstone Exploration, Inc., are those normal tax consequences that would accrue from investment in any business corporation.

With respect to that portion of the instant investment represented by a participation in the limited partnership, certain of the normal attributes of investment in partnerships will be available to the investors, e.g., there will be direct pass-through income and loss for tax purposes. Because of the minerals exploration and development nature of the business, there will be various other tax benefits with respect to such things as exploration costs, depletion allowances, investment credits, etc. There may be other tax advantages inherent in individual situations where particular investors may elect to take down some or all of their interests in the form of bullion. Both with respect to such situations, and the overall tax picture relative to any individual investment, each investor is strongly urged to consult with his, her or its own professional competent specialized tax counsel. The offerees are again reminded that the offerors in the instant situation make no representations with respect to tax consequences to any investor relative to any phase of the investor's investment. Tombstone Exploration, Inc. and Tombstone Limited Partnership Number One, of course, stand ready at all times to assist all investors and their tax advisors in developing whatever kind of support documentation that said investors and/or their advisors may reasonably require.

The instant offering is being offered primarily as an economically viable deal, and should be evaluated as such. The tax consequences and tax sheltering benefits inherent in the situation as it evolves are to be considered merely as added plus factors serving to make the overall deal more attractive. None of the multiple write-offs of investment that recently have been successfully challenged in the courts by the Internal Revenue Service are here involved. This deal has been structured as a straightforward, legitimate mining business transaction, and the tax consequences are only those which are normally incident thereto.

LIST OF EXHIBITS

- Exhibit 1. Financial Statement, December 31, 1981, Audited
- Exhibit 2. Financial Statement, June 30, 1982, Unaudited
- Exhibit 2A. Limited Partnership Pro Forma Balance Sheet, Unaudited
- Exhibit 3. Members of the Board of Advisors, Technical Panel
- Exhibit 4. Members of the Board of Advisors, Financial Panel
- Exhibit 5. Map of claims leased by Tombstone Exploration, Inc.
- Exhibit 5A. Map of underground workings in the Tombstone Mining District
- Exhibit 6. Description of claims involved in Tombstone Limited Partnership Number One
- Exhibit 6A. Map of claims involved in Tombstone Limited Partnership Number One

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY

COMBINED FINANCIAL STATEMENTS
with
REPORT OF CERTIFIED PUBLIC ACCOUNTANTS
YEAR ENDED DECEMBER 31, 1981

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REPORT OF CERTIFIED PUBLIC ACCOUNTANTS

To the Board of Directors
Tombstone Exploration, Inc. and
Chrysaor Laboratories, Inc.
New York, New York

We have examined the combined balance sheet of Tombstone Exploration, Inc. and Chrysaor Laboratories, Inc. (the Company) as of December 31, 1981 and the related statements of operations, changes in stockholders' equity (deficit) and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

The aforementioned financial statements have been prepared on the basis of the continuation of the Company as a going concern. The Company has operated at a loss since incorporation. The realization of assets and the continuation of the Company as a going concern are dependent upon future profitable operations or, in the event profitable operations are not achieved, upon the Company's ability to obtain additional financing.

In our opinion, subject to the matters referred to in the preceding paragraph, the aforementioned financial statements present fairly the financial position of the Company as of December 31, 1981, and the results of its operations and changes in its stockholders' equity (deficit) and financial position for the year then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

New York, New York
August 13, 1982, except for
Note 8(b) which is as of
October 1, 1982

Fox & Company

COMBINED BALANCE SHEET FOLLOWS

LIABILITIES AND STOCKHOLDERS' EQUITY

Current liabilities:

Accounts payable	\$ 157,157
Accrued expenses	357,766
Current portion of long-term debt (Note 4)	283,704
Notes payable - other	50,000
Current portion of capitalized lease obligation (Note 3)	<u>49,914</u>
Total current liabilities	<u>898,541</u>
Long-term debt (Note 4)	<u>451,673</u>
Capitalized lease obligation (Note 3)	<u>321,201</u>
Notes payable - stockholders (Note 5)	<u>3,700,190</u>
Notes payable - other (Note 5)	<u>215,000</u>
Commitments and contingencies (Note 6)	<u>-</u>
Stockholders' equity (deficit):	
Tombstone Exploration, Inc.:	
Common stock, \$.001 par value (Note 7):	
Authorized - 4,000,000 shares	
Issued - 1,199,525 shares	1,199
Chrysaor Laboratories, Inc.:	
Common stock, no par value:	
Authorized - 200 shares	
Issued - 100 shares	10,000
Capital in excess of par value	132,639
Deficit	<u>(3,186,934)</u>
	<u>(3,043,096)</u>
	<u>\$ 2,543,509</u>

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY

3

COMBINED STATEMENT OF OPERATIONS

Year ended December 31, 1981

Revenue:	
Net sales	\$ 2,220,031
Other income	36,768
	<hr/>
	2,256,799
	<hr/>
Costs and expenses:	
Divisional:	
Crushing	360,436
Mining	1,507,207
Plant	374,329
Smelting	149,884
Testing	128,588
Depreciation and amortization	212,377
Interest expense, including \$541,733 relative to stockholder notes payable	748,426
Royalty expense	90,000
General and administrative	872,383
	<hr/>
	4,443,630
	<hr/>
Net loss	<u><u>\$(2,186,831)</u></u>

The accompanying notes are an integral part
of the financial statements.

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY

COMBINED STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY

	Common Stock		Capital		Accumulated	
	\$.01 par value Shares	Value	\$.001 par value Shares	Value		in excess of par value
Balance at January 1, 1981	4,800	\$48			\$ 99,952	\$(1,000,103)
Net loss for the year ended December 31, 1981						(2,186,831)
Recapitalization - exchange of one share of \$.01 par value common stock for one share of \$.001 par value common stock	(4,800)	(48)	4,800	\$ 5	43	
Recapitalization - 3 for 1 stock split			9,600	10	(10)	
Issuance of common stock in connection with stock- holder notes payable and guarantees (Note 5)			1,177,625	1,177		
Sale of common stock			7,500	7	29,993	
Capitalization of debt to principal stockholder					2,661	
	<u>-</u>	<u>\$ -</u>	<u>1,199,525</u>	<u>\$1,199</u>	<u>\$132,639</u>	<u>\$(3,186,934)</u>

The accompanying notes are an integral part
of the financial statements.

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY

5

COMBINED STATEMENT OF CHANGES IN FINANCIAL POSITION

Year ended December 31, 1981

Financial resources were applied to:	
Net loss	\$2,186,831
Items not affecting working capital:	
Depreciation and amortization	(212,377)
Amortization of mine development costs	(58,764)
Gain on insurance recovery	12,918
Loss on sale of fixed assets	<u>(2,686)</u>
Working capital applied to operations	1,925,922
Purchase of equipment	1,017,046
Mine development costs incurred	17,624
Reduction of long-term debt	262,057
Reduction of capitalized lease obligation	69,984
Reduction of notes payable - other	<u>10,000</u>
	<u>3,302,633</u>
Financial resources were provided by:	
Proceeds from sale of fixed assets	42,500
Proceeds from insurance recovery on fixed assets destroyed	97,453
Decrease in deposits	22,354
Issuance of long-term debt	312,502
Increase in capitalized lease obligation	391,185
Increase in notes payable - stockholders	2,013,005
Increase in notes payable - other	125,000
Issuance of common stock	31,177
Capitalization of debt to stockholder	2,661
Other, net	<u>2,712</u>
	<u>3,040,549</u>
Decrease in working capital	<u>\$ 262,084</u>
Decrease (increase) in elements of working capital:	
Cash	\$ (43,277)
Inventory	(191,596)
Accounts receivable	(8,030)
Other current assets	(12,210)
Accounts payable	81,055
Accrued expenses	298,011
Current portion of long-term debt	38,217
Notes payable - other	50,000
Current portion of capitalized lease obligation	<u>49,914</u>
Decrease in working capital	<u>\$ 262,084</u>

The accompanying notes are an integral part
of the financial statements.

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY

6

NOTES TO COMBINED FINANCIAL STATEMENTS

December 31, 1981

1. Summary of significant accounting policies

This summary of significant accounting policies of Tombstone Exploration, Inc. and an affiliate, Chrysaor Laboratories, Inc. (the "Company") is presented to assist in understanding the Company's financial statements. The financial statements and notes are representations of the Company's management, which is responsible for their integrity and objectivity. These accounting policies conform to generally accepted accounting principles and have been consistently applied in the preparation of the financial statements.

Business activity

The Company was formed in April 1979 for the purpose of mining and processing precious metals.

Principles of combination

The combined financial statements include the accounts of Tombstone Exploration, Inc. and an affiliated company, Chrysaor Laboratories, Inc. The latter, owned by the principal shareholders of Tombstone, conducts smelting operations and provides administrative services for Tombstone. Intercompany accounts and transactions have been eliminated in combination.

Inventories

Work in process inventories consist of mid-grade ore and slag. Mid-grade ore is valued at the lower of cost, determined on a relative sales value basis, or net realizable value. Slag is valued at net realizable value.

Finished goods inventory, consisting of available gold and silver bullion, is valued at market.

Property and equipment

Property and equipment are carried at cost. Maintenance, repairs and betterments which neither materially add to the value of the property nor appreciably prolong its life are charged to expense as incurred. Gains or losses on dispositions of property and equipment are included in income.

EXHIBIT 2

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY
COMBINED BALANCE SHEET
JUNE 30, 1982
UNAUDITED

A S S E T S

CURRENT ASSETS:

CASH	\$ 111,448
ACCOUNTS RECEIVABLE	12,322
INVENTORY	349,958
PADS AT NOMINAL VALUE	2
PREPAID EXPENSES	28,565

TOTAL CURRENT ASSETS:	<u>502,295</u>
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PLANT AND EQUIPMENT
PLANT AND EQUIPMENT
CAPITALIZED LEASE

1,695,701
<u>476,185</u>

ACCUMULATED DEPRECIATION

2,171,886
<u>439,333</u>

<u>1,732,553</u>

OTHER ASSETS:

MINE DEVELOPMENT	231,584
INVESTMENTS & DEPOSITS	11,224

TOTAL ASSETS

\$ 2,477,656
=====

Further, in the opinion of the Company's counsel, the defendants' claims lack significant merit or exposure except for the claim of \$45,000 which has some possibility of success. However, the Company believes that a decision in favor of the defendants would not result in any monetary payments by the Company because the latter will be able to offset certain of its expenses against any amount awarded.

The Company leases office space in New York under terms of a lease expiring November 15, 1983. The lease provides for annual rentals of \$21,600.

At December 31, 1981, the Company had entered into commodity future production agreements with a refiner that required the Company to deliver precious metals at fixed selling prices during 1982. All contracts in existence at December 31, 1981 were fulfilled or subsequently covered.

7. Capital stock

Under a stockholders' agreement, the Company is obligated to issue bonus inducement shares at the rate of 250 bonus inducement shares for each \$1,000 of principal amount of loans made available to, or guaranteed for, the Company. In addition, shares are similarly issued as an inducement to the holders of such debt for their willingness to permit the Company to accrue rather than to pay the interest due. As of December 31, 1981, the Company has issued 1,177,625 shares under such agreements (see Note 8(b)).

On July 15, 1981, the Company initiated a stock option plan providing for the option and sale of up to 250,000 shares of the Company's common stock. The period during which the options may be granted is determined by the Company but may not exceed five years from date of option. The option prices will be determined by the Company but will not be less than fair market value on the date the options are granted. As of December 31, 1981, options for 25,472 shares had been granted to certain employees at a price of 12-1/2¢ per share. The options expire in October 1987.

8. Subsequent events

(a) Based on unaudited financial statements, the Company has incurred a net loss during the six months ended June 30, 1982 of approximately \$900,000.

(b) On October 1, 1982, the Board of Directors of Tombstone Exploration, Inc. approved an increase in its authorized common stock to 4,000,000 shares. This action has been reflected in the financial statements as of December 31, 1981.

9. Contemplated offering

The Company is conducting an offering of securities that is described in the annexed offering memorandum.

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY
COMBINED BALANCE SHEET
JUNE 30, 1982
UNAUDITED

LIABILITIES AND STOCKHOLDERS' EQUITY

CURRENT LIABILITIES:

ACCOUNTS PAYABLE - TRADE	\$ 143,080
ACCRUED TAXES AND EXPENSES	393,855
NOTES AND/OR LOANS PAYABLE - CURRENT	194,937
CURRENT PORTION OF CAPITAL LEASE	48,845

TOTAL CURRENT LIABILITIES	780,717
---------------------------	---------

LONG TERM LIABILITIES:

NOTES PAYABLE	482,824
CAPITALIZED LEASE OBLIGATION	318,218
LOANS PAYABLE - STOCKHOLDERS'	4,787,852
LOANS PAYABLE - OTHERS	215,000

TOTAL LONG TERM LIABILITIES	5,803,894
-----------------------------	-----------

STOCKHOLDERS' EQUITY:

CAPITAL STOCK:	
CHRYSAOR LABORATORIES, INC.	10,000
TOMBSTONE EXPLORATION, INC. PAR	31,200
ADDITIONAL PAID IN CAPITAL	132,639
OPENING RETAINED EARNINGS	(3,345,252)
PROFIT (LOSS) FOR THE PERIOD	(935,542)

TOTAL STOCKHOLDERS' EQUITY	(4,106,955)
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TOTAL LIABILITIES AND EQUITY	\$ 2,477,656 =====
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TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY
FOR THE SIX MONTHS ENDED JUNE 30, 1982
UNAUDITED

REVENUE:	
NET SALES	\$ 2,366,487
MISCELLANEOUS	11,057

TOTAL REVENUE	2,377,544

COSTS AND EXPENSES:	
CRUSHING DIVISION	261,377
MINING DIVISION	1,483,695
PLANT DIVISION	319,781
TESTING DIVISION	83,340
SMELTING DIVISION	192,529
LEACHING DIVISION	1,107
WASH PLANT DIVISION	6,433
INTEREST	374,042
ROYALTIES	45,000
CORPORATE OVERHEAD	381,982
DEPRECIATION	163,800

TOTAL EXPENSES	3,313,086

NET INCOME (LOSS)	\$ (935,542)
	=====

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY
NOTES TO COMBINED FINANCIAL STATEMENTS
UNAUDITED

1. Summary of significant accounting policies

This summary of significant accounting policies of Tombstone Exploration, Inc. and an affiliate, Chrysaor Laboratories, Inc. (the "Company") is presented to assist in understanding the Company's financial statements. The financial statements and notes are representations of the Company's management, which is responsible for their integrity and objectivity. These accounting policies conform to generally accepted accounting principles and have been consistently applied in the preparation of the financial statements.

