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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: CINDER ASSOCIATES #23 AND #24

ALTERNATE NAMES: CINDER MOUNTAIN PROJECT

COCONINO COUNTY MILS NUMBER: 528

LOCATION: TOWNSHIP 22 N RANGE 10 E SECTION 29 QUARTER NE LATITUDE: N 35DEG 21MIN 12SEC LONGITUDE: W 111DEG 16MIN 17SEC TOPO MAP NAME: MERRIAM CRATER - 7.5 MIN

CURRENT STATUS: OTHER

COMMODITY: PUMICE CINDER

BIBLIOGRAPHY: ADMMR CINDER ASSOCIATES #23 AND #24 FILE

#### MEASURED

63

ORE RESERVES

CINDER ASSOCIATES Four Placer Mining Claims 160 Acres Each #21, #22, #23, #24

> LOCATION T22N R10E #21, #22 S½ Sec. 20 #23, #24 N½ Sec. 29 GSBM



BY JAMES R. YOUELL

James R. Youell Registered Engineer Wenden, Arizona Telephone (602) 859-3491



#### ADDENDUM

Questions have come to mind regarding the use of \$9.24 profit from each ton of \$12.95/ton gross. This is not to say that for accounting purposes many other items from whatever source can reduce the net.

The \$3.21 processing costs have been calculated, checked and projected by the Houston Corporation and given to me by Robert Houston, an officer in that corporation.

At this stage in mine - plant development, item cost must be developed, not guessed at, as precisely as available information allows. Some beginning point is usually arrived at:

- Have a process that works find application that is economical.
- II. Have commodity develope a market.

In this case, Houston Corporation has a process that extracts precious metals from volcanic cinders, handling a given tonnage of whatever value is in the cinders. Their cost figure is \$3.21 to process through the system 4800 tons in a twenty-four hour day. Vary the tonnage, this cost will vary.

The next step is to find cinders with not just enough tonnage; the cinders must have proven potential by acceptable methods to return the investment on the process plant and the interest on that investment.

This report has presented three alternatives; 1. 559,980 tons at \$16.74/ton; 2. 757,350 tons at \$14.23; 3. 991,440 tons at \$12.95/ton. At a dollar value per ton, gold being \$300.00/oz. and silver being \$6.00/oz.

The next logical step in the feasibility chain is to apply a dollar value to other cost items to find out if there The first of many are mining will be any money left. My experience says \$0.50/ton. To refine this, get costs. several other estimates. To go further, advertise for Finally, mine the ore and add up the cost. bids. In each degree of accuracy is increased until the case the mining is finished. forna! Engi ultimate, The same holds processing costs. It must be noted that if the ultimate is required first, no ore would be mined, no bridges built, and no person would every run for President. 16475

I hope this clears up those questions that have surfaced, YOUELL

JAMES R.

JAMES R. YOUELL REGISTERED ENGINEER Box 338 Wenden, Arizona 85357 Telephone (602) 859-3491

#### SUMMATION

The results of the sampling and preliminary study indicate that a safe margin of profit of \$9.24 per ton can be realized for mining operations and mill processing costs.

These results are conservative so that with the technically advanced plant proposed, only an increase over the present system will be realized.

The location of the mine and plant site in the Flagstaff area, should provide near year around operation and a very desirable location for employees and management to conduct their business.

#### SAMPLING PROCEDURES

#### Field Sampling Procedures

The first thing that must be accomplished in any sampling endeavor is to know where the sample is to be taken. A compass and tape traverse of test hole sites was accomplished and these locations were tied to the quarter corner between section 20 and 29. Sixteen 30 foot deep test pits are planned - four rows covering about twenty acres on the east side of the cinder cone. A sketch map will be prepared depicting test pits and will be included in the final report.

The nature of the cinders and the loose cementing found in the cinders necessitated a rather large excavation so that the 30 foot deep sample holes could be entered safely and the proper sampling procedures followed.

The physical sampling was done the full depth along either the left or right side of the sample hole. This was in the form of a channel sample approximately ten inches wide and one and one half inches deep. The volume of sample is approximately 3ft.

Additional material was cut from the bottom to complete the channel sampling. All the material was placed in marked, covered buckets for transport to the storage area in Flagstaff.

At the storage area, the samples were prepared and blended so that three buckets of approximately .69 ft<sup>3</sup> volume were obtained. These buckets were then carefully Page 2 Sampling Procedures

covered, identified, and sealed with tape so that removal of the tape would be readily evident. These buckets were then stored in rented storage to which I alone have the key. These sealed sample buckets will be transported to Phoenix for further processing. One bucket is expected to be used for immediate testing and two remnaining buckets held for future use or confirmatory procedures.

The terrain, environmental restrictions and physical characteristic of the cinders dictated the method used to sample; this representative method qet a was the Caterpillar 225 backhoe which was the most economical and readily available equipment for the project.

#### <u>Hole Logs</u>

Each hole was logged after it was sampled and the graphic log represents the west face of the holes measured down from the high point to the bottom. The dip of the formations is normally easterly from this measured high point due to the slope of the cone. No attempt will be made to indicate the angle of dip on the graphic logs because they would not truly represent the conditions of the west wall of the hole. The holes were dug with the backhoe in two stages, the reason being that the backhoe had a reach of approximnately twenty-five feet and it was desirable to have a thirty plus feet represented. The hole was begun and a six to eight foot high bank was excavated and a flat platform established. From this

#### Page 3 Sampling Procedures

flat platform the remaining twenty-five to twenty-six feet was excavated. The dry conditions of the cinders particularly in the lower part of the cone required that a large hole was started to reduce sloughing in the deeper sections. The hole logs are included in Appendix "A" and only a summation of their relationship is given here in Figure "1".

#### Blending Of The Samples

The samples that were taken in the field were removed each day and blended on a sampling cloth so that an even color was obtained. From the four or more buckets of field samples, three selected and blended samples were bagged so that each one would deliver as close as possible the same assay results. Physical properties will also be ascertainable and are covered under physical properties.

#### Storage

As stated before, samples were stored in loced warehouse space P-40 at the Armour Self Storage, 3003 E. Industrial Drive, Flagstaff, Arizona 86001, (602) 526-2859. Yard entry time is 7a.m. to 7 p.m. every day. These samples will be retained for thirty days at this location, and then removed and stored at my business address in Wenden, Arizona. One of the three splits of each of the samples were taken to Chandler, Arizona, at the Houston Corporation Laboratories, for testing. Page 4 Sampling Procedures

#### Sample Preparation For Leaching

The samples that were taken to Chandler were processed through a crusher with an opening set at 3/8ths inch and blended, quartered, and half of the sample was selected for screening on the 16 mesh sieve. The other half was retained. The half that was screened on the 16 mesh sieve was used for testing.

Sample hole composites #1 through #8 were processed in a leach column. The material consisted of eight pounds minus 3/8ths inch to plus 16 mesh sample. This material was placed in a five inch diameter lucite tube and the fluid or leachate was passed through the sample in an upward or counter-flow direction. This method of fluid flow was used so that plugging or blinding of the column would not occur. Fluid flow rates for the first eight samples was 4.9 gallons per minute, or if converted to surface area, would be 23 gallons per minute per square foot for this size tube. The heighth of the material in the column varied from sample to sample, but remained near twelve inches.

Samples #9 and #10 were prepared for leaching in a manner close to that which was suggested for the leach vats of the mill system. The material minus the 16 mesh was placed in the column at the same weight percent that existed in the test sample. The sieve analysis of the crushed test sample was as follows: minus 3/8ths plus 16 mesh was 75%; 25% of the material was minus 16 mesh. The material was placed in the leach column as follows:

#### Page 5 Sampling Procedures

two pounds of minus 3/8ths plus 16 mesh, then two pounds of minus 16 mesh and four pounds of minus 3/8ths plus 16 mesh so that the total material would be eight pounds. Sample holes #11, #12, #13, #14 and #17 were placed in the leach column in the same manner as the first eight samples.