Business activity

The Company was formed in April 1979 for the purpose of mining and processing precious metals.

Principles of combination

The combined financial statements include the accounts of Tombstone Exploration, Inc. and an affiliated company, Chrysaor Laboratories, Inc. The latter, owned by the principal shareholders of Tombstone, conducts smelting operations and provides administrative services for Tombstone. Intercompany accounts and transactions have been eliminated in combination.

Inventories

Work in process inventories consist of mid-grade ore and slag. Mid-grade ore is valued at the lower of cost, determined on a relative sales value basis, or net realizable value. Slag is valued at net realizable value.

Finished goods inventory, consisting of available gold and silver bullion, is valued at market.

Property and equipment

Property and equipment are carried at cost. Maintenance, repairs and betterments which neither materially add to the value of the property nor appreciably prolong its life are charged to expense as incurred. Gains or losses on dispositions of property and equipment are included in income.

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY
NOTES TO COMBINED FINANCIAL STATEMENTS
UNAUDITED

Depreciation and amortization

Depreciation and amortization of property and equipment are provided on the straight-line method over the following estimated useful lives:

	Years
Mining equipment	3-10
Building	10
Leasehold improvement	3- 5
Equipment	3- 5
Equipment under capital lease	15

Leasehold improvements are amortized over the lesser of the useful life of the asset or term of the lease.

Income taxes

The Company has elected to be taxed under the Subchapter-S provisions of the Internal Revenue Code. As a result, losses incurred and tax credits generated from inception to December 31, 1981 have been allocated to the stockholders. If the Subchapter S election had not been made, the Company would have had operating loss carryforwards aggregating \$2,980,791 and investment tax credits aggregating \$212,445, both of which would have expired in the years 1994 through 1996.

Deferred mine development costs

Mine developmental activities consisting of road building, construction of leaching pads and solution ponds, and removing of overburden have been deferred and are being amortized over the economic life of the mine, estimated by the Company to be five years.

Reprocessible material

The reprocessible material, consisting of a Composite Heap and washplant ore, has been processed but may be subject to further processing that will yield additional revenues. It is not practical for the Company to determine the amount or the timing of revenue that may be realized and, accordingly, such amounts are not reflected in the financial statements.

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY
NOTES TO COMBINED FINANCIAL STATEMENTS
UNAUDITED

2. Inventories

Inventories at June 30, 1982 consist of the following:

Gold and Silver doros	\$ 126,685
Work in process - slag	47,704
Work in process - mid-grade ore	175,569

	\$ 349,958
	=====

3. Capital lease

Equipment under capital lease as of June 30, 1982 consists of the following:

Mining equipment	\$ 476,185
less accumulated amortization	47,620

	\$ 428,565
	=====

The following is a schedule of future minimum rental payments under the capital lease:

Year ended December 31

1982	\$ 58,725
1983	117,449
1984	117,449
1985	117,449
1986	99,411

Total minimum lease payments	510,483
Less amounts representing interest	143,420

Present value of minimum lease payments	367,063
Less current portion	48,845

	\$ 318,218
	=====

The lease is guaranteed by certain stockholders.

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY
NOTES TO COMBINED FINANCIAL STATEMENTS
UNAUDITED

4. Long-term debt

Long-term debt as of June 30, 1982 consists of the following notes that are collateralized by mining equipment. Certain notes have installments that are past due.

Note due	Interest rate	Monthly installment	Amount		
			Total	Current	Long-term
1986	18.5%	\$ 7,495	\$ 288,230	\$ 48,467	\$ 239,763
1984	21%	4,427	86,150	45,862	40,288
1986	17.27%	5,301	176,070	45,956	130,114
1984	21.3%	5,835	120,368	48,981	71,387
1982-84(a)	13%-14.6%	1,951	6,943	5,671	1,272
			\$ 677,761	\$194,937	\$ 482,824

(a) various notes.

Maturities of long-term debt are as follows:

Year ending December 31:

1983	\$ 145,000
1984	172,017
1985	134,322
1986	31,485
	\$ 482,824

5. Notes payable - stockholders and other

The Company is obligated to certain stockholders for notes due in 1990. Interest is payable at 1% above the prime rate. Interest payable at June 30, 1982 of \$891,534, including 1981 interest of \$548,877, is reflected in notes payable - stockholders because it was converted to a note payable due in 1990.

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY
NOTES TO COMBINED FINANCIAL STATEMENTS
UNAUDITED

6. Commitments and contingencies

On February 7, 1979, the Company and the Austin Exploration & Mining Corporation (Austin) entered into an agreement to lease from Tombstone Development Corp. certain mineral rights in various patented and unpatented mines located in Tombstone, Arizona. The lease provides for a royalty of \$90,000 per annum or, if greater, royalties ranging from 5% to 20% of mineral recoveries. The lease can be terminated by the Company on 30 days notice. Royalty payments made by the Company during 1982 amounted to \$45,000 and were expensed.

On March 7, 1979, the Company entered into an agreement with an affiliate of Austin to exploit the above lease. The agreement provided for the Company and an affiliate to acquire an interest in an exploration and development project related to the aforementioned lease, and also provided for Southwest Exploration Associates, Inc. (Southwest), an affiliate of Austin, to manage the project. The extent of the Company's interest in the project was dependent on the Company's investment. The agreement of March 1979 provided for investments by the Company of up to \$200,000 for an interest of up to 60%. The agreement also states that additional contributions may be made by the Company and that the Company's interest in the project shall not be less than the percentage that its capital contribution bears to the total capital investment in the project.

In August 1979, the Company assumed complete control of the project. In 1980 the Company filed a civil complaint against Austin and its affiliates alleging fraudulent misrepresentations and breach of contract. Austin and affiliates have filed counterclaims denying the Company's allegations, claiming an unpaid bill of \$45,000, mismanagement, various acts of retaining valuable minerals and concentrates, fraud, breach of agreement, and seeking compensatory and punitive damages.

In the opinion of the Company's counsel, the Company's complaint will most probably result in it obtaining complete interest in the project and, at worst, the defendants may receive a small interest of 10% or less, which interest would be paid only upon the recapture by the Company of its capital investment.

TOMBSTONE EXPLORATION, INC.
AND AFFILIATED COMPANY
NOTES TO COMBINED FINANCIAL STATEMENTS
UNAUDITED

Further, in the opinion of the Company's counsel, the defendants' claims lack significant merit or exposure except for the claim of \$45,000 which has some possibility of success. However, the Company believes that a decision in favor of the defendants would not result in any monetary payments by the Company because the latter will be able to offset certain of its expenses against any amount awarded.

The Company leases office space in New York under terms of a lease expiring November 15, 1983. The lease provides for annual rentals of \$21,600.

At June 30, 1982, the Company had entered into commodity future production agreements with a refiner that required the Company to deliver precious metals at fixed selling prices during 1982. All contracts in existence at June 30, 1982 were covered on July 19, 1982.

7. Capital stock

Under a stockholders' agreement, the Company is obligated to issue bonus inducement shares at the rate of 250 bonus inducement shares for each \$1,000 of principal amount of loans made available to, or guaranteed for, the Company. In addition, shares are similiarly issued as an inducement to the holders of such debt for their willingness to permit the Company to accrue rather than to pay the interest due. As of June 30, 1982, the Company has issued 1,422,130 shares under such agreement.

On July 15, 1981, the Company initiated a stock option plan providing for the option and sale of up to 250,000 shares of the Company's common stock. The period during which the options may be granted is determined by the Company but may not exceed five years from date of option. The option prices will be determined by the Company but will not be less than fair market value on the date the options are granted. As of June 30, 1982, options for 25,472 shares had been granted to certain employees at a price of \$.125 per share. The options expire in October, 1987.

EXHIBIT 2A

TOMBSTONE EXPLORATION, LIMITED PARTNERSHIP NUMBER ONE
 PROFORMA BALANCE SHEET - note 1
 POST OFFERING
 UNAUDITED

A S S E T S

	MINIMUM	MAXIMUM
CASH:		
EQUITY SUBSCRIPTION	75,000	900,000
LOANS	75,000 \$ 150,000	900,000 \$ 1,800,000
	<u> </u>	<u> </u>
PROPERTY - note 2	1	1
	<u> </u>	<u> </u>
TOTAL	150,001	1,800,001
	<u> </u>	<u> </u>

LIABILITIES AND PARTNERS' EQUITY

LIABILITIES:		
LOANS PAYABLE	75,000	900,000
	<u> </u>	<u> </u>
PARTNERS' EQUITY:		
PARTNERS' CAPITAL - note 3	75,001	900,001
	<u> </u>	<u> </u>
TOTAL	\$ 150,001	\$ 1,800,001
	<u> </u>	<u> </u>

TOMESTONE EXPLORATION LIMITED PARTNERSHIP NUMBER ONE
NOTES TO FINANCIAL STATEMENT
POST OFFERING
UNAUDITED

NOTES

1. PRINCIPLES OF PROFORMA. The Proforma Balance Sheet is prepared with a minimum and maximum capitalization. The minimum amount that the limited partner is allowed to contribute so as to trigger the effectiveness of the offering is \$75,000 in additional equity. Further, the limited partner would lend \$75,000 to the limited partnership. The maximum amount of the limited partners' equity is \$900,000. In addition, the limited partners would also lend \$900,000. In both the general partner will be contributing property valued at \$1 for statement purposes.

2. PROPERTY. Property consists of mining leasehold rights to the following patented claims:

Sidney, South Extension of the Grand Central, Moonlight, Naumkes, Grand Central, Flora Morrison, Contention, Last Chance #2, Boss, and those portions of Sulphuret and West Side as are defined in Exhibit 6.

The property is being recorded at nominal value, \$1.

3. PARTNERSHIP EQUITY. The partnership equity consists of the following amounts contributed by the general and limited partners. Under both the minimum and maximum funding, the general partner is contributing property valued at \$1 as described in note 2 above. The limited partners are contributing an investment of \$75,000 (at the minimum) and \$900,000 (at the maximum). Under the limited partnership agreement the general partner will have at least a 2/3 interest in the limited partnership, and the limited partner will have a maximum of a 1/3 interest in the limited partnership.

EXHIBIT 3

MEMBERS OF THE TECHNICAL PANEL OF THE BOARD OF ADVISORS

DAVID D. RABB.

Registered professional Engineer, Arizona, California, Ohio.
Member AIME, AOA, FAIC.

Previously:

Mining Engineer, Arizona Bureau of Mines.
Lecturer (Solution Mining), College of Mines, University of
Arizona.

Nuclear Weapons Division, Lawrence Livermore Laboratory,
University of California.

Lt. Colonel, U.S. Army.

Received B.S., M.S., Professional Degree, University of
Arizona.

PETER B. READY.

Member SME, Silver Institute, Int'l Precious Metals Institute.

Previously:

Refining Executive, Johnson Matthey, Ltd.
President and a Director, Alfred H. Knight Laboratories,
Ltd., (an international quality assurance and analytical
laboratory for the precious metals industry).

Procurement Manager, Refinery Production Manager, Product
Manager, Handy and Harmon.

DR. HANS VON MICHAELIS.

President, Randol International, Ltd. (see TEI Summary of
Operations Report).

Member of SME-AIME, CIM, Northwest Mining Assoc., South
African Institute of Mining and Metallurgy.

Previously:

Manager of Special Projects, Gulf & Western Natural Resources
Group.

Assistant to the Chairman, Samincorp Inc. (part of a world-
wide mining and trading company).

Assistant to the President, International Resources, Ltd. (a
mineral ventures company).

Received Ph.D. in Geochemistry from University of Capetown.

DR. SIDNEY A. WILLIAMS.

Fellow of the Mineralogical Society of America.

Member of the Society of Economic Geologists, the
Mineralogical Society of Great Britain, and the Japanese
Mineralogical Society.

Author of over 50 publications on mineralogy, (some of which
deal specifically with the Tombstone Mining District).

Previously:

Director of Exploration Research, Phelps Dodge Corp.

Mineralogist, Silver King Mines.

Assistant Professor, Michigan Technological University.

Received M.S., Michigan Technological University.

Received Ph.D., University of Arizona.

EXHIBIT 4

MEMBERS OF THE FINANCIAL PANEL OF THE BOARD OF ADVISORS

WILLIAM S. BRENNEN.

Vice Chairman of the Board, Edward S. Gordon Company, (New York City's largest real estate management company).
Member of the New York State and U.S. Federal Bars.

Previously:

President and Chairman of the Board of Trustees, The Greenwich Savings Bank.

First Deputy Superintendent of Banks of the State of New York.
Vice President, The National Patent Council.

HOWARD J. PODUSKA.

Director, Sterling National Bank.

Previously:

Vice Chairman of the Board of Directors, Bank of New York.

Director, Inter-maritime Bank, Geneva.

Chairman of Policy Council (national), Robert Morris Associates.

LAWRENCE TAYLOR.

Financial Consultant.

Previously:

Founder and first Chairman, The National Stock Exchange.

Governor, New York Mercantile Exchange.

Created the commodity futures market and contracts in silver, mercury, platinum and palladium.

Officer in Charge, Office of Patents and Inventions, US Navy.

Technical advisor to the Secretary of the Navy.

An advisor to the President's Committee on Scientific Personnel.

Active duty as Lt. Commander, Office of Naval Research.

Depreciation and amortization

Depreciation and amortization of property and equipment are provided on the straight-line method over the following estimated useful lives:

	<u>Years</u>
Mining equipment	3-10
Building	10
Leasehold improvements	3- 5
Equipment	3- 5
Equipment under capital lease	15

Leasehold improvements are amortized over the lesser of the useful life of the asset or term of the lease.

Income taxes

The Company has elected to be taxed under the Subchapter S provisions of the Internal Revenue Code. As a result, losses incurred and tax credits generated from inception to December 31, 1981 have been allocated to the stockholders. If the Subchapter S election had not been made, the Company would have had operating loss carryforwards aggregating \$2,980,791 and investment tax credits aggregating \$212,445, both of which would have expired in the years 1994 through 1996.

Deferred mine development costs

Mine developmental activities consisting of road building, construction of leaching pads and solution ponds, and removing of overburden have been deferred and are being amortized over the economic life of the mine, estimated by the Company to be five years.

Reprocessible material

The reprocessible material, consisting of a Composite Heap and washplant ore, has been processed but may be subjected to further processing that will yield additional revenues. It is not practical for the Company to determine the amount or the timing of revenues that may be realized and, accordingly, such amounts are not reflected in the financial statements.

2. Inventories

Inventories at December 31, 1981 consist of the following:

Gold and silver dores	\$141,132
Work in process - slag	31,795
Work in process - mid-grade ore	<u>138,785</u>
	<u>\$311,712</u>

3. Capital lease

Equipment under capital lease as of December 31, 1981 consists of the following:

Mining equipment	\$476,185
Less accumulated amortization	<u>23,810</u>
	<u>\$452,375</u>

The following is a schedule of future minimum rental payments under the capital lease:

Year ending December 31:

1982	\$117,449
1983	117,449
1984	117,449
1985	117,449
1986	<u>99,411</u>
Total minimum lease payments	569,207
Less amounts representing interest	<u>198,092</u>
Present value of minimum lease payments	371,115
Less current portion	<u>49,914</u>
	<u>\$321,201</u>

The lease is guaranteed by certain stockholders.

4. Long-term debt

Long-term debt as of December 31, 1981 consists of the following notes that are collateralized by mining equipment. Certain notes have installments that are past due.

<u>Note due</u>	<u>Interest rate</u>	<u>Monthly installment</u>	<u>Amount due</u>		
			<u>Total</u>	<u>Current</u>	<u>Long-term</u>
1984	13%	\$3,942	\$105,991	\$ 51,835	\$ 54,156
1984	21%	4,427	102,641	41,328	61,313
1986	17.27%	5,301	183,626	37,087	146,539
1984	21.3%	5,835	144,513	47,343	97,170
1984	13.25%	5,175	149,143	73,735	75,408
1982-1984 (a)	13%-14.6%	3,016	<u>49,463</u>	<u>32,376</u>	<u>17,087</u>
			<u>\$735,377</u>	<u>\$283,704</u>	<u>\$451,673</u>

(a) - various notes.

Maturities of long-term debt are as follows:

Year ending December 31:

1982	\$283,704
1983	247,549
1984	148,313
1985	55,811
	<u>\$735,377</u>

5. Notes payable - stockholders and others

The Company is obligated to certain stockholders for notes due in 1990. Interest is payable at 1% above the prime rate. Interest payable at December 31, 1981 of \$548,877 is reflected in notes payable - stockholders because it was subsequently converted to a note payable due in 1990.

Notes payable - other are payable to relatives of certain stockholders, bear interest at the prime rate and become due in late 1983.

6. Commitments and contingencies

On February 7, 1979, the Company and the Austin Exploration & Mining Corporation (Austin) entered into an agreement to lease from Tombstone Development Corp. certain mineral rights in various patented and unpatented mines located in Tombstone, Arizona. The lease provides for a royalty of \$90,000 per annum or, if greater, royalties ranging from 5% to 20% of mineral recoveries. The lease can be terminated by the Company on 30 days notice. Royalty payments made by the Company during 1981 amounted to \$90,000 and were expensed.

On March 7, 1979, the Company entered into an agreement with an affiliate of Austin to exploit the above lease. The agreement provided for the Company and an affiliate to acquire an interest in an exploration and development project related to the aforementioned lease, and also provided for Southwest Exploration Associates, Inc. (Southwest), an affiliate of Austin, to manage the project. The extent of the Company's interest in the project was dependent on the Company's investment. The agreement of March 1979 provided for investments by the Company of up to \$200,000 for an interest of up to 60%. The agreement also states that additional contributions may be made by the Company and that the Company's interest in the project shall not be less than the percentage that its capital contribution bears to the total capital investment in the project.

In August 1979, the Company assumed complete control of the project. In 1980 the Company filed a civil complaint against Austin and its affiliates alleging fraudulent misrepresentations and breach of contract. Austin and affiliates have filed counterclaims denying the Company's allegations, claiming an unpaid bill of \$45,000, mismanagement, various acts of retaining valuable minerals and concentrates, fraud, breach of agreement, and seeking compensatory and punitive damages.

In the opinion of the Company's counsel, the Company's complaint will most probably result in it obtaining complete interest in the project and, at worst, the defendants may receive a small interest of 10% or less, which interest would be paid only upon the recapture by the Company of its capital investment.

EXHIBIT 6

LIST OF CLAIMS INVOLVED IN
TOMBSTONE LIMITED PARTNERSHIP NUMBER ONE

<u>CLAIM NAME</u>	<u>PAT. NO.</u>	<u>ACREAGE</u>
CONTENTION	34	20.66
GRAND CENTRAL	90	20.22
MOONLIGHT	404	0.665
SOUTH EXTENSION OF GRAND CENTRAL	130	18.68
SYDNEY MINERAL CERT. NO. :	246	13.86
NAUMKEG	113	8.16
FLORA MORRISON	105	10.11
LAST CHANCE NO. 2	431	3.24
BOSS	663	5.36
SULPHURET (portion)	46	12.41
WEST SIDE (portion)	83	12.36

	TOTAL ACRES:	125.725
		=====

Portion of Sulphuret Claim

A 12.41 acre of the Sulphuret Mining Claim (19.129 acres) described as follows:

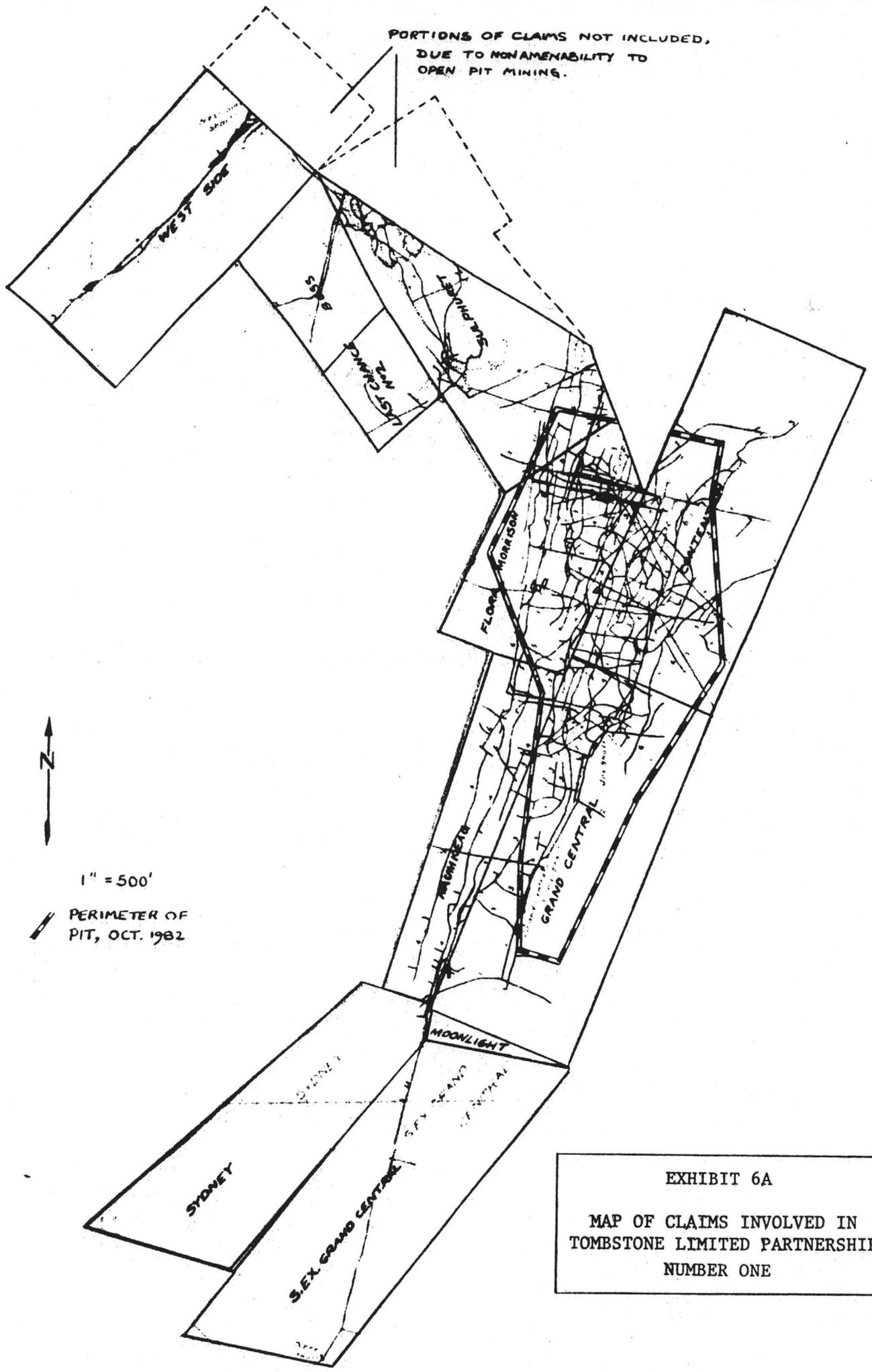
Beginning at corner No. 1, thence South 20 degrees 14 minutes East for a distance of 305.58 feet to the corner No. 2, thence South 58 degrees 15 minutes West for a distance of 536.91 feet to the corner No.3, thence North 32 degrees 15 minutes West for a distance of 813.62 feet to the corner No.4, thence North 25 degrees 56 minutes West for a distance of 660.66 feet to the corner No. 5, thence South 56 degrees 25 minutes East for a distance of 1289.09 feet to corner No. 1, the point of beginning.

Portion of West Side Claim

A 12.36 acre area of the West Side Mining Claim (20.50 acres) described as follows:

Beginning at corner No. 2, thence North 43 degrees 01 minutes East for a distance of 400.00 feet to point "A" on the south side line, thence North 46 degrees 46 minutes West for a distance of 596.33 feet to point "B" on the north side line, thence South 43 degrees 15 minutes West for a distance of 899.90 feet to corner No. 6, thence South 46 degrees 46 minutes East for a distance of 300.00 feet to corner No. 7, thence South 46 degrees 46 minutes East for a distance of 300.00 feet to corner No. 8, thence North 43 degrees 01 minutes East for a distance of 499.90 feet to corner No. 2, the point of beginning.

PORTIONS OF CLAIMS NOT INCLUDED,
DUE TO NONAMENABILITY TO
OPEN PIT MINING.



1" = 500'

PERIMETER OF
PIT, OCT. 1982

EXHIBIT 6A
MAP OF CLAIMS INVOLVED IN
TOMBSTONE LIMITED PARTNERSHIP
NUMBER ONE

TEL MISC
CORRESPONDENCE

PBR MINERALS, INC.
PERSONNEL PHONE LIST

NOTE: ALL NUMBERS ARE STRICKLY CONFIDENTIAL AND WILL NOT BE GIVEN OUT

MANAGEMENT

Schissler, Jack 432-5296
Escapule, Dusty Sr. 457-3997
Bowyer, Les 378-6090
Lindroos, Gary -none-
Parker, Don 457-3376

EMPLOYEES

Adcock, Carl 457-3920
Amarillas, Jay 457-3159
Chadwick, Frank 457-3760
Clancy, Ed 457-3689
Davis, Eddie 457-3996
Davis, Scott 457-3476
DeLaney, Les 457-3817
Dolphin, George 457-3798
Eaton, Bill -none-
Escapule, Dusty Jr. 457-2291
Graves, Joe 457-3436
Hargis, Brent 458-9378
Harrison, Gary 457-3670
Johnson, Doug 457-3188 (msg)
Kested, Steve 457-2236
Lamb, Billy -none-
Lasister, Bob 459-6988
Lindroos, Kevin -none-
Loncasty, Peter 457-3669
Lytle, Shannon 456-1406
Marinez, Oscar 457-3316 (msg)
McCormick, Jon 586-4417
Molina, Ernest 457-3884
Molina, Frank 457-3800 (3919 msg)
Molina, Michael 457-3429
Nunez, David 457-3645
Orth, Lisa 457-3458 (3303 msg)
Peterson, Pete 457-3102
Ramirez, Carolyne 457-3127
Reifert, Ken 457-3681
Tryon, Ron 457-3316
Valenzuela, Benji 457-3793
Ward, Earl 457-
Willett, Richard -none-

TOMBSTONE EXPLORATION, INC.

MEMO

1 December 1983

TO: Dustin Escapule
FR: Gary Lindroos
RE: Job Descriptions

1) LAB SUPERVISOR, Gary Lindroos

Responsible for all assays, Lab supervision, reports and metallurgical testing. Performs occasional AA analysis, fire assays, and oil analysis.

2) LAB FOREMAN, John VandenBroeck

Performs AA analysis, occasional fire assay and special testing as required. Takes over duties of Lab Supervisor during his absence. Performs light maintenance and repair. On call on Sundays for sampling and AA analysis.

3) LAB TECHNICIAN (a): Ruth Baird

Records samples received at Lab, performs acid digestion of samples received for assay of gold, silver and other metals. Qualified to operate AA. Assists in all areas of lab where required.