#### Leach Tests

The leach tests were performed on eight pound samples loaded in the columns as described above. These tests were carried out over an intended twelve thirty minute cycles. The leaching solution consisted of

This solution was placed in a bucket along with a circulating pump and a heating element. the solution was circulated two or three times. then the Ph was adjusted

This solution was circulated for thirty minutes through the sample in the column, at which time the solution was removed from the sample by draining back into the bucket. The pumps were then placed in a fresh batch of leach solution and the above procedures were repeated. A 600ml. aloquant was obtained for assay. The drained solution was tested for Ph From samples **#1** and **#2**, all of the drained solution that remained after the sample was extracted (7.4 L) was

#### Page 6 Sampling Procedures

combined in a large barrel for comparative extraction. This sample was to be zinced and agitated after being adjusted to a Ph The zinced precipitate was allowed to settle for two days and the solution decanted so that filtering of the precipitate could be made easier. This precipitate was then fluxed and furnaced in the usual manner and the gold button that resulted would be parted. the gold and silver content would then be ascertained. This is used as an additional check on the individual thirty minute assays.

Some items that caused problems during the fifteen leach tests were pumps becoming inoperable, electric heater probes damaging hoses, and Ph adjustment causing sample Ph to drop below acceptable limits. Heater probes that touched the sample bucket sides caused loss of fluid on occasion. These items were adjusted for in the overall test average so that a comparison of twelve samples were projected. The leach tests were supposed to represent as far as is known the procedure by which chloride gold is extracted from the cinders. It is hoped that careful collection of data will result in a more refined method by which this material can be processed.

#### Sampling Of Components, Reagents And Fluxes

In order to make the statement that to the best of my knowledge there is no additional gold being added to any of the samples it is necessary for me to require tests of all of the components used in the systems. Bland samples were run of the: litharge, flour, borax glass, water,

#### Page 7 Sampling Procedures

acid, (hydrochloric, sulfuric) sodium chloride, sodium cyanide, filter papers. All of these tests proved to be satisfactory in my mind that no contaminants were added that significantly affected results of the tests. The amount of sodium cyanide that was used to maintain the strength of lgm./L. was monitored and proved that sufficient cyanide ions remained in solution to react with any free gold that may be attracted to it. The strength of the free cyanide in solution at the end of the thirty minute test averaged .75gm./L or  $l_2^1$  lbs./T. The Ph of the samples varied considerably along with temperature from test to test as these items were purposely adjusted up and down within the limits of The reason for this adjustment was explained earlier and it may have had a significant affect on the samples that it applied to.

#### Physical Properties

Physical properties of the cinders that were obtained from the fifteen sample holes varied as can be seen by close examination of the sample hole logs. The blended samples that were brought to Chandler for testing were all weighed and their net weight was averaged and the volume of the container used to obtain an average density in pounds per cubic foot. The volume of the bucket was .69 feet cubed and the average net weight in the fifteen buckets was 47.1 pounds. This resulted in a density of 68 pounds per cubic foot. The character of the fine material (finer than the #16 mesh sieve) was such that it passed throught the leach bed and was significant in only Page 8 Sampling Procedures

three tests where it had been separated completely and added as a unit.

The other fine material that would cling to the coarse particles passed out of the solution leach bed within the first two cycles of leaching. The three samples that were tested with the fines separated as stated before, acted as a permeability block and caused the material above the fines to rise to the top of the column touching the filter screen. The pump rate leaving the column dropped from 4.9 gallons per minute to 3.7 gallons per minute. This indicates that it may not be practical to place the fine material below the clean coarse material as in the proposed leaching plan.

Some other method of handling the minus 16 mesh should be studied, such as separate leach tanks with reduced fluid velosity, or no separation and controlled reduced velosity for the entire batch. Perhaps a sand rake agitation during initial handling could be used, or, substituting barren leach solution for fresh water.

#### Assays

The assay procedure that is used on the cyanide solution of 600ml. follows somewhat the "Chiddey" method. This method was first described by Alfred Chiddey and is adapted to most every grade and character of cyanide solution. The modified method that we are using here is very similar to the one used by Allen Clark of Homestake Mining Company. In using this method it is important to

#### Page 9 Sampling Procedures

note that the solution samples are measured instead of weighed and the results refer to tons by volume, are ordinarily a fluid ton occupied by 2000 pounds of water. This is commonly accepted as 32 cubic feet in cyanide practice. For our purposes 600ml. of solution is extracted from the 8000ml. that was circulated in the leach test. This was done in a 1000ml. beaker. The accuracy of this aloquant is plus or minus 60ml (10%).

lead acetate Following the Chiddey method, 10ml. of solution is added, along with  $l_2^1$  to 2gms. of zinc dust. This is then put on a hot plate and heated for 15 to 20 minutes at which time it comes to a boil. Before the boiling continues it is removed from the hot plate and 15 to 20ml. of hydrochloric acid is added to disolve the excess zinc. This takes from two to five minutes. Then the sponge is filtered in a fast filter paper and the filtrate is discarded. The filter paper is then dried, the sponge fluxed and scorified. After scorification the lead is poured in a mold and prepared for cupellation.

The gold-silver button is then weighed. The button is then combined with the rest of the buttons from the twelve leach tests on the sample and prepared for parting. (It is rolled in test lead along with a measured amount of silver and this process is known as inquartation.) The inquarted gold-silver bead is then parted with nitric acid, disolving the silver and leaving the gold which is again weighed and reported in ounces per ton.

#### Page 10 Sampling Procedures

The assay results are reported on the summary sheet for the test holes. It is to be noted here that the results that are reported from this test, will necessarily have a low value because all of the testing procedures to this point have been on the conservative side. It is known that actual recovery rates will continue past the #12 thirty minute run. How far past the #12 run is not just conjecture; test runs have been reported to 24 such runs ((gold recovered on the 22nd run) which in effect make this result multiplied by a factor of 2. We also have substantiated this figure for the 10, thirty minute runs by a combined solution precipitation for samples #1 and #2., which is .096 oz. Ag. .04 oz. Au. per ton.

The other factor which tends to reduce the reported value for the sample assays is that the accuracy with which the samples are prepared is by umpire standards very crude and no closer than the nearest gram. The zince sponge is quite often not fully disolved before the scorification is begun and this also leaves margin for valuable volatile material escaping. This is the result of the rapidity with which the test must be performed in preparation for the next cycle.

At this point, we are proceeding on the beginning edge of a new technology regarding gold extraction from cinders. This technology is developed from tried and true methods, but must be advanced at a measured rate. The opportunity is here to expand this cinder mining and milling system. Page ll Ore Reserves

#### ORE RESERVES AND QUANTITY ESTIMATES

Figure 1, is a graphic representation of the sampled sector of the cinder cone that covers approximately 14.8 acres. After completing the sampling it was divided into three zones. The first and smallest zone covered holes #1 through #10, and represents 559,980 tons of ore valued at \$16.74 per ton. This represents the best grade of ore found in the sampling area.

It must be noted by referring to Figure 2, that the sample was diluted with wind blown fines that cover the surface of the east slope of the cinder cone. This grade would have been much higher, were we able to select all of the material that would represent the red cinders in the bottom of the hole. Since this material must be mined or removed, its quality must be ascertained and therefore we have the figure of \$16.74 per ton.