4) LAB TECHNICIAN (b): Sam Smith

Performs fire assay for gold and silver on precipitates, dore' purity and ore samples. Tests ore from pelletizer for lime and cyanide content. Assists in sample preparation when required. Performs AA analysis when required.

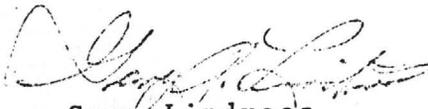
5) LAB TECHNICIAN (c): Edward Martinez

Performs sample preparation, samples pad heads and tailings. Performs maintenance on sample preparation equipment. Fire assays as required. Performs housekeeping chores. Assists mining division when sampling trenches in pit. Assists with labor in other divisions as required.

1 December 1983
Job Descriptions
page II

6) SAMPLE PREP, Jamie Milligan

Performs sample preparation, samples pad heads and tailings. Performs maintenance on sample preparation equipment. Performs housekeeping chores. Is in training to operate AA. Assists mining division in sampling of trenches in pit. Assists with labor in other divisions as required.



Gary Lindroos
Lab Supervisor

GL/ckc

TOMBSTONE EXPLORATION, INC.

AZ033083

TO: Joe Graves
 FR: Gary Lindroos
 RE: Special Barrel Testing (CH series)

	SOLUTION		OZ LEACHED		CN	PH	FLOW RATE
	AU	AG	AU	AG			
<u>CH - 1</u>							
24 hour	.028	.63	.028	.63	3.2	8	0.57 gpm
48 hour	.031	.79	.031	.79	3.5	11	
72 hour	.034	.66	.034	.66	3.3	11	
Head	.018	1.36					
Tailings	.016	.80					
% Recovery	11.1	41.2					

CH - 2

24 hour	.011	.17	.005	.08	4.5	12	0.41 gpm
48 hour	.018	.23	.009	.11	3.5	12	
72 hour	.018	.18	.009	.09	3.6	12	
Head	.020	1.36					
Tailings	.012	1.04					
% Recovery	40.0	23.5					

CH - 3

24 hour	.008	.55	.004	.27	3.8	8	0.46 gpm
48 hour	.009	.68	.0045	.34	3.8	12	
72 hour	.013	.66	.0065	.33	3.4	12	
Head	.042	9.40					
Tailings	.020	5.08					
% Recovery	52.4	45.9					

Gary Lindroos
 Chief Chemist

GL/ckc

TOMBSTONE EXPLORATION, INC.

AZSUM104 MEMO #1

TO: DUSTIN ESCAPULE
 FR: GARY LINDROOS
 RE: COMPOSITE HEAP SAMPLE 5 (FERROUS CHLORIDE LEACH)

Sample #5 from the Composite Heap was run with a Ferrous Chloride, Sodium Chloride, Hydrochloric Acid bottle roll test with the following results:

OZ LEACHED			
	Au	Ag	pH
	--	--	--
24 hours	.004	.55	1.0
48 hours	.007	.76	1.0
72 hours	.023	1.64	1.0
head	.030	3.48	
oz leached	.023	1.64	
% recovery	76.7	47.1	

Tailings assay from cyanide barrel testing would indicate that the head sample may have been inaccurate. If head were actually lower percent recovery for this test would be greatly enhanced.

Gary Lindroos
 Test/Lab

GL/ckc

MEMO #2/AZSUM909.PT2

TO: Dustin Escapule
FR: John VandenBroeck & Gary Lindroos
RE: Mid Grade Special Testing

Mid Grade Special Number 3 was run with the following results:

SCREEN SIZE	%SCREEN SIZE	FIRE ASSAYS		ACID DIGEST.	
		AU	AG	AU	AG
HEAD SAMPLE	----	.015	.71	.012	.68
-3/4" scrn hds	----			.018	.72
+ 4"	14.2	.006	.34	.016	.24
-4" + 1 1/2"	14.9	.008	.47	.012	.32
-11/2" + 3/4"	18.0	.008	.53	.016	.44
-3/4" + 1/2"	16.8	.015	.57	.016	.44
-1/2" + 1/4"	12.0	.010	.62	.020	.64
-1/4"	24.1	.028	.98	.028	1.00

All assays were run in triplicate by Acid Digestion and Fire Assay. The -3/4" Screened Fraction was taken for pelletized - Agglomerated Barrel Testing results to follow.

Gary Lindroos
Lab

GL/ajw

AZSUM913/MEMO #3

TO: DUSTIN ESCAPULE
FR: GARY LINDROOS & JOHN VANDENBROECK
RE: MID GRADE SPECIAL #4

Assay results of mid grade special #4 are as follows:

SAMPLE I.D.	SCREEN ANALYSIS % WEIGHT	ACID DIGESTION	
		AU	AG
Head	---	.004	.18
+4"	16.9	.004	.18
-4" + 1 1/2"	21.0	.004	.20
-1 1/2" + 1"	28.2	.004	.16
-1" + 1/2"	15.8	.004	.18
-1/2" + 1/4"	7.8	.004	.18
-1/4"	10.3	.004	.24

Sample was such low grade that I requested mid grade sample #5 be brought to the lab from the pit.

Gary Lindroos
Lab

GL/ckc

Memo #3/AZSUM917

TO: DUSTIN ESCAPULE
 FR: JOHN VANDENBROECK & GARY LINDROOS
 RE: MID GRADE SPECIAL NO. 5

Results from mid grade special sample #5 are as follows:

SAMPLE ID#	%WEIGHT	AU	AG
-----	-----	---	---
+ 4"	14.9	.012	1.48
-4" +1 1/2"	21.6	.008	.64
-1 1/2" +1"	20.8	.004	.32
-1" +1/2"	15.3	.012	.72
-1/2" +1/4"	8.6	.008	.52
-1/4"	18.8	.012	.84
Head	-----	.008	.56

Pelletized-Agglomerated Barrel Test (-1" Screened)

Time	SOLUTION		OZ LEACHED	
	Au	Ag	Au	Ag
-----	---	---	---	---
24 hrs	.006	.38	.003	.19

Gary Lindroos
 Lab

GL/ckc

AZSUM924/MEMO#2

TO: Dustin Escapule
 FR: John VandenBroeck
 RE: Dore' Purity Comparisons

	VACUUM		SHOT	
	AU	AG	AU	AG
8/8/82 thru 8/16/82	1.667	78.40	1.837	79.44
	1.901	78.89	1.267	74.36
	1.874	78.41	1.812	78.20
8/24/82 to 8/16/82	1.492	86.55	1.510	86.44
	1.458	86.89	1.515	86.51
	1.465	86.59	1.515	86.66
8/31/82 to 9/6/82	1.464	89.00	1.481	88.81
	1.500	88.61	1.462	88.70
	1.461	88.85	1.448	88.57
9/6/82 to 9/13/82	2.016	90.01	2.001	89.82
	1.979	89.78	1.996	89.69
	1.984	89.86	2.002	89.98
9/13/82 TO 9/20/82	1.975	88.20	1.998	88.14
	1.984	88.14	1.962	87.80
	1.954	88.03	1.970	88.05

John VandenBroeck

TOMBSTONE EXPLORATION, INC.

AZSUM927/MEMO#2

TO: DUSTIN ESCAPULE
FR: JOHN VANDENBROECK
RE: MID GRADE SPECIAL 4660E

SAMPLE I.D.	Screen Analysis % by wt.	AU: opt	AG: opt
+3/4"	26.4	.008	.84
-3/4"	73.6	.012	1.60
head		.012	1.40
+1"	21.0	.006	.60
-1"	79.0	.010	1.44
head		.012	1.40

Pelletized - Assmomerated Barrel Testins

	SOLUTION		OZ LEACHED		CN	PH
	AU	AG	AU	AG		
-3/4"	.040	2.10	.020	1.05	3.0	12
-1"	.022	1.48	.01	.74	3.0	12

PERCENT RECOVERY

SAMPLE	AU	AG
-3/4"	100+	65.6
-1"	100+	48.7

JOHN VANDENBROECK
LAB/SMELTER SUPERVISOR

JV/aw

TOMBSTONE EXPLORATION, INC.

AZSUM927/MEMO#3

TO: DUSTIN ESCAPULE
FR: JOHN VANDENBROECK
RE: MID GRADE SPECIAL GRAND CENTRAL

SAMPLE I.D.	SCREEN ANALYSIS % BY WT.	AU OPT	AG OPT
+1"	23.0	.002	.24
-1"	77.0	.016	1.76
head		.014	1.40

Pelletized - Agglomerated Barrel Testing

	SOLUTION		OZ LEACHED		CN	PH
	AU	AG	AU	AG		
-3/4"	.020	1.21	.010	.61	2.5	12
-1"	.020	1.14	.010	.57	3.0	12

SAMPLE	PERCENT RECOVERY	
	AU	AG
-3/4"	62.5	35.0
-1"	62.5	32.4

John VandenBroeck
Lab/Smelter Supervisor

JVB/aw

TOMBSTONE EXPLORATION, INC.

AZSUM927/MEMO#4

TO: DUSTIN ESCAPULE
FR: JOHN VANDENBROECK
RE: MID GRADE SPECIAL - LITTLE JOE

SAMPLE I.D.	SCREEN ANALYSIS		FIRE ASSAY	
	% BY WT		AU OPT	AG OPT
+3/4"	31.0		.004	.43
-3/4"	69.0		.016	.90
head sample			.014	.88

PELLETIZED BARREL TESTING

SAMPLE I.D.	SOLUTION		OZ LEACHED		CN	PH
	AU	AG	AU	AG		
-3/4" 24 HR	.016	.80	.008	.40	2.0	12
-1" 24 HR	.018	.90	.009	.45	2.0	12

PERCENT RECOVERY

SAMPLE I.D.	AU	AG
-3/4"	50.0	88.9
-1"	43.7	64.3

JOHN VANDENBROECK
LAB/SMELTER SUPERVISOR

JVB/aw

TOMBSTONE EXPLORATION, INC.

MEMO

21 December 1983

TO: Dustin Escapule and State of Maine Mining Co.

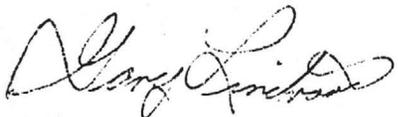
FR: Gary Lindroos

RE: Testing of Crusher Ore

Bottle roll testing of a -3/8" to +1/8" screen fraction was conducted on crushed ore sample. Sample was agitated for two hours. Results are as follows:

<u>TIME</u>	<u>OUNCES LEACHED</u>		<u>CN</u>	<u>AVAILABLE time</u>	<u>pH</u>
	<u>Au</u>	<u>Ag</u>			
5 min	.008	.43			
10 min	.014	.49			
15 min	.016	.54	2.1	4.06	13.0
30 min	.018	.59			
45 min	.019	.68			
60 min	.019	.70	2.0	3.88	13.0
75 min	.019	.73			
90 min	.019	.76			
105 min	.022	.76			
120 min	.022	.81	2.0	3.96	13.0

	<u>Au</u>	<u>Ag</u>
Head Assay	.024	1.02
Percent Recovery	91.7	79.4



Gary Lindroos
Lab Supervisor for
Tombstone Exploration, Inc.

GL/ckc



TOMBSTONE EXPLORATION, INC.

MEMORANDUM

TO: DUSTIN ESCAPULE
FROM: GARY LINDROOS, JOHN TEETS
RE: SPECIAL PRECIP ANALYSIS
DATE: AUGUST 1, 1983

<u>PRECIP COMPOSITE</u>	<u>% ZN</u>	<u>% CU</u>	<u>% PB</u>	<u>% MN</u>	<u>% INSOL *</u>
7/12/83 B-1,2,3 COMPOSITE	3.44	0.22	0.12	0.011	51.4
7/13/83 B-1,2,3 COMPOSITE	3.75	0.20	0.12	0.014	50.3
7/14/83 B-1,2,3 COMPOSITE	2.81	0.22	0.14	0.032	46.0
7/15/83 B-1,2,3 COMPOSITE	3.25	0.15	0.12	0.005	42.6
7/17/83 B-1,2,3 COMPOSITE	2.34	0.12	0.09	0.007	40.2

* APPEARS TO BE D.E.

GARY LINDROOS
LAB SUPERVISOR

JOHN TEETS
CHEMIST

GL, JT/CH

TOMBSTONE EXPLORATION, INC.

MEMORANDUM

TO: Dustin Escapule

FROM: Gary Lindroos
John Teets

RE: Evaluation of LAKOS SEPARATOR and the KREBS CYCLONE for
seperating slimes.

DATE: June 28, 1983

LAKOS SEPARATOR:

Several runs were made using slimes in the range of 10% solids to 45% solids and from spproximately 8 mesh to 60 mesh. At above 20% solids, plugging of lines occurred frequently although on an average 60% of the solids were removed after diluting the feed slurry to 10% or less. It was estimated to take 20 to 30 minutes to process or "clean" 55 gallons of slurry to minus 200 mesh and finer.

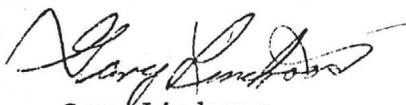
KREBS CYCLONE:

Similar runs were made using the same 2 H.P. pumps used for the Lakos Separator. This unit performed much better. Upwards of 85% of total solids were removed at a rate of 55 gallons of 25% slurry in 37 seconds. This unit performed trouble free during all test runs. Re-cycling of the discharged "clean" effluent was not performed due to the piping installation but in event, the discharge effluent was not sufficiently clean, recycling would not be time consuming.

DISCUSSION:

The performance of the Krebs Cyclone far exceeded the Lakos Separator with respect to the unit size tested. It is doubtful if installing these units in series would be benficial. If the discharge effluent needs further

cleaning after one pass, recycling back into the cyclone or perhaps use of a flocculant would clear up the solution sufficiently enough to use as a spray. American Cyanamid in Tucson has been contacted concerning various flocculants available and they are sending samples for testing if we desire to proceed in this direction. In one test run using the cyclone, a head assay on the solids was 1.32 OPT while the wash solution assayed at 0.24 OPT. Adding lime and cyanide to the feed slurry would increase this leachability substantially.