By including holes #1 through #13, we increase the tonnage but lower the value. The tonnage with these samples is The value here is \$14.23 per ton. 757,350 tons. Here again, the same circumstance holds by refering to Figure 2. If we include the entire seventeen hole locations in our ore estimate which we have acrried through the final analysis, we obtain 991,440 tons, or nearly a million tons of ore that has a value of \$12.95 per ton. This is still well within the economic range of the processing facilities designed to handle the cinders.

Further expansion of the total 991,440 tons is carried

Page 12 Ore Reserves

through in the total ore estimate. It does not preclude, nor will it deter, the use of the upper ten holes as the basis for justifying the initial cost of the pilot plant.

To carry through with the ore estimate, besides the measured ore that was obtained from the data sheet, we refer to Figure 3, where additional ore outside and beneath the measured ore has been projected. We have in this case as seen from the figure, 16,854,480 tons of probable ore. This probable ore is an expansion of the data from the measured ore. In addition, we project an additional 16,256,090 tons of possible ore which takes up the remaining tonnage in the cinder cone above the 6100 foot elevation. The total tons in the cinder cone is estimated as 34,102,010 tons. The ore estimate in Figure 3, carried out the value of the ore at \$6.00 silver and \$300.00 gold.

#### Feasibility

The processing costs furnished by Robert Houston for two sizes of plants are for a 4800 ton per day leaching and extraction plant; the cost of operation being \$3.21 per ton. If we would operate on a smaller scale of 1200 tons per day, our costs go up to \$6.28 per ton.

My experience with earth moving at coal mines, copper operations and earth-filled dam projects, is that a conservative figure would not exceed \$.50 per ton for scrapers; if bucket wheel excavators are selected, this should provide an even lower material handling cost. Page 13 Ore Reserves

However, the bucket wheel excavator is limited to production of approximately 1000 tons per hour, and would require a much greater capital investment to provide the reduced cost. Other cost items can be added in the final feasibility study but considering these two - ore handling at \$.50 per ton and ore processing at \$3.21 per ton, there is still a wide margin of profit.

For estimating purposes, three 4800 ton plants will require 2,368 days to process the ore. At 300 days per year, the 34 million tons would require 7.9 years to process.

#### Exploration Targets

The exploration targets for this project are first, to define the ore at depth; second, to outline a water source and third, to provide a base for the seismic studies between bore holes that will further provide continuity in mine planning. In addition to this, minor amounts of drilling will be done near the buried pipeline that passes through the north two claims. This will be required to gain protection from any damage litigation that might ensue from any future mining operations.

The test holes that were dug with the backhoe revealed the presence of a layer of wind blown cinders. Figure 2 shows an east-west cross section. It is my opinion that were we able to remove this wind blown section, our assay content for gold and silver would have been doubled.

Holes #11 through #17 were almost entirely within this

Page 14 Ore Reserves

transported cinder blanket. It is not the fact that they did not have any precious metal values, but that the greater portion of their values was likely leached out previous to deposit on this cinder cone.

It will be necessary with a drilling program to penetrate this level of transported cinders and gain a better picture as far as values are concerned, of the material which lies below. This material may not be of loosely packed cinders; it may be of a more densely packed material and require explosives to allow it to be handled profitably by mining equipment.

The area on which the plant will be placed and also the settling ponds for the solution storage will necessitate a thorough drilling program to make sure that they are not placed on high grade ore. Waste disposal is also a concern, in that the same problem exists. If the waste is placed without proper concern, "Murphy's Law" says that is where the high grade ore will be!

#### Drilling Equipment

My professional preference will be a dual tube reverse circulation, or vaccum drill system. This system will provide the maximum amount of recovery in the very poorest and most unpredictable drilling conditions that are commonly found in volcanic type deposits. Air as a circulating medium will give the best sample results with the least contamination. However, as with all drilling, surface water comes into the hole and must be dealt with Page 15 Ore Reserves

in a way that will allow drilling to continue. I have found that Gel-Foam, mixed with the air, will solve most of the problems where water encroachment does not exceed thirty gallons per minute.

#### Water Source

During my tenure with the Arizona Highway Department, we did a geophysical study on the now closed Cosnino Rest Area, on Interstate 40, which is about twelve miles south.

The results indicated that the Coconino formation would provide water, but the quantity was not ascertained. The depth required to obtain this water, was from 1100 to 1500 feet deep. The Cosnino Rest Area is directly on exposed Coconino formation.

We at this site are on an undetermined thickness of volcanics so that we would necessarily believe that our water well would be in excess of 1500 feet. Therefore, the possibility of entrapping surface water in large ponds should be carefully studied, I believe that during high evaporation periods an estimate of up to 500 gallons per minute may be required for makeup solution, dust and settling pond evaporation.

IAMES R

Fig. I MEASURED ORE DENSITY 6816./Ft3 HILL 6916 14.8 Ac. 45 ft 600 ft 5 0 20 3 Ø | © 9 <u>(68)(600)(610)(45)</u> = 559,980 Tom 2000 610 ft 60 2 7 0 8 Ō e<sup>#</sup>3007, 8,903,682~ Au. .053 03/T Avg. 29,678.99 00 **e\*6%, 473,743**~ **# 9,377,425**~ Ag .141 03/T AVG. 78 957-1805 OR\$ 1674/TON © <sup>10</sup> 825 13 (68) (600) (825) (45) 12 11  $\odot$ O \$300% 10,224,225° 2000 L= 757, 350 Tou AU...045 03/T AVG. 34,080-25 03 2000 €<sup>8</sup>62,<sub>3</sub> 549,836∞ #10,774,061∞ Ag .12105/T AVG 91,639.35 08 10,80 # (68)(600)(1080)(45) = 991,440 Too OR 1423/TON 14 16 0 15 17 0 Ô @300°% 12,194,712@ Au .041 03/T AVG. 40,649.04 08 €<sup>#</sup>12,837,185œ Ag . 108 03/T AUG. 107,075 52 08 16475 IAMES



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ORE RESERVE ESTIMATE

EAST -- WEST CROSS SECTION THROUGH HILL



FIG III ORE ESTIMATE

MEASURED ORE (FROM DATA SHEET)

991,440 TON



POSSIBLE ORE ESTIMATE (68%)(3,174,051.6)(316) 2000 - 17,845,920 TON POSSIBLE ORE 16,256,090 TON

| @ <sup>#</sup> 5.°° Ag/oz<br>@ <sup>#</sup> 300° Au./oz | MEASURED         | ESTIMATED<br>PROBABLE | Estimated<br>Possible |
|---|------------------|-----------------------|-----------------------|
| .041 03/T Au  | 12,194,712 🗪     | 207,310,104 ᅇ         | 199,949,907 20        |
| .१०७ ज्र/न मेव  | 642,453 <b>°</b> | 10,921,703°°          | 10,533,9462           |
| MEASURED -  | 12,837,185**     | 218,231,807**         | 210,483,8539          |
|   | ·                | I 2,837,185°°         | 218,231,80700         |
| Est. PROB   | ABLE             | 231,068,99200         | 12,837,1850           |
|   | EST. POSSIBL     | <u>e</u>              | 441,552,845           |







|            | TEST H                  | ole Log Hole No. 3 Au. 09           | 9 03 /1  |
|------------|-------------------------|-------------------------------------|----------|
|            | DATE 8                  | B-13-85 SAMPLED BY By Ag . 13       | 103/7    |
| ,<br>F     | RR REI                  | CINDERS BB BLACK CINDERS            | ·        |
| 9          | SS BRO                  | DWN SOIL = WHITE SALT               |          |
| E          | LEV30                   | ) <del>fl</del> <b>D</b> 1P→ 20° NE |          |
| 0 -        | \$<br>\$                | SOIL                                |          |
| 5-         | - 5 -<br>B - B<br>- 5 - | SOIL GRADES INTO BLAC<br>CINDERS    | ĸ        |
| -          | - B                     |                                     |          |
| 10-        | B -                     | CLEAN BLACK CINDERS                 |          |
| •<br><br>- | <u>B</u> -              | SALT STRINGERS                      |          |
| 15-        | - B -                   |                                     |          |
| 20-        | - B                     |                                     |          |
|            | .R —                    | RED CINDERS WITH WHITE              | <b>1</b> |
| -          | - R                     | WELL MIXED SALT MINER               | RALS     |
| 25-        | R _                     | Statisticate AC                     |          |
| -          | - R                     | JAMES R-                            | ological |
| 30-        | ·                       | Signed                              | 1985     |
| -          | -                       | James Contraction                   | ny       |
| 35-        | ]                       |                                     |          |

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|     | TEST HOLE LOG HOLE NO. 5 AU. 03803/   |
|-----|---|
| 4   | DATE 8-14-85 SAMPLED BY By Ag. 101 5/   |
| -   | RR RED CINDERS BB BLACK CINDERS   |
| •   | SS BROWN SOIL == WHITE SALT   |
| · · | ELEV 30 ft DIP→ 10° E, 40°E   |
|     | SOIL WITH BLACK CINDERS   |
|     | 5-R<br>R<br>R<br>R<br>DIP 90° BELOW.  |
|     | 10-R-R RED CINDERS CLOSELY SPACED<br>WITH WHITE SALT BANDS  |
|     | R<br>R<br>R<br>R<br>R<br>R<br>R<br>R<br>R<br>R<br>R<br>R<br>R<br>R<br>R<br>R<br>R<br>R<br>R   |
|     | 20 - R  |
|     | R<br>25-<br>R<br>CLEAN RED CINDERS WITH<br>WELL SCATTERING OF WHITE<br>SALT SPOTS   |
|     | 30<br>R<br>JAMES R.<br>YOUELL<br>Browner<br>Stand Stand<br>JAMES R.<br>YOUELL<br>Browner<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>Stand<br>S |
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# GINDER MOUNTAIN

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Berg Management Group Inc. 4610-A Wynn Road Las Vegas, Nv. 89103 (702) 873-8873

BERG MANAGEMENT GROUP WAS FORMED IN JULY 1987 UNDER THE NEVADA CORPORATION NUMBER 5607-87, FOR THE SPECIFIC PURPOSE OF SEARCHING OUT HIGH PROFIT VENTURES WHICH, IN TURN, COULD BE PRESENTED TO THE GENERAL PUBLIC WITH THE PRIMARY REQUISITES OF LOW RISK, HIGH YIELD AND MINIMAL "OUT OF POCKET" REQUIREMENTS.

THE CINDER MOUNTAIN MINING PROJECT MEETS OUR EVERY REQUIREMENT AND IT IS WITH A GREAT DEAL OF PLEASURE THAT WE PRESENT THIS LIMITED OFFER TO YOU.

SINCERELY, Merlyn R. Berg

MERLYN R. BERG PRESIDENT

MRB/LAR

"Our Client Is Our Lifeblood"

Berg Management Group Inc. 4610-A Wynn Road

Las Vegas, Nv. 89103

#### (702) 873-8873

It Takes Three Things To Have A Successful Mining Project:

- 1. You must start with a good property:
  - a) property must contain precious metals in a sufficient quantity and quality to justify mining

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- b) proper equipment and/or extraction process must be available to make the project feasible.
- c) location must allow for access to the property
- d) mining season must be of sufficient length to make project practical to operate
- 2. You must have qualified people who are capable of administering and operating the project.
- 3. You must have adequate capital.

Now let us consider Cinder Mountain Mining Project.

The project is located 25 miles NE of Flagstaff, Arizona in a volcanic cinder cone on Marriam Crater. The extraction of gold and silver from volcanic cinders was developed by Houston Corporation. They found that volcanic cinders do have considerable gold and silver values and have perfected a method to extract those values using a chemical leaching system which is economically viable and overcomes previously encountered problems when working with this material. In addition, the extraction solution and processes used are "closed systems" non-polluting and acceptable to any government agency's environmental standards.

PROJECT MANAGEMENT: Mr. Reese T. Houston, founder and President of Houston Corporation will head a team of qualified and respected mining professionals. Cimrad Corporation (Camarillo, CA) is the project engineer, Jim Youell (Wenden, AZ) is the chief geologist and Noel Rhodes (Phoenix, AZ) is the chief chemist who will work with several other chemist-consultants. Houston Corporation has refining facilities in Chandler, Arizona which are described in this booklet and will oversee construction and operation of the on-site processing plant and ore handling.

CAPITAL: Berg Management Group, Inc. is selling 750,000 tons of ore in this offering. The total sales will give Houston Corporation \$11,250,000 in contract sales. When this is completed, Houston Corporation will have adequate monthly interest income to put the project fully into operation.

President

"Our Client Is Our Lifeblood"





The mining claims in the Cinder Mountain Project are located 28 miles NE of Flagstaff, Arizona in Coconino Co. The legal claim names, Bureau of Land Management claim numbers and legal descriptions follow:

518 Cinder Association #2 AMC# 272562 SW 1/4 Sect. 20 - Twp. 22N - Range 10E 519 Cinder Association #2 AMC# 272563 SE 1/4 Sect. 20 - Twp. 22N - Range 10E 524 Cinder Association #2 AMC# 272564 NE 1/4 Sect. 20 - Twp. 22N - Range 10E

525 Cinder Association #2 AMC# 272565 NW 1/4 Sect. 20 - Twp. 22N - Range 10E

Legal descriptions are in reference to the G&SRB&M Meridian Crater Quadrangle

#### THE CINDER MOUNTAIN MINING PROJECT

The extraction of gold and silver from volcanic cinders was developed and perfected by Houston Corporation of Chandler, Arizona. They found that volcanic cinders do have considerable gold and silver values and were able to extract those values initially in a laboratory. However, this is nothing new. Other companies had tried for years to extract gold and silver from volcanic cinders but had failed to put into production a process which would extract those values economically.

approach taken by Houston Corporation is considerably The different than that taken by most mining engineers and chemists. In mining, it is generally the policy to extract 80% to 90% of the values present in an ore body. In order to do this with volcanic cinders it is necessary to grind them to a very fine mesh (somewhere below 100 mesh). When this is done the values can be extracted, but the price to do the grinding is more costly than the values returned in the ore. The cost of grinding is apparent when one looks at the grinding equipment at days end. Small diamond-like particles are a part of the abrasive cinders and literally chew up any grinding equipment used. Replacement equipment is more costly than the values extracted from the ore, consequently cinder projects have been abandoned because of the grinding problems.

Houston Corporation has designed and built a special crusher to reduce the size of the cinder to about 3/8" and just extracts those values which come from a percolation leaching process. This method was found to work even though some of the values are left in the waste "tailings". Even though some of the gold and silver is left behind after leaching, the values recovered are better than many other mining projects and at a more effective rate.

Capital funding is needed to expand the business of extracting gold and silver from these volcanic cinders. The purpose of the funding is to build and equip a 4,800 ton per day plant. The recovery method developed by Houston Corporation will require the capability of moving and handling this tremendous amount of material efficiently. The Houston Corporation developed the leaching and extraction process which, needless to say, did not Numerous attempts were tried to find the best come easily. method of getting the precious metals into solution as well as additional attempts to find the best way of getting the values back out of solution. Five different methods were tried, but each one failed because a thin gray film formed over the plating This gray surface was later found to be platinum. surface. After many man hours and thousands of dollars were expended, the plating process along with activated charcoal and resin recovery systems were discarded as a viable method of extraction.