Gary Lindroos
Chief Chemist

GL/ch

TOMBSTONE EXPLORATION, INC.

MEMORANDUM

TO: Jim Jones
 FROM: Gary Lindroos
 RE: Barrel Testing HC Samples
 DATE: March 10, 1983

HC 4 A/B 0-40

	<u>Au</u>		<u>Ag</u>			
Head	.050		2.16			
Tailing	.030		1.85			
% Recovery	40.0		14.3			
	Solution		Oz Leached		CN	PH
	<u>Au</u>	<u>Ag</u>	<u>Au</u>	<u>Ag</u>		
24 hours	.035	.54	.017	.27	2.1	12
48 hours	.041	.62	.020	.31	1.8	12

HC #2 + HC 4C

	<u>Au</u>		<u>Ag</u>			
Head	.040		1.42			
Tailing	.028		1.28			
% Recovery	30.0		9.9			
	Solution		Oz Leached		CN	PH
	<u>Au</u>	<u>Ag</u>	<u>Au</u>	<u>Ag</u>		
24 hours	.020	.24	.010	.12	2.2	12
48 hours	.023	.28	.012	.14	2.0	12

Gary Lindroos
 Gary Lindroos
 Lab

TOMBSTONE EXPLORATION, INC.

MEMORANDUM

TO: Bob Lee
 FROM: Gary Lindroos
 RE: Sizing Test, Crusher Ore (3/8/83)
 DATE: March 10, 1983

	<u>Au</u>	<u>Ag</u>		<u>Au</u>	<u>Ag</u>
Head - 3/4"	.012	0.98	Head - 1/2"	.012	0.98
Tailing - 3/4"	.007	0.74	Tailing - 1/2"	.005	0.70
% Recovery	41.7	24.5	% Recovery	58.3	28.6

Barrel Testing

	Solution		Oz Leached		CN	PH
	Au	Ag	Au	Ag		
3/8/83 - 3/4"	.011	.48	.005	.24	2.2	12
- 1/2"	.014	.56	.007	.28	1.8	12

Pelletizing Information:

Lime: 10 pounds per ton of ore
 NaCN: 3 pounds per ton of solution

Gary Lindroos
 Gary Lindroos *cu*
 Lab

cw

TOMBSTONE EXPLORATION, INC.

MEMORANDUM

TO: Bob Lee
 FROM: Gary Lindroos
 RE: Sizing Tests, Crusher Ore
 DATE: March 7, 1983

	-3/4"		-1/2"		-3/8"		-1/4"	
	Au	Ag	Au	Ag	Au	Ag	Au	Ag
Head	.020	1.64	.020	1.64	.020	1.64	.020	1.64
Tailings	.016	.92	.014	.84	.014	.76	.012	.72
% Recovery	20.0	43.9	30.0	48.8	30.0	53.7	40.0	56.1

LEACHABILITY TESTING (24 Hours)

	Solution Assay		Oz Leached		CN	PH
	Au	Ag	Au	Ag		
-3/4"	.012	.74	.006	.37	2.7	12
-1/2"	.016	1.06	.008	.53	2.5	12
-3/8"	.019	1.12	.0095	.56	2.6	12
-1/4"	.019	1.19	.0095	.595	2.4	12

Above samples were pelletized using 10 lbs per ton lime and 3 lbs per ton sodium cyanide.

Gary Lindroos
 Lab

cw

TOMBSTONE EXPLORATION, INC.

%RECOV

DATE: January 24, 1983
TO: Dustin Escapule
FR: Gary Lindroos and John VandenBroeck
RE: Enhancing Pad Recovery

Over the past month, several tests and observations have been accomplished to improve recovery of Precious Metals on T.E.I. pads.

Barrel Testing shows that by increasing lime content to 10 pounds per ton of ore, we can maintain a PH factor of 11 or 12 on the pads at all times.

An increase in cyanide to 2 pounds per ton of solution increases recovery percent and speeds up the leach cycle time.

Proper reagent control of the pad ore and solution in the ponds should yield an average of at least 0.3 ounces silver from each ton of ore on the pads. This will increase our recovery percentage to between 80 and 90 percent.

Pad #3 (with approximately 6000 tons of ore) averaging 1.99 oz/ton Ag was leached from 1-3-83 thru 1-7-83 with normal methods. A leachability barrel test with addition of 1 pound per ton of NaCN was conducted and showed an increase of 0.10 Ag in 2 hours. A decision was made to let Pad #3 set for 96 hours and respray. Results were: effluent at start 2.42 oz/ton Ag. After 72 hours spraying time, the effluent remained at 0.50 oz/ton.

It is my opinion that if we had double the pad space we could recirculate all the pads after 24 to 48 hours draining time and greatly enhance our recovery rates.

TESTING OF TAILINGS FROM PADS

The following tailings samples from pads #4 and #5 were re-pelletized with additional NaCN (2 pounds per ton) and lime (10 pounds per ton) and barrel tests were conducted with the results as follows:

SAMPLE ID	ASSAY FROM PAD		ASSAY AFTER 24 HOURS	
	AU	AG	AU	AG
TAILS PAD 4 ROWS 1-3	.008	1.12	.006	.16
" PAD 4 ROWS 4-6	.006	.52	.004	.20
" PAD 4 ROWS 7-9	.006	.48	.004	.28
" PAD 5 ROWS 1-3	.010	.64	.004	.24
" PAD 5 ROWS 4-6	.010	.88	.004	.28
" PAD 5 ROWS 7-9	.008	.72	.006	.52
AVERAGE:	.008	.73	.005	.28
INCREASE RECOVERY:			.003	.45
PERCENT INCREASE:			37.5	57.9

The above tests would indicate that additional lime and cyanide are required to obtain the best conditions for recovery and leach cycle time.

Respectfully submitted,

Gary Lindroos and
John VandenBroeck

GL,JV/ckc

MEMO1244.LAB

TOMBSTONE EXPLORATION, INC.

MEMO

January 24, 1984.

To: Dustin Escapule
From: Gary Lindroos
Re: Effects of Temperature During Cyanidation

"The rate of dissolution of metals in cyanide solution increases with rise in temperature." (Manual of Cyanidation, by Hamilton).

"Under normal temperatures (60 to 70 degrees F) 0.6 parts of zinc dust is required to precipitate 1 part silver. Colder temperatures (30 to 45 degrees F) have shown an increase in zinc dust (0.8 to 0.9 parts zinc dust to 1 part silver)," Clennell.

In essence from the above statements, the ion exchange during cold temperatures is slowed down causing an increase in reagent consumption and a considerable drop in precious metals recovery.

To offset the drop in precious metals recovery, due to reagent consumption in cold weather, the lime and cyanide content are usually increased therefore rendering the solutions at a higher caustic level increasing the leaching effect on base metals present in the ore resulting in a lower percentage of dore purity.

Gary Lindroos
Lab Supervisor

GL/ch

Impurities have their principal source in and are traceable to the ore constituents to contamination underground and to secondary reactions in the treatment at the surface. The first place, in order of importance, is Iron: Pyrite and Marcasite (FeS_2) and Pyrrhotite (Fe_7S_8), where present, are converted into soluble Ferrous Sulphate (FeSO_4). These in turn are precipitated by the addition of neutralizing Lime as hydrated oxides of Iron, both in the Ferric and Ferrous state. The hydroxide in the Ferrous state is particularly soluble in a cyanide solution.

Calcium is introduced in the form of Lime (CaO) for the purpose of providing a neutralizing agent. Its use results in the formation of Calcium Carbonate (CaCO_3) and of Calcium Sulphate (CaSO_4).

In cyaniding ore containing Copper minerals, it is found that the Carbonate Oxide and Sulphate minerals particularly are attacked by cyanide with avidity.

Reference: Cyanidation and Concentration of Gold and Silver ores.
By: John V.N. Durr and Frank Bosqui

GEOCHEM. LAB

TOMBSTONE EXPLORATION, INC.

MEMO

January 27, 1964

To: Dustin Escapule
From: Gary Lindroos
Re: Geochemical Analysis, Precips & Dore

Date and Lot No.:

	1-5-64 Eb1#3(precip)	1-12-64 #2 Precip	Dore Lot 1138
% Au	0.6	0.66	2.776
% Ag	20.7	24.23	88.83
% Pb	0.003	0.004	0.20
% Zn	22.12	21.00	0.046
% Cu	0.06	0.03	0.27
% Fe	0.11	0.11	0.07
% Mn	N.D.	N.D.	N.D.
% Ni	0.01	N.D.	0.01
% Al	N.D.	N.D.	N.D.
% Pt	N.D.	N.D.	N.D.
% Insull	56.33	53.96	7.76

Note: N.D. = None Detected

Gary Lindroos
Lab Supervisor

GL/ch

CIRCA - 1984

Special Composite Heap, Leach Test

Tonnage: 690

No. Sprays: 15 @ 3.5 gpm

Solution Per Hour: 3150 gallons = 13.3 TONS PER HOUR

Ave .34 oz Ag in solution DURING 13 1/2 HRS

.0055 oz Au in solution DURING 13 1/2 HRS

Au Leached 13 1/2 Hrs :	0.9875	@ 370.00	\$ 365.38
Ag Leached 13 1/2 Hrs :	61.047	@ 8.88	<u>542.10</u>
			907.48

D: PSPRMDPD.TA

TOMBSTONE EXPLORATION, INC.

MEMORANDUM

TO: DUSTIN ESCAPULE
FROM: GARY LINDROOS AND JOHN TEETS
RE: PARTICLE SIZE AND PRECIOUS METAL DISTRIBUTION OF
PAD TAILINGS.
DATE: JULY 15, 1983

THE PURPOSE OF THIS TESTING PROGRAM IS TO DETERMINE SIZE DISTRIBUTION WITH RELATIVE PRECIOUS METAL VALUES SO THAT METHODS OF SIZE SEPARATION WITH RESPECT TO ECONOMIC PRECIOUS METAL RECOVERY CAN BE TESTED AND ESTABLISHED.

THREE SCREEN TESTS WERE CONDUCTED:

TEST 1 REPRESENTS DISTRIBUTION OF MATERIAL TO BE DISCHARGED FROM THE WASH PLANT AS FINES (+100 MESH) AND SLIMES (-100 MESH) WITH +20 MESH MATERIAL ALSO INCLUDED TO SHOW PERCENTAGE DISTRIBUTION FROM -1/4 INCH TO -325 MESH.

TEST 2 INCLUDES -1/2 INCH +1/4 INCH MATERIAL TO AGAIN SHOW RELATED PERCENTAGE DISTRIBUTION AND TEST 3 INCLUDES ALL SIZE MATERIAL FOUND IN A TAILING SAMPLE TO SHOW TOTAL DISTRIBUTION. ALL SCREEN SEPARATIONS WERE ASSAYED FOR AG AND AU AND ALL DISTRIBUTION DATA IS ILLUSTRATED BY GRAPHS FOR ALL TESTS.

TEST #1: SAMPLE SIZE 3.2 LBS. MATERIAL ABOVE 1/4" NOT INCLUDED.

SCREEN SIZE	SIZE DISTRIBUTION		PRECIOUS METAL DISTRIBUTION	
	LBS.	%	AG (OPT)	AU
-1/4" +20 MESH	1.75	55.1	.60	.014
-20 M +45 M	.69	21.6	.64	.014
45 M +80 M	.50	15.9	.72	.016
-80 M +100 M	.16	5.1	.80	.018
-100 M +200 M	.03	.96	.76	.018
-200 M +325 M	.02	.59	.80	.018
-325 M	.02	.70	1.00	.022

REFERRING TO FIGURE 1, THE ABOVE DATA CLEARLY ILLUSTRATES PARTICLE SIZE AS BEING INVERSELY PROPORTIONAL TO PRECIOUS METAL CONTENT. (IN THE RANGE SCREENED.)

TEST #2: SAMPLE SIZE, 9.7 LBS. MATERIAL ABOVE 1/2" NOT INCLUDED.

SCREEN SIZE	SIZE DISTRIBUTION		PRECIOUS METAL DISTRIBUTION	
	LBS.	%	AG (OPT)	AU
-1/2" +1/4"	0.5	5.1	1.32	.020
-1/4" +20 M	7.0	72.0	1.04	.018
-20 M + 45 M	1.3	13.5	1.52	.020
-45 M + 80 M	.59	6.0	1.52	.028
-80 M + 100 M	.13	1.3	1.76	.038
-100 M + 200 M	.12	1.2	1.84	.038
-200 M + 325 M	.04	0.5	2.20	.036
-325 M	.04	0.4	2.32	.040

ASSAY PRIOR TO SCREENING: AG 1.36 OPT AU .024 OPT.

THIS TEST INCLUDED DISTRIBUTION RESULTS ON MATERIAL -1/2 INCH + 1/4 INCH WHICH WAS NOT INCLUDED IN TEST #1. REFERRING TO FIGURE 2, THE PRECIOUS METAL VALUES FOLLOW SIZE DISTRIBUTION AS IN TEST #1 EXCEPT AS NOTED FOR THE +1/4" SIZE WHICH ONLY AMOUNTED TO 5% OF THE TOTAL SAMPLE SCREENED. TEST #3 WILL INCLUDE +1/2 MATERIAL.

TEST #3: SAMPLE SIZE, 15.7 LBS. ENTIRE SIZE RANGE INCLUDED.

SCREEN SIZE	SIZE DISTRIBUTION		PRECIOUS METAL DISTRIBUTION	
	LBS.	%	AG (OPT)	AU
+1/2"	4.0	25.4	.68	.012
-1/2" +1/4"	3.5	22.3	.64	.012
-1/4" +20 M	4.6	29.3	.56	.010
-20 M +45 M	3.0	19.1	.76	.016
-45 M +80 M	.43	2.7	1.00	.022
-80 M +100 M	.05	.32	1.08	.022
-100 M +200 M	.08	.51	1.24	.024
-200 M +325 M	.02	.13	1.68	.026
-325 M	(NEG.)	-	-	-

REFERRING TO THE ABOVE DATA AND FIGURE 3, THIS TEST SHOWS A MATERIAL SIZE DISTRIBUTION ABOVE 45 MESH TO BE 96% OF THE TOTAL SAMPLE SCREENED. PRECIOUS METAL VALUES FOLLOW THE SAME PATTERN AS IN PREVIOUS TESTS.