Extensive work has been done by the University of Arizona and Arizona State University laboratories. When the solution to the extraction problem was found it was by accident, but proved successful. Both universities had been helpful by consulting with the employees of Houston Corporation. A method was found which helped get the precious metals into solution and then out again during the extraction process. There have also been other problems to overcome.

The recovery process is a "closed loop" system, where nothing is wasted, poured on the ground, polluted, or harmful to the



environment. After recycling the solution 22 or 23 times, it was found that the solution became loaded with carbonates and other elements and had to be dumped. Therefore, it became necessary to find a way to extract these elements from the solution along with the precious metals. Since this would be an "environmental impact", it was determined that a system had to be found to clean the solution without dumping it. After several months of trial and error a system which dropped the elements out of solution was thereby allowing a continuous recycling of developed the extraction solution. THIS PERMITS THE USE OF A "CLOSED LOOP" WHICH IS NON-POLLUTING AND ACCEPTABLE TO ANY GOVERNMENT SYSTEM ENVIRONMENTAL AGENCY.

After the process was developed and proven, increases in the size of the tests were conducted to insure that the process worked on large volumes of ore. Tests of up to 40 tons have been run successfully and it has been found that the process works equally well in large tonnage or in small lot sizes. Recognizing the handling problems inherent in handling 4,800 tons per day, the proposed plant has been designed a continuous flow of cinder material. This will permit the movement of the ore without affecting the on-going extraction of gold and silver.

To build a production plant, the equipment necessary is primarily "off the shelf" equipment which can be purchased from known manufacturers. Approximately 20% of the equipment will have to be fabricated from raw materials in a manufacturing facility. Drawings are already completed and ready to send to manufacturers for bids to build the large tanks and other handling equipment necessary. The holding tanks, for example, must be fabricated and coated with a special material to withstand the solutions used and the friction generated by the abrasive cinders.

An important feature of the Houston process is the use of computers. All equipment designs have been studied with the use of computers to reveal any weakness before manufacture. Time was leased from a computer firm to prove the feasibility of all phases of the proposed system to insure production capability. To know that the process and equipment will work is a major question of any investor as well as the management team. Human error can become a very expensive ingredient when dealing with solutions and an extraction process that is very exact.

To control human error variables, Houston Corporation has developed a computerized precious metal recovery process with the help of consultants and major computer firms. Solutions will be specific PH values, maintained to temperatures, times, reformulations, etc. to make the process completely controlled. A unique feature of the computer control system is the satellite linkup between the plant and a large computer which will monitor every step of the extraction process. With labor reliability and labor problems being a concern to many mining projects, Houston Corporation will not have to rely on the human method of control but will have monitors to check on the computer system with adequate backup controls.

## HOUSTON

CORPORATION

(602)961-0253 (602)961-0254

#### 1371 S. Nelson Dr., P.O. Box 5005 Chandler, AZ 85224

#### SUMMARY OF ARIZONA CINDERS TESTS

|         |                            | TROY OUNCES | OF DORE   |   | DOLLARS  |
|---------|----------------------------|-------------|-----------|---|----------|
| TEST NO | ).                         | PER TON     |           |   | PER TON  |
|         | A CONTRACTOR OF A CONTRACT |             |           |   |          |
| 72      |                            | .23         |           |   | \$ 35.65 |
| 77      |                            | .37         | a         | 1. A. | 57.33    |
| 78      | s                          | .38         |           |   | 58.90    |
| 117     |                            | .18         |           |   | 38.21    |
| 118     |                            | .23         | · ·       |   | 35.65    |
| 119     |                            | .36         |           |   | 55.80    |
| 120     |                            | .29         |           |   | 44.95    |
| 121     |                            | .30         |           |   | 46.50    |
| 122     |                            | .38         |           |   | 58.90    |
| 123     |                            | .32         |           |   | 49.60    |
| 124     |                            | .18         |           | _   | 38.21    |
| 125     |                            | .97         |           |   | 150.35   |
| 126     |                            | .81         |           |   | 125.55   |
| 127     |                            | .94         |           |   | 145.70   |
| 128     |                            | .30         |           |   | 46.50    |
| 129     |                            | .25         |           |   | 38.75    |
| 130     |                            | .56         |           |   | 86.80    |
| 131     |                            | .30         | · · · · · |   | 74 40    |
|         |                            | • • • •     |           |   | / 1 . 30 |

#### AVERAGE DOLLAR VALUE PER TON OF ORE \$65.99

\* Dollar values are based on:

1. The ratio of gold to silver = 1 oz. gold / 2 oz. silver 2. Gold valued at \$450 per troy ounce, silver at \$7.50

There has been approximately 4,000 tons of cinder material processed in tests to date.

From the last 500 tons of cinder material processed during this testing phase, over 100 ounces of gold was recovered.

#### THE HOUSTON CORPORATION REFINERY

The Houston Corporation refinery is a 14,800 sq./ft. research and development facility located on a 10-acre site at the Pima-Chandler Industrial Park in Chandler, Arizona which incorporates a wide variety of fixed and portable treatment and processing systems using the latest in modern technology. The present facilities were first occupied in 1977, however the principals of Houston Corporation, Reese Houston and his son Robert have been involved in mining for over 30 years.

Houston Corporation is able to work with raw ore, and ore concentrates from which precious metals can be recovered. Most of the concentration of head (raw) ore is to be performed at the Cinder Mountain mine site, and then concentrates are shipped to the refinery for further treatment and processing. Flexibility important factor in research and development. is an Houston Corporation employs a number of techniques and processes as well as obtaining independent evaluations by outside consultants when studying new ore samples submitted for analysis, to determine the most efficient and cost effective method of precious metal recovery.

Facilities include: a complete analytical and metallurgical laboratory which features an atomic absorption spectrophotometer (capable of detecting even minute amounts of precious metals in a number of furnaces specifically designed for solutions), various stages of smelting and refining, a leaching system complete with two 20-ton agitating vats, transfer and storage tanks as well as heating and cooling equipment for the leach Various mixing, grinding, screening and classifying solutions. machines, filtration equipment, electro-winning and plating systems are also available. Houston Corporation has also made arrangements with nearby laboratories for the use of Direct Plasma Arc (DCA) and X-ray spectrophotometry equipment, allowing them to perform analysis of ore samples, leach solutions, smelted and refined metals using the latest technology. Much of the equipment used has been developed by Reese and Robert Houston since they began in 1958.

The plant is provided with a good water supply by the Pima-Chandler Industrial Park and the City of Chandler. A reverse osmosis water deionization system provides the purest water used in special applications, and the plant is equipped with a DX 2000 sewage treatment system manufactured in Dallas, Texas and approved by the Environmental Protection Agency. Acids and volatile or hazardous chemicals are stored in separate facilities from the main refinery building. Protective away safety equipment and emergency first aid supplies are located throughout the plant.

Office facilities for Houston Corporation are also located in a separate building on the 10-acre site. 7



Mr. Reese Houston examines an ore sample.



Electronic draft-free scale used for weighing precious metal samples.

#### A laboratory technician checks electro-plating research equipment.



"Pregnant" liquid storage tanks and heating equipment used in the leaching system.





One of the portable processing plants which can be towed to a mine site.



The chemical leaching system.



Volatile and hazardous materials are stored in mobile containers outside the main plant building.

Office facilities are located on-site near the main plant building.