SUMMARY: ALTHOUGH ADDITIONAL SCREENING TESTS ARE NECESSARY TO FULLY SUBSTANTIATE THE DATA COMPILED IN THIS REPORT, IT COULD BE ASSUMED THAT IF THE SAMPLES TESTED ARE SOMEWHAT NEAR REPRESENTATIVE OF THE TAILINGS WITH RESPECT TO MATERIAL SIZE AND PRECIOUS METAL DISTRIBUTION, THE FOLLOWING SITUATIONS SHOULD BE ADDRESSED:

1. A PRECIOUS METAL VALUE LIMIT SHOULD BE ESTABLISHED PRIOR TO WASHING THE TAILINGS, AND MATERIAL ABOVE THIS VALUE SHOULD BE RETURNED TO THE PAD FOR RE-SPRAYING. TESTS MAY HAVE TO BE CONDUCTED TO DETERMINE IF A MORE SEVERE METHOD OF WASHING THE TAILS COULD BE EMPLOYED TO LOWER PRECIOUS METAL VALUES IN THE MATERIAL LARGER THAN 45 MESH.

2. IF THE FINES AND SLIMES REPRESENT 10% OR LESS OF THE TOTAL MATERIAL, CYCLONE OR CYCLONES SHOULD EFFECTIVELY SEPARATE MATERIAL SUFFICIENTLY TO PERMIT WASH SOLUTION CARRYING -150 MESH OR SMALLER PARTICLES TO A SPRAY POND.

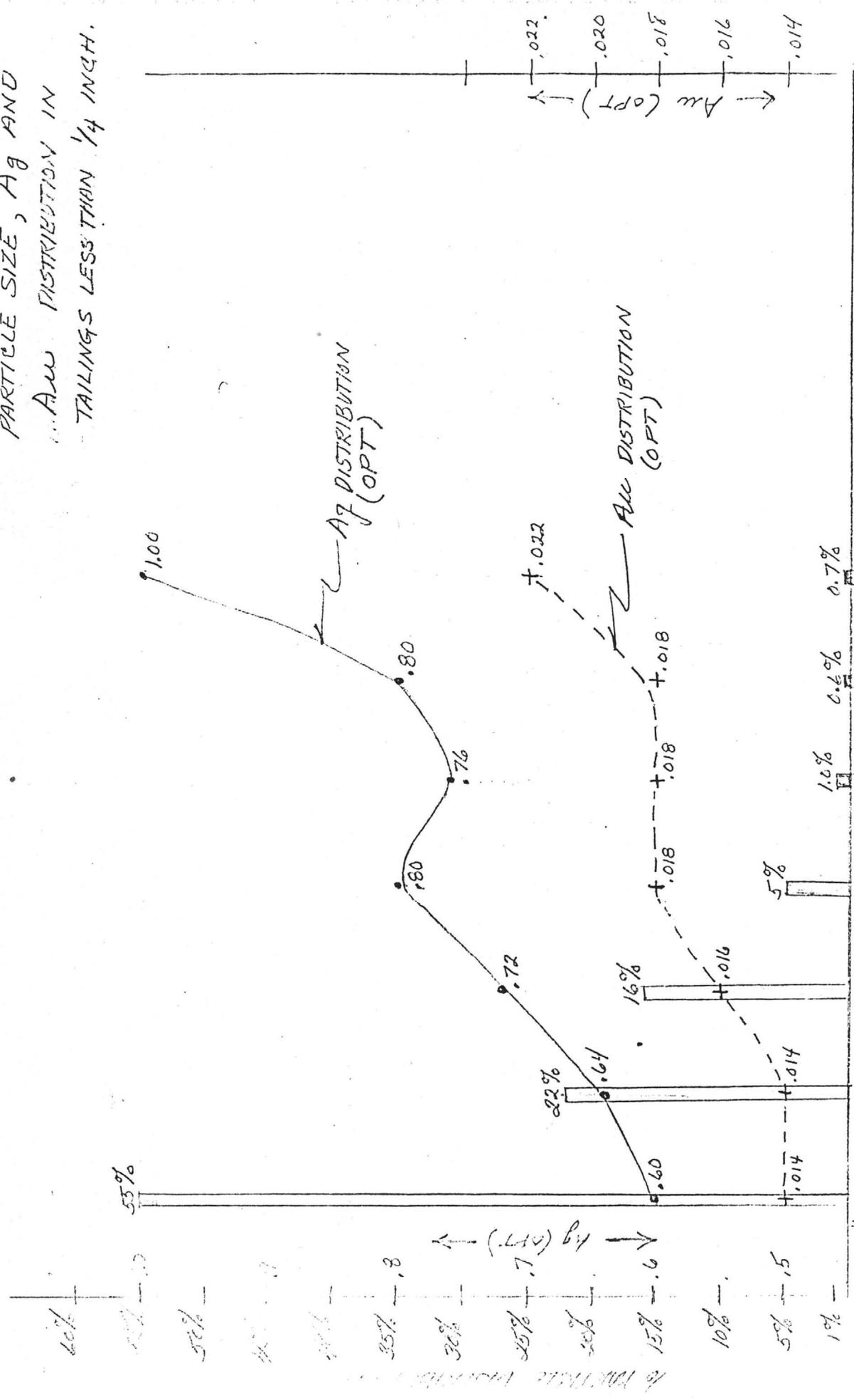
GARY LINDROOS
LAB SUPERVISOR

JOHN TEETS
CHEMIST

F. 1 SCREEN TEST

7-13-83

PARTICLE SIZE, Ag AND
 Auw DISTRIBUTION IN
 TAILINGS LESS THAN 1/4 INCH.



$(-1/4 + 20M) (-20 + 45) (-45 + 80) (-80 + 100) (-100 + 200) (-200 + 325) (-325)$
 PARTICLE SIZE
 % PARTICLE SIZE
 Ag
 Auw

FIG. 2 SCREEN TEST # 2

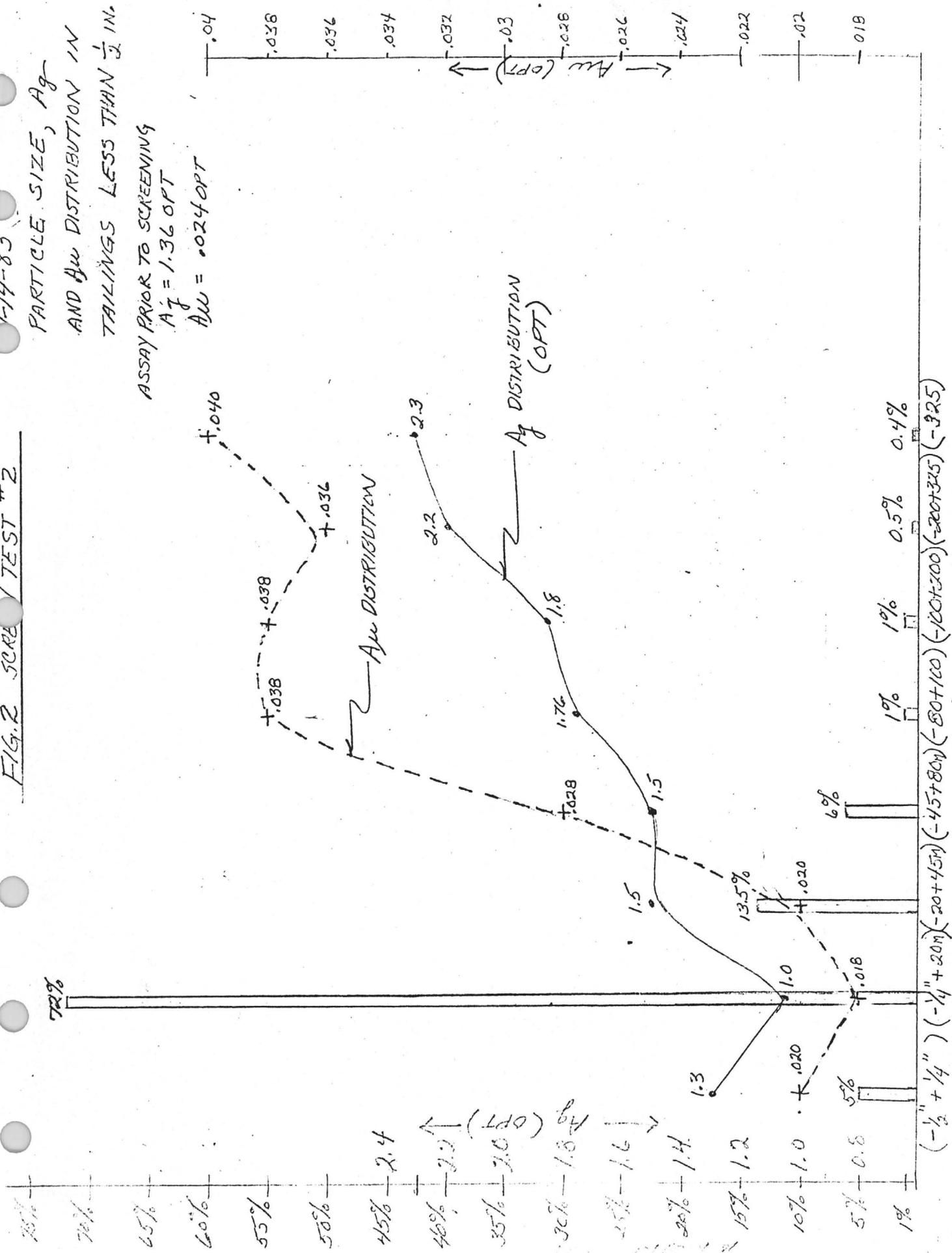
7-14-83

PARTICLE SIZE, A_g
AND A_w DISTRIBUTION IN
TAILINGS LESS THAN $\frac{1}{2}$ IN.