- 1. Au Symbol for Gold
- 2. Ag Symbol for Silver
- 3. Atomic Absorption Assay process that defines every known element present in a given ore sample.
- 4. Head Ore The term used to describe dirt, gravel, sand, rock, in its unmined or original state.
- 5. Dore Bar A block of metal which contains mixed gold and silver, poured during smelting, later separated during the refining process where other impurities are also removed.
- 6. Fine Gold (Silver) Final product which is .999 pure.
- 7. Geochemical Sampling Analysis of samples of rocks, soils, sediments, water, or vegetation within a given area to determine by chemical tests if valuable minerals are present and their approximate distribution.
- 8. Mine Planning The geological and engineering work necessary before engaging in development work and the acquisition of all required governmental permits, licenses and approvals.
- 9. Ore Body Means a deposit of minerals which has been geographically defined by exploration work or development work which may be economically recovered.
- 10. Placer A mineral deposit in which the minerals have been deposited loosely in sand or gravel and not in a vein.
- 11. Reserves That portion of a mineral deposit which may be economically and feasibly extracted or produced.
- 12. Mesh A unit of measure defined by small openings in a screen or sieve to allow particles to sift through.
- 13. Troy Ounce A unit of measure applied to Gold and Silver, equal to 12 per pound, rather than the usual 16.
- 14. Leaching Chemical process where precious metal deposits are dissolved in a solution and later recovered by precipitation to a solid state once again.
- 15. Tailings The remains of processed ore once the precious metals have been recovered.
- 16. "Pregnant" Liquid A leaching solution containing dissolved precious metals which have not been precipitated out.
- 17. Reagents Chemical compounds used in the processing of ore.

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#### **REESE T. HOUSTON** President, Houston Corporation

#### **PAST EXPERIENCE:**

President of Lodestar Management Company; processing minerals.

Mgr. of Operations for limited partnership, Phoenix, AZ., in development of extracting gold and silver from tailings ponds.

Vice President of YMAX Industries, a consulting firm for mining and oil properties.

Owned and operated the following companies:

| Leben Drilling       | Wichita,  | Kansas |
|----------------------|-----------|--------|
| Hivac Development    | Bedford,  | Texas  |
| Telcal               | Abilene,  | Kansas |
| Houston Drilling     | Bedford,  | Texas  |
| Maxwell Well Service | Longview, | Texas  |

Owner and operator of Houston Tool Company, Simi Valley, CA. Developed and patented many units for drilling and concentration of mineral deposits. Received the Blue Ribbon Award for the most outstanding development in mining in the U. S. in 1958 and 1961. Developed all of Sampling and drilling equipment for the Atomic Energy Commission in 1958 - 1962. Developed and mapped underground water for U.S. Agriculture Research Service in 1963.

#### **ADDITIONAL INFORMATION:**

- Consultant to major oil companies, such as: Atlantic Richfield, Shell, Mobil, Phillips, Sun, Sinclair, and Kerr McGee.
- Consultant to major mining companies, such as: Reynolds Metals, Aluminum of Canada, Kaiser, Engineer Aluminum Industries, Kennecott Copper Corporation, Cyprus Mines, Utah Construction Mining Co., Columbia Iron Mining (subsidiary of U.S. Steel).
- Consultant to major industrial companies, such as: Pacific Power and Light, Texas Instruments, General Motors Defense Research Lab, Metropolitan Water, L. A. So. Cal. Gas Co., Pan American World Airways, Nuclear Rocket Div., Reynolds Elect. Co. Atomic Energy.
- Consultant to various government agencies: U.S. Dept. of Interior, Atomic Energy Commission, U.S. Forest Service, and N.A.S.A.

Detailed information furnished upon request.

#### **ROBERT R. HOUSTON** Vice President, Houston Corporation

#### PAST EXPERIENCE:

Asst. mgr. of Lodestar Management Co.; processing minerals.

Consulting Engineer for the following companies: Houston Corporation, Sulfide Mining, CHK Corporation, VS & R Corporation, Pacific Energy Corporation, Hassayampa Mining, Monarch Mining, L & M Oro, Riddle Oil Co., Geneva Minerals, National Energy, Amarada Hess, and Nuclear Energy.

Designed and manufactured pulverizing / concentrating equipment. Reno, Nevada

Manager of core, water and oil drilling operations for Mountain Meadow Drilling Co., Susanville, California.

Drilled and developed oil wells in Texas, California, and Nevada for major oil companies.

Assistant manager for the following:

Leben Drilling HiVac Development TelCal Drilling Maxwell Well Service Houston Drilling Wichita, Kansas Bedford, Texas Abilene, Texas Longview, Texas Bedford, Texas

Superintendent of engineering and manufacturing at Houston Tool Company. Supervised transport and technical training of all Houston Drilling rigs sold world-wide.

#### **ACKNOWLEDGMENTS:**

Received Blue Ribbon Award for most outstanding development in mining world-wide in 1961.

Perfected and mapped underground water with Agriculture Research Services for all of the United States in 1963.

- Co-designed and engineered with Webb and Lippo a new development in tie-backs for retaining walls. These were used in the water ways at Disneyland, the Union Bank Building and the Richfield Twin Towers in Los Angeles, and the underground tunnels for the Bay Area Rapid Transit, San Francisco, CA.
- Have patents pending on several designs on drilling and mining equipment.

Detailed information furnished upon request.

MERLYN R. BERG President, Berg Management Group, Inc.

Spent over 11 years in Retail Trade as a Department Store Merchandise Manager, Retail Store Manager. National Sales Manager for a Carpet Mill. Division Director for an Insurance Co. Semi-retired in 1978. During this time attended two different community colleges and a Law School, also a consultant for an Investment Co. and Brokerage firm, all in Orange County, CA.

Incorporated NRG Corporation of America (A Marketing Company) in 1984 for the purpose of arranging funding capital for New Business Start-up.

Incorporated Berg Management Group in July 1987

to present to the public, excellent return investment opportunities with minimal outlay of money.



MARIE LAPRIORE Owner, Universal Bookkeeping Service

Holds B.S. in Accounting and Business Administration; Full Service Bookkeeping, including monthly financial statements and income tax return preparation. Supervised a check cashing service handling over \$100,000 per day. Member of Better Business Bureau, Bonded.

**PAST EXPERIENCE:** 

Business Manager for Las Vegas Image, Inc., a weekly newspaper with a circulation of 30,000. Received and disbursed checks and served as administrative assistant to the publisher.

Employed by W. Irving Haut, C.P.A. as a bookkeeper while acquiring degree. Performed all phases of bookkeeping, auditing, inventory supervision, cash accounting, tax return preparation and payroll.

Detailed information available upon request.



#### PROFORMA

#### PROFIT PER UNIT

| Warranted value @ \$42.00 per ton<br>1 Unit = 250 tons | \$10,500 |
|--|----------|
| Less - Cost of Tonnage<br>\$15.00 x 250 tons           | - 3,750  |
| Less - Expenses and Commissions (10%)                  | - 375    |
| GROSS PROFIT   | \$6,375  |

Less Interest On Purchase Agreement:

| After:                | 1 Year              | 2 Years             |
|-----------------------|---------------------|---------------------|
|                       | 6,375<br>- 373      | 6,375<br>- 739      |
| Net Warranted Return: | ========<br>\$6,002 | ========<br>\$5,636 |

Note: A \$5.00 per month service charge will be added for purchases of only one unit.

Note: The above profit is projected on the Warranted value per unit and could be greater, depending on additional value per ton and/or the price of gold and silver at the time of processing.

### **PURCHASE INSTRUCTIONS**

- 1. Complete and sign the Agreement of Understanding.
- 2. Complete and sign the Ore Purchase Agreement and Bill of Sale.
- 3. Complete and sign the letter of instructions for Buyer's Trust Account.
- 4. Recap of Tonnage, Principal sum, Monthly payment and Commission & Expenses are as follows:

| Tonnage | Principal<br>Sum  | Monthly<br>Payment* | Commission<br>& Expenses** |
|---------|-------------------|---------------------|----------------------------|
| 250     | ¢ 2 750           | ¢ 26 00 #           | ¢ 275 00                   |
| 500     | \$ 3,750<br>7 500 | \$ 30.00 #<br>72.00 | \$ 375.00<br>750.00        |
| 750     | 11,250            | 108.00              | 1.125.00                   |
| 1000    | 15,000            | 144.00              | 1,500.00                   |
| 1250    | 18,750            | 180.00              | 1,875.00                   |
| 1500    | 22,500            | 216.00              | 2,250.00                   |
| 1750    | 26,250            | 252.00              | 2,625.00                   |
| 2000    | 30,000            | 288.00              | 3,000.00                   |
| 2250    | 33,750            | 324.00              | 3,375.00                   |
| 2500    | 37,500            | 360.00              | 3,750.00                   |

For each additional 250 ton contract, increase by:

3,750

250

- 36.00
- 375.00
- # A \$5.00 per month service charge is added to purchases of a single unit.
- \* Your first monthly contract payment on this purchase is due 30 days after signing the Ore Purchase Agreement and Bill of Sale.
- \*\* The commission & expenses are to be remitted with the completed documents.
- 5. Mail your check and all completed papers to:

Universal Bookkeeping Services 3121 Industrial Road Las Vegas, Nevada 89109

7. Signed copies of each document will be sent to you after processing and recording. Your cancelled check is your receipt for each payment.

#### Please Remember To Make Your Check Payable To:

UNIVERSAL BOOKKEEPING SERVICES BUYER'S TRUST ACCOUNT

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#### QUESTIONS MOST FREQUENTLY ASKED

Q- When will the processing plant be completed and mining started?
 A- The construction schedule indicates completion of Phase I in the summer of 1988. After 2 to 3 months of fine-tuning, construction is scheduled to begin providing additional production capacity.

#### Q- When will my ore be processed?

A- The projected processing date of your ore is to be in one to three years. Ore purchased under contract will be processed in the order of the date of purchase, thus the earlier a purchase is made, the earlier in the program the ore will be processed.

#### Q- What will happen when gold or silver prices rise?

A- The profit that you receive will rise proportionally to the increase in gold and silver prices.

#### Q- What if gold and silver prices drop?

A- The seller warrants a net smelter recovery value of not less than \$42 per ton of ore purchased. If recovery values are less than \$42 per ton, additional ore will be processed to satisfy the warranty.

#### Q- Will I receive cash or gold or silver?

- A- Since you own the ore, you will choose how you wish to be paid at the time your ore is processed. You have a choice of receiving cash, gold, silver, or any combination of the three.
- Q- Will I be able to visit the processing plant and mine site?
  A- Yes, you will be welcome to tour the operation, however, you will be required to make prior arrangements as the property and plant will not be open to the public.

## Q- What is meant by "non-recourse" as it relates to the Agreement? A- Non-recourse simply means that there is no action that the Holder can take against the Maker to collect in the event of non-payment, other than to declare the Agreement in default and reclaim the security, which in this case is the ore.

- Q- Is this project considered a "Tax Shelter", and if so, what tax benefits might I qualify for?
- A- This is a profit-making business venture. For answers to questions concerning tax benefits or consequences, as they might pertain to you, we respectfully refer you to your tax preparation professional. We will do our best to answer specific questions as they arise.

#### BUYER AND SELLER UNDERSTAND AND AGREE TO THE FOLLOWING:

#### **1. WARRANTY:**

IT IS UNDERSTOOD AND AGREED: The gold and silver value per ton in Buyer's Ore Agreement will be a minimum of \$42.00 per ton, and further, shall provide no less than 25 troy ounces of gold per 250 ton unit. If not, Seller agrees to sell Buyer additional tonnage at one cent (\$0.01) per ton from the warranty reserve held by Universal Bookkeeping Service until the value has reached \$42.00 per ton in Buyer's Purchase Agreement.

#### 2. RESERVE FOR WARRANTY:

IT IS UNDERSTOOD AND AGREED: That Berg Management Group has established an Irrevocable Trust and placed within that Trust 750,000 tons of Cinder Mountain ore reserves. This Trust is held by Universal Bookkeeping Service for meeting any warranty claims that may arise.

#### 3. BUYERS TRUST ACCOUNT:

IT IS UNDERSTOOD AND AGREED: All funds will be placed in the Universal Bookkeeping Service Buyer's Trust Account and will be disbursed according to Buyer's written instructions. These instructions require Universal Bookkeeping Service to remit interest on the contract payments to Houston Corporation or their designated assignee, and to place principal payments in an FDIC insured interest-bearing bank account, with interest credited to the benefit of the Buyer, until such time as ore has been processed and Buyer has received his/her gold and/or silver and has signed a letter of acceptance and satisfaction.

#### DELIVERY DATE:

4.

6.

IT IS UNDERSTOOD AND AGREED: That there is no way to pinpoint an exact date of delivery; however, the projected delivery date would be one to three years, depending on the startup date and the date Buyer makes his/her purchase.

#### 5. NON-RECOURSE AGREEMENT:

Non-recourse simply means that if Buyer should, for any reason, choose to discontinue making payments on the purchase agreement, there is no possible action which could be taken by the Seller to require payments. In this case, the only action available to the Seller is to take back the ore, terminate the agreements, and keep any interest payments made as liquidated damages.

#### CANCELLATION CLAUSE:

IT IS UNDERSTOOD AND AGREED: That the Buyer, subject to a 30-day notice, can cancel his/her Agreement at any time, for any reason, and receive a refund of all principal payments, plus accumulated bank interest on the same.

Buyer

Seller

#### Mining Agreement No.

#### ORE PURCHASE AGREEMENT and BILL OF SALE

THIS AGREEMENT, is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 1987 by and between Berg Management Group Inc. (a Nevada corporation hereinafter referred to as "Seller", and \_\_\_\_\_

, hereinafter referred to as "Buyer".

WHEREAS the Seller has gold and silver bearing ore situated in a "Cinder Cone" on Marriam Crater, within the 7 1/2 minute quadrangle, twenty-five miles NE of Flagstaff, Coconino County, State of Arizona, and,

WHEREAS the Buyer desires to immediately purchase \_\_\_\_\_\_ tons of said ore from Seller, and Seller agrees to sell said tonnage of ore at the execution of this Agreement, subject to the following terms and conditions,

NOW THEREFORE, for valuable consideration, the parties hereto have agreed:

- tons of ore to Buyer at The Seller will now sell 1. Fifteen dollars (\$15) per ton for a total purchase amount of ). (Price dollars (\$ includes royalty, processing and refining.) Buyer agrees to pay for the ore upon signing this Agreement by making monthly principal and interest payments in the amount of \_) per month, dollars (\$\_\_\_ interest at the rate of ten percent (10%) per annum. The first monthly payment is due thirty days after the date this Agreement is signed and continuing monthly thereafter, until such time as the ore is processed, at which time the balance this contract is due and payable from the proceeds of of Buyer's ore, which shall be paid from Buyer's precious metals. Buyer further agrees to remit to Universal Bookkeeping Service at 3121 Industrial Road, Las Vegas, Nevada 89109 the sum of Ten dollars (\$10) as an administrative, handling and recording fee.
- 2. The Buyer shall have full and complete ownership rights of all minerals in the entire tonnage of ore as referred to in provision #1. above, including the right to remove the ore at his/her cost, subject to the terms of said provision #1.
- 3. The Buyer shall have reasonable access to his/her property at all times and will, in turn, grant reasonable access to other property owners.
- 4. It is agreed by the Seller and Buyer that mining operations of said tonnage will commence within a reasonable time and are to be performed expeditiously from the mining claims referred to above.