ASSAY PRIOR TO SCREENING

$A_g = 1.36 \text{ OPT}$

$A_w = .024 \text{ OPT}$

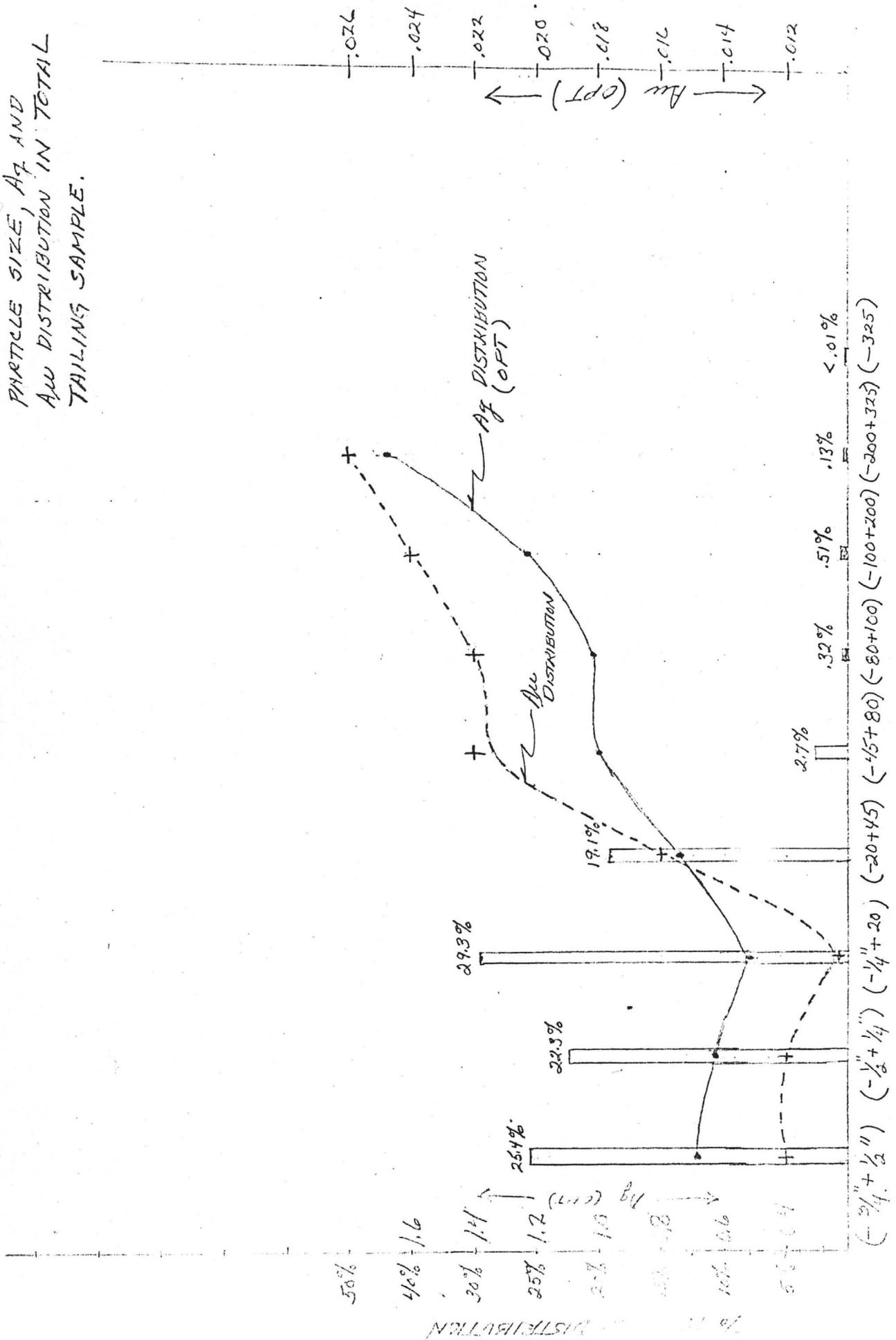


PARTICLE SIZE

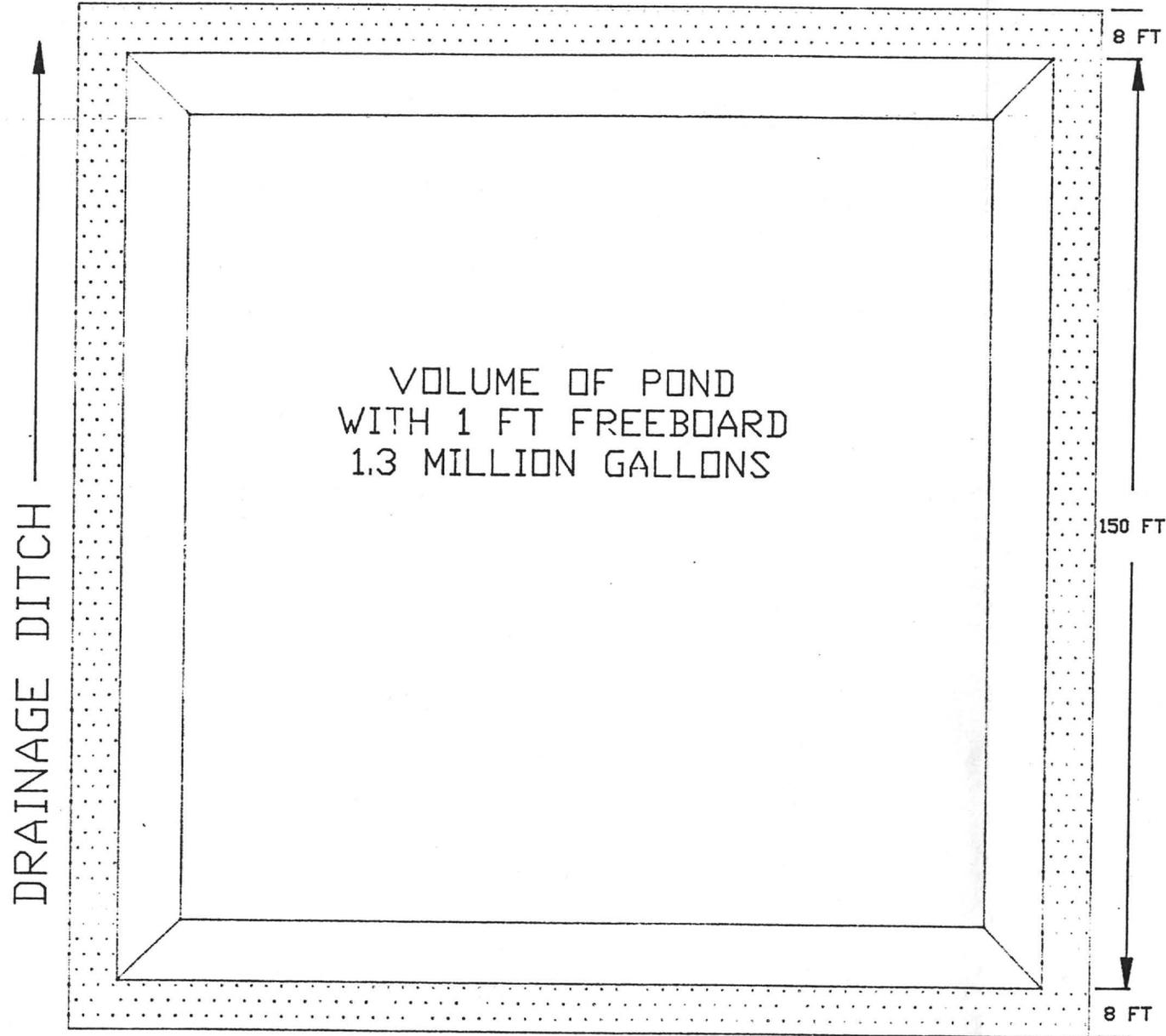
FIG 3 SCREEN TEST # 3

7-14-63

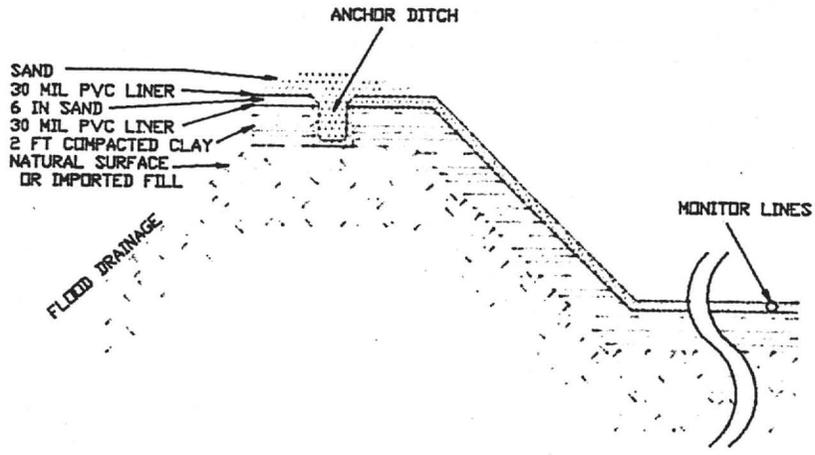
PARTICLE SIZE, A₇ AND A_W DISTRIBUTION IN TOTAL TAILING SAMPLE.

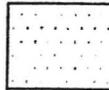
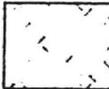


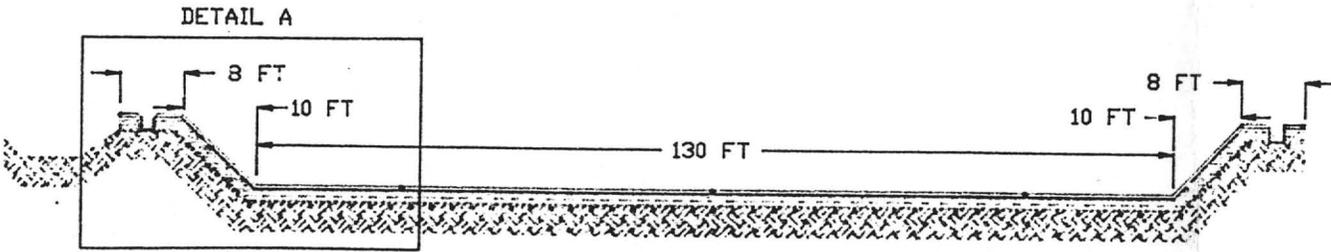
PREGNANT & BARREN
SOLUTION PONDS
IDENTICAL



DETAIL A
(NOT TO SCALE)



-  SAND
-  CLAY
-  NATURAL SURFACE
OR IMPORTED FILL



NORTH

SCALE: 1 IN = 20 FT

TARGET AREAS
CONTENTION OPEN PIT

<u>AREA</u>	<u>ORE</u>		<u>WASTE</u>
1	328,610		1,643,054
2	384,432		1,537,703
3	309,523		1,299,000
4	425,955		
4a	44,398	470,353	1,916,000
5	226,744		974,000
6	210,647		842,591
7	121,638		462,220
	<hr/>		<hr/>
TOTALS:	2,051,947		8,674,568

TARGET AREAS
CONTENTION OPEN PIT

<u>AREA</u>	<u>ORE</u>		<u>WASTE</u>
1	187,777 s/t		938,888 s/t
2	175,740 s/t		878,703 s/t
3	144,445 s/t		722,222 s/t
4	211,851 s/t		
4a	27,749 s/t	(239,600)	1,198,000 s/t
5	86,666 s/t		433,333 s/t
6	96,296 s/t		481,481 s/t
7	57,777 s/t		288,888 s/t
TOTALS:	988,301 s/t		4,941,515 s/t

TEI-MOUNTAIN STARS
COPKOS/AM DENVER



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE Below* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

John Vander Broeck

JT/ckc

Encl: Lots#

CN 22249 1-16-3 / 1-22-3
CN 22373 1-23-3 / 1-29-3

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

JT/ckc

Encl: Lots#

CN 23598

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE Below* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

JT/ckc

Encl: Lots# *23442*



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

Samuel Lee Smith

JT/ckc

Encl: Lots# *23352*

4-4-3 BBL #2 #3 to 4-11-3 BBL #1

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

Samuel Lee Smith

JT/ckc

Encl: Lots#

CN 23280

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

Samuel Lee Smith

JT/ckc

Encl: Lots# *23520*

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

Samuel Lee Smith

JT/ckc

Encl: Lots#

CN 23196-1

CN 23196-2

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

Richard Lee Smith

JT/ckc

Encl: Lots# *CW-23119*

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE Below* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

Samuel Lee Smith

JT/ckc

Encl: Lots#

CN 23042

31-510-10-3

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

Samuel Lee Smith

JT/ckc

Encl: Lots#

CN 22952

2-28-3 to 3-6-3

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE Below* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

Samuel Lee Smith

JT/ckc

Encl: Lots#

CN 22852

2-21-3/2-27-3

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

Samuel E. Smith

JT/ckc

Encl: Lots#

2-11 3-6-77 118

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE Below* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

James H. Smith

JT/ckc

Encl: Lots#

CN-22606

-ot 2-6-3/2-12-3

CN-22570

Lot-1-3-3/2-5-3

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

John Vanden Broek

JT/ckc

Encl: Lots#

CN 22147

1-9-3/1-153

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE Below*. We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

John Vander Borch

JT/ckc

Encl: Lots#

CN 22035

1-2-3 / 1-8-3

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

JT/ckc

Encl: Lots#

CN 21703 12-2-2/12-21-2 #1
CN 21750 12-21-2#2/1-1-3

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

JT/ckc

Encl: Lots#

12-1-2/12-11-2

CP 21718

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE Below* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

John Vander Beek

JT/ckc

Encl: Lots# *CN 21585*

11-23-2 #2 / 11-30-2

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

John Vanden Brook

JT/ckc

Encl: Lots#

11-18-2 / 11-23-2
D-6701

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

John Vander Broeck

JT/ckc

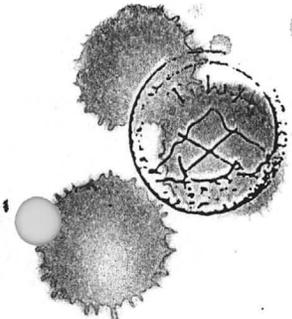
Encl: Lots#

11-11-2 / 11-18-2 #1

21441

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

John Vander Borch
~~LAB ASSISTANT~~

JT/ckc

Encl: Lots#

11-3-2/11-10-2 #21329



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,
J.V. Burch
LAB ASSISTANT

JT/ckc

Encl: Lots# *10/20/2 - 10/26/2 21113*



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

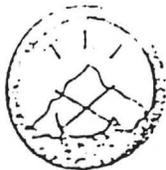
Please find enclosed lots # *SEE BELOW* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

John Vander Burch
~~LAB ASSISTANT~~

JT/ckc

Encl: Lots# *10/12/2 - 10/19/2* *20132*



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

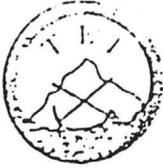
Please find enclosed lots # *SEE Below* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

John Vander Burch
~~LAB ASSISTANT~~

JT/ckc

Encl: Lots# *10-5-2/10-11-2 #20893*



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious
metal (Au and Ag) analysis done on these filings. Please send Certificate of
Assay to my attention. Thank You.

Sincerely,

Daydie Lopez
LAB ASSISTANT

JT/ckc

Encl: Lots#

Shot CN 20828
9-28-2 / 10-4-2



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE Below* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

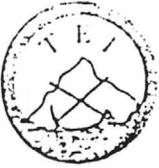
Sincerely,

Haydie Lopez
LAB ASSISTANT

JT/ckc

Encl: Lots#

Shot CN 20919 9-21-2/9-27-2



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

Haydie Lopez
LAB ASSISTANT

JT/ckc

Encl: Lots#

Shot

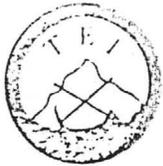
CN 20639

9-13-2^{#4} / 9-20-2

Vacuum

CN 20639

9-13-2^{#4} / 9-20-2



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

Haydie Lopez
LAB ASSISTANT

JT/ckc

Encl: Lots#

Vacuum
CN 20403
8-24-2 / 8-31-2 #1
Shot
CN 20403
8-24-2 / 8-31-2 #1



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELLOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

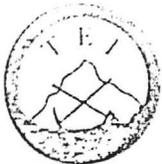
Saydie Lopez
LAB ASSISTANT

JT/ckc

Encl: Lots#

Shot
CN 20432 8-31-2 #2 / 9-6-2 #1

Vacuum
CN 20432 8-31-2 #2 / 9-6-2 #1



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

Haydie Lopez
LAB. ASSISTANT

JT/ckc

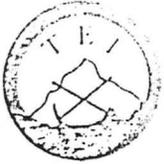
Encl: Lots#

Shot
8-10-2
#2
#3
#4 / 8-23-2

Vacuum
8-10-2
#2
#3
#4 / 8-23-2

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *see below* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

Haydie Lopez
Lab. Assistant

JT/ckc

Encl: Lots#

CN # 20252
8-8-2 thru 8-16-2 #1
Vacuum
CN # 20252
8-8-2 thru 8-16-2 #1
Shavings



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *see below* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

Gaydie Lopez
Lab. Assistant

JT/ckc

Encl: Lots#

Shavings
8-9-82
CN 20180 #8371
7-31-82 thru 8-7-2

Vacuum
CN 20150 #8371
7-31-82 thru 8-7-2



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *see below* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

Haydie Lopez

JT/ckc

Encl: Lots#

8-2-82

203427



TOMBSTONE EXPLORATION, INC.

Mountain States
P.O. Box 17960
Tucson, Arizona 85731

Attention: Mr. Frank Tindall

Dear Mr. Tindall:

Please find enclosed lots # *Rusted Below* . We would like a % Precious metal (Au and Ag) analysis done on these filings. Please send Certificate of Assay to my attention. Thank You.

Sincerely,

Haydie Lopez
LAB ASSISTANT

JT/ckc

Encl: Lots#	6-29-82	#	203324-A
	"	#	203324-B
	7-7-82	#	203341-A
	"	#	203341-B
	7-19-82	#	203383
	7-26-82	#	203405

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New York, New York 10021
212-628-8466

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Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

Please find enclosed lots # *SEE BELOW* We
would like a % Precious Metal (Au and Ag) done on these dore' filings.
Please send results to my attention. Thank you.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots # 4-13-2^C
4-17-2
4-18-2
4-19-2
4-14-2^{#2}
4-15-2
4-16-2
4-20-2



TOMBSTONE EXPLORATION, INC.

TEI
Mountain, State St.
170 EAST 76th ST.
New York, N.Y. 10021
Box 17960
Arizona 85731

Attention: ~~Mr. Frank Tindall~~ *Ms. ROSE Dwyer*

Dear Mr. ~~Tindall~~:

Please find enclosed lots # *SEE BELOW* . We would like a % Precious

metal (Au and Ag) analysis done on ^{*Dore*} these filings. ~~Please send Certificate of~~
~~also Au and Ag on precipitate. Please send~~
~~Assay to my attention. Thank You.~~

results to my attention A S A P.

Sincerely,

Harold Roper
Lab. Assistant

JT/ckc

Encl: Lots#

CL - A
CL - B
3-31-2
4-1-2
4-2-2
4-3-2
4-4-2
4-5-2
4-6-2

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

October 29, 1982

Rochin Assay Office, Inc.
P. O. Drawer 3507
Douglas, AZ 85607

Dear Sir:

Please find enclosed our Precipitate lots #'s (see below). Please mail Certificate of Assay as soon as possible.

Please run the two sets, as sets.

Sincerely yours,

Samuel Lee Smith
John Van den Broeck
Lab Supervisor

cw
Enclosures: Precipitate Lot #

Set #1

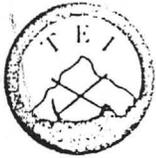
6-28-3 #1	6-30-3 #1
" #2	" #2
" #3	
" #4	
6-29-3 #1	
" #2	
" #3	

Set #2

6-30-3 #3	7-2-3 #1	7-4-3 #1
7-1-3 #1	" #2	" #2
" #2	" #3	
" #3	7-3-3 #1	
	" #2	
	" #3	

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

October 29, 1982

Rochin Assay Office, Inc.
P. O. Drawer 3507
Douglas, AZ 85607

Dear Sir:

Please find enclosed our Precipitate lots #'s (see below). Please mail Certificate of Assay as soon as possible.

Sincerely yours,

John Van den Broeck
John Van den Broeck
Lab Supervisor

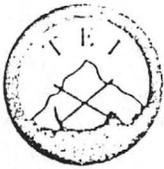
cw

Enclosures: Precipitate Lot #

Enclosures:	Precipitate Lot #
1	100 #1
1	100 #2
1	100 #3
1	100 #4
1	100 #5
1	100 #6
1	100 #7
1	100 #8
1	100 #9
1	100 #10
1	100 #11
1	100 #12
1	100 #13
1	100 #14
1	100 #15
1	100 #16
1	100 #17
1	100 #18
1	100 #19
1	100 #20
1	100 #21
1	100 #22
1	100 #23
1	100 #24
1	100 #25
1	100 #26
1	100 #27
1	100 #28
1	100 #29
1	100 #30
1	100 #31
1	100 #32
1	100 #33
1	100 #34
1	100 #35
1	100 #36
1	100 #37
1	100 #38
1	100 #39
1	100 #40
1	100 #41
1	100 #42
1	100 #43
1	100 #44
1	100 #45
1	100 #46
1	100 #47
1	100 #48
1	100 #49
1	100 #50

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

October 29, 1982

Rochin Assay Office, Inc.
P. O. Drawer 3507
Douglas, AZ 85607

Dear Sir:

Please find enclosed our Precipitate lots #'s (see below). Please mail Certificate of Assay as soon as possible.

Sincerely yours,

Samuel Lee Smott

John Van den Broeck
Lab Supervisor

cw

Enclosures: Precipitate Lot #

8-20-3 #1	8-22-3 #1	8-24-3 #1	8-26-3 #1
" #2	" #2	" #2	" #2
" #3	" #3	" #3	
8-21-3 #1	8-23-3 #1	8-25-3 #1	
" #2	" #2	" #2	
" #3	" #3	" #3	

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P.O. Box 610
Tombstone, Arizona 85638
602-457-2231

TEI-NEW YORK
CORRESPONDENCE



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

We would like a fire assay for Au and Ag done on the precipitate lots listed below. Please send Certificate of Assay in my attention.

Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots:

7-6-2 #1	7-11-2 #1
7-7-2 #1	7-11-2 #2
7-7-2 #2	7-12-2 #1
7-8-2 #1	7-12-2 #2
7-8-2 #2	7-13-2 #1
7-9-2 #1	7-13-2 #2
7-9-2 #2	7-13-2 #3
7-10-2 #1	
7-10-2 #2	



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

Please find enclosed lots # *listed below* . We
would like a % Precious Metal (Au and Ag) done on these dore' filings.
Please send results to my attention. Thank you.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

7-7-82
Enclosed Lots # 203341-A
203341-B



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

We would like a fire assay for Au and Ag done on the precipitate lots listed below. Please send Certificate of Assay in my attention.

Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots:

- | | |
|-----------|----------|
| 6-30-2 #1 | 7-4-2 #2 |
| 6-30-2 #2 | 7-5-2 #1 |
| 7-1-2 #1 | 7-5-2 #2 |
| 7-1-2 #2 | |
| 7-1-2 #3 | |
| 7-2-2 #1 | |
| 7-2-2 #2 | |
| 7-2-2 #3 | |
| 7-3-2 #1 | |
| 7-3-2 #2 | |
| 7-3-2 #3 | |
| 7-4-2 #1 | |



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

We would like a fire assay for Au and Ag done on the precipitate lots listed below. Please send Certificate of Assay in my attention.

Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots:

6-21-82 #1
6-22-82 #1
6-22-82 #2
6-25-82 #1
6-23-82 #2
6-24-82 #1
6-24-82 #2
6-25-82 #1
6-25-82 #2
6-26-82 #1
6-26-82 #2
6-27-82 #1
6-27-82 #2

6-28-2 #1
6-28-2 #2
6-29-2 #1
6-29-2 #2

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

We would like a fire assay for Au and Ag done on the precipitate lots listed below. Please send Certificate of Assay in my attention.

Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots:

6-9-82 #1	6-14-82 #1
6-9-82 #2	6-14-82 #2
6-9-82 #3	6-15-82 #1
6-10-82 #1	6-15-82 #2
6-10-82 #2	6-16-82 #1
6-11-82 #1	6-16-82 #2
6-11-82 #2	6-17-82 #1
6-12-82 #1	6-17-82 #2
6-12-82 #2	6-18-82 #1
6-13-82 #1	6-18-82 #2
6-13-82 #2	6-19-82 #1
	6-19-82 #2
	6-20-82 #1
	6-20-82 #2

17 East 76th Street
New York, New York 10021
212-620-1166

P.O. Box 610
Tombstone, Arizona 85638
520-257-2211



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

Please find enclosed lots # *Listed Below* . We
would like a % Precious Metal (Au and Ag) done on these core' filings.
Please send results to my attention. Thank you.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots # *6-29-82* *No. 203324 A*
6-29-82 *No. 203324 B*



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

Please find enclosed lots # *listed Below*

we would like a % Precious Metal (Au and Ag) done on these core' filings.

Please send results to my attention. Thank you.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots #

6-9-2

6-10-2

6-11-2

6-12-2

6-13-2

6-14-2

6-15-2

Au.
Ag.

N.A.I.L # 203305

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

Please find enclosed lots # *Listed Below* .. We
would like a % Precious Metal (Au and Ag) done on these dore' filings
Please send results to my attention. Thank you.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc

HL/ckc

Enclosed Lots #

6-2-82	} Au. Ag.
6-3-82	
6-4-82	
6-5-82	
6-6-82	
6-7-82	
6-8-82	

N.A.I.L - 203281



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

We would like a fire assay for Au and Ag done on the precipitate lots listed below. Please send Certificate of Assay in my attention.

Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots:

6-2-82 #1
6-2-82 #2
6-3-82 #1
6-3-82 #2
6-4-82 #1
6-4-82 #2
6-5-82 #1
6-6-82 #1
6-6-82 #2
6-7-82 #1
6-7-82 #2
6-8-82 #1

6-8-82 #2
6-8-82 #3

17 East 76th Street
New York, New York 10021

212-622-9166

P.O. Box 610
Tombstone, Arizona 85638

602-457-9921



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

Please find enclosed lots # *Listed Below* We
would like a % Precious Metal (Au and Ag) done on these dore' filings.
Please send results to my attention. Thank you.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots #

5-26-2
5-27-2
5-28-2
5-29-2
5-30-2
5-31-2
6-1-2

} Au.
Ag.

N.A.I.L # 203264



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

We would like a fire assay for Au and Ag done on the precipitate lots listed below. Please send Certificate of Assay in my attention.

Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots: 5-25-2 #3
5-26-2 #1
5-26-2 #2
5-27-2 #1
5-27-2 #2
5-28-2 #1
5-28-2 #2
5-29-2 #1
5-29-2 #2
5-30-2 #1
5-30-2 #2
5-31-2 #1
5-31-2 #2
6-1-2 #1
6-1-2 #2

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

Please find enclosed lots # *Listed Below* We
would like a % Precious Metal (Au and Ag) done on these dore' filings.
Please send results to my attention. Thank you.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots # 5-19-2
5-20-2
5-21-2
5-22-2
5-23-2
5-24-2
5-25-2

Au.
Ag.

NAIL # 203243



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

We would like a fire assay for Au and Ag done on the precipitate lots listed below. Please send Certificate of Assay in my attention.

Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots:

5-19-2 #1	5-24-2 #2
5-19-2 #2	5-25-2 #1
5-20-2 #1	5-25-2 #2
5-20-2 #2	
5-21-2 #1	
5-21-2 #2	
5-22-2 #1	
5-22-2 #2	
5-23-2 #1	
5-23-2 #2	
5-24-2 #1	

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

Please find enclosed lots # *listed Below* . We
would like a % Precious Metal (Au and Ag) done on these dore' filings.
Please send results to my attention. Thank you.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots #
5-12-2
5-13-2
5-14-2
5-15-2
5-16-2
5-17-2
5-18-2

17 East 76th Street
New York, New York 10021

P.O. Box 610
Tombstone, Arizona 85638
1-57-2021



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

We would like a fire assay for Au and Ag done on the precipitate lots listed below. Please send Certificate of Assay in my attention.

Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots:

5-12-2 #1
5-13-2 #1
5-13-2 #2
5-14-2 #1
5-14-2 #2
5-15-2 #1
5-15-2 #2
5-16-2 #1
5-16-2 #2
5-17-2 #1
5-17-2 #2
5-18-2 #1
5-18-2 #2

17 East 76th Street
New York, New York 10021
212 628-2166

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

We would like a fire assay for Au and Ag done on the precipitate lots listed below. Please send Certificate of Assay in my attention.

Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots:

5-5-2 #1
5-5-2 #2
5-6-2 #1
5-6-2 #2
5-7-2 #1
5-7-2 #2
5-8-2 #1
5-8-2 #2
5-9-2 #1
5-9-2 #2
5-10-2 #1
5-11-2 #1
5-11-2 #2

17 East 76th Street
New York, New York 10021

212 628-8166

P.O. Box 610
Tombstone, Arizona 85638

602-457-2231



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

Please find enclosed lots #

we would like a % Precious Metal (Au and Ag) done on these dore' filings.

Please send results to my attention. Thank you.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots #

4-24-2	4-21-2
4-25-2	4-22-2
4-26-2	4-23-2
4-27-2	

P.O. Box 610

Tombstone, Arizona 85638



TOMBSTONE EXPLORATION, INC.

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

We would like a fire assay for Au and Ag done on the precipitate lots listed below. Please send Certificate of Assay in my attention.

Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots:

4-21-2 BBL #1

4-21-2 BBL #2

4-22-2 BBL #1

4-22-2 BBL #2

4-23-2 BBL #1

4-23-2 BBL #2

4-24-2 BBL #1

4-24-2 BBL #2

4-25-2 BBL #1

4-25-2 BBL #2

4-26-2 BBL #1

4-26-2 BBL #2

4-27-2 BBL #1

4-27-2 BBL #2



TOMBSTONE EXPLORATION, INC.

13 April 1982

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

Enclosed, please find lots # CL-A, CL-B, 3-31-2, 4-1-2, 4-2-2, 4-3-2, 4-4-2, 4-5-2 and 4-6-2. We would like a % Precious metal (Au and Ag) analysis done on these dore' filings. Also, we would like Au and Ag done on the precip lots. Please send results to my attention, as soon as possible. Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots: CL - A
CL - B
3-31-2
4-1-2
4-2-2
4-3-2
4-4-2
4-5-2
4-6-2

17 East 76th Street
New York, New York 10021
212-628-8466

P.O. Box 610
Tombstone, Arizona 85638
602-457-2231



TOMBSTONE EXPLORATION, INC.

13 April 1982

Tombstone Exploration, Inc.
17 East 76th Street
New York, New York 10021

Attention: Ms. Rose Dwyer

Dear Ms. Dwyer;

We would like a fire assay for Au and Ag done on these precipitate lots listed below. Please send certificate of assay in my attention.

Thank You.

Sincerely,

Haydie Lopez

Haydie Lopez
Lab Assistant for
Tombstone Exploration, Inc.

HL/ckc

Enclosed Lots: 3-31-2
4-1-2
4-2-2
4-3-2
4-4-2
4-5-2
4-6-2

re-run 3-5-2 barrel #1