- 5. Execution hereof by the Seller is an acknowledgment and representation relied upon by the Buyer as a part of the consideration hereof that deposits of precious metals are known to exist in sufficient quantity and quality to reasonably justify commercial exploitation.
- 6. Buyer hereby acknowledges the option to have the Houston Corporation, under a separate agreement, to mine, process and refine any precious metals in the ore in said claim to hallmarked bars on behalf of Buyer, by executing a mining, processing and refining contract.
- 7. The Seller warrants to Buyer that the net smelter value of said ore shall have a minimum value of Forty Two dollars (\$42) per ton of ore purchased and, if lacking that value, Seller reserves the right to substitute an ore body of greater value, or shall sell to owner additional ore at a cost of one cent (\$0.01) per ton and shall process said ore upon the same terms until sufficient ore has been purchased and processed to provide equivalent value to Buyer as required by this Warranty for the amount of the original ore purchase. Seller has placed an ore reserve with Universal Bookkeeping Service in the amount of Seven Hundred Fifty Thousand (750,000) tons to be used in the event the values do not meet the Forty Two dollar (\$42) per ton Warranty.
- 8. <u>Default by Buyer</u>. If Buyer shall be in default under this Agreement and such default shall not be remedied within ten (10) days after written notice, Seller may elect to terminate this agreement and retain any interest earned hereunder as liquidated damages. In that event, Seller shall have no further recourse against Buyer for the collection of any remaining principal or interest.

THE PARTIES HEREBY AGREE to the terms and conditions set forth herein on the date first written above.

Accepted and Approved by Seller

Accepted and Approved by Buyer

Berg Management Group, Inc.

Signature

#### MINING, PROCESSING AND REFINING AGREEMENT

FOR VALUABLE CONSIDERATION, the parties hereto agree:

- 1. Refiner will process and refine \_\_\_\_\_\_ tons of Buyer's ore and deliver refined bars of gold and silver to a reputable company for certification of weight and purity and application of said company's "hallmark" to said bar(s).
- 2. The time of delivery to the hallmarking company will be within 25 days after the ore has been refined.
- 3. The Buyer will be advised of the name and address of the hallmarking company and the date by which the bars of precious metal(s) will be available. The Buyer will receive his/her refined and hallmarked precious metals from the hallmarking company or make other arrangements for delivery.
- 4. The Buyer will receive a copy of the agreement with the hallmarking company entered into by the refiner. In the agreement shall be indicated the amount of gold, silver or other precious metal the Buyer is to receive. The Buyer will present his/her copy of the agreement proper identification to the hallmarking company.
- 5. The time of refining is based upon a "first in first out" basis.
- 6. This Agreement may be terminated by Buyer upon 30 days written notice to Refiner.

This agreement is entered into this \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_

Houston Corporation

Buyer

Type or Print Name

Address

Buyers A/C and Telephone No.

City, State, Zip

## INSTRUCTIONS FOR BUYER'S TRUST ACCOUNT

Universal Bookkeeping Service 3121 Industrial Road Las Vegas, Nevada 89109

I/we herewith enclose an amount equal to \$10.00 per Agreement as an administrative handling and recording fee, plus \_\_\_\_\_\_\_\_\_ dollars (\$\_\_\_\_\_\_), or a total check in the amount of \_\_\_\_\_\_\_ dollars (\$\_\_\_\_\_\_), which you are hereby authorized to disburse as you see fit for fees, commissions and expenses.

Further, I/we have executed a certain Ore Purchase Agreement of even date to these instructions and will be directing interest and principal payments to you which you are to place in your Buyer's Trust Account. You are authorized to remit interest paid on said Agreement to Houston Corporation, or their designated assignee, and further to place all principal payments on said Agreement in an FDIC insured, interest-bearing account, with interest accumulating to my/our credit.

These instructions are to remain in effect until such time as they may be amended or terminated by me/us in writing.

Signature

Print or type name

19

REFERRALS

| Referre | d by          |        |              | Date  |          |
|---------|---------------|--------|--------------|-------|----------|
| Name    |               |        |              |       | · . · ·  |
|         |               | Last   | First        |       | Nickname |
| Addre   | SS            |        |              |       |          |
|         | · ·           | Street | City         | State | Zip      |
| Phon    | e Number -Day |        | Evening      |       |          |
| 1.<br>  |               |        | Best time to | call  |          |

## REFERRALS

| Referred by    |        |   |                | Date      |  |  |
|----------------|--------|---|----------------|-----------|--|--|
| Name           |        |   |                |           |  |  |
| Name           | Last   | 1, 7, 7, 7, 7, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, | First          | Nickname  |  |  |
| Address        |        |   |                |           |  |  |
|                | Street |   | City           | State Zip |  |  |
| Phone Number - | Day    |   | Evening        |           |  |  |
|                |        |   | Best time to c | all       |  |  |

## REFERRALS

| Referred by       |        |              | Date  |          |  |
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|                   | Last   | First        |       | Nickname |  |
| Address           |        |              |       |          |  |
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| Phone Number -Day | 1      | Evening      |       |          |  |
|                   |        | Best time to | call  |          |  |

## REFERRALS

| Referred by  |        |              |                | Date                                  |  |
|--------------|--------|--------------|----------------|---------------------------------------|--|
| Name         |        |              |                |                                       |  |
|              | Last   | First        |                | Nickname                              |  |
| Address      |        |              | . <sup>1</sup> |                                       |  |
|              | Street | City         | State          | Zip                                   |  |
| Phone Number | -Day   | Evening      |                | · · · · · · · · · · · · · · · · · · · |  |
|              |        | Best time to | call           |                                       |  |
|              |        |              |                |                                       |  |

#### Mining Agreement No.

#### ORE PURCHASE AGREEMENT and BILL OF SALE

THIS AGREEMENT, is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 1987 by and between Berg Management Group Inc. (a Nevada corporation hereinafter referred to as "Seller", and \_\_\_\_\_

, hereinafter referred to as "Buyer".

WHEREAS the Seller has gold and silver bearing ore situated in a "Cinder Cone" on Marriam Crater, within the 7 1/2 minute quadrangle, twenty-five miles NE of Flagstaff, Coconino County, State of Arizona, and,

WHEREAS the Buyer desires to immediately purchase \_\_\_\_\_\_ tons of said ore from Seller, and Seller agrees to sell said tonnage of ore at the execution of this Agreement, subject to the following terms and conditions,

NOW THEREFORE, for valuable consideration, the parties hereto have agreed:

- The Seller will now sell 1. tons of ore to Buyer at Fifteen dollars (\$15) per ton for a total purchase amount of \_\_ dollars (\$\_\_\_\_\_). (Price includes royalty, processing and refining.) Buyer agrees to pay for the ore upon signing this Agreement by making monthly principal and interest payments in the amount of dollars (\$\_\_\_ \_\_\_\_) per month, interest at the rate of ten percent (10%) per annum. The first monthly payment is due thirty days after the date this Agreement is signed and continuing monthly thereafter, until such time as the ore is processed, at which time the balance of this contract is due and payable from the proceeds of Buyer's ore, which shall be paid from Buyer's precious metals. Buyer further agrees to remit to Universal Bookkeeping Service at 3121 Industrial Road, Las Vegas, Nevada 89109 the sum of Ten dollars (\$10) as an administrative, handling and recording fee.
- 2. The Buyer shall have full and complete ownership rights of all minerals in the entire tonnage of ore as referred to in provision #1. above, including the right to remove the ore at his/her cost, subject to the terms of said provision #1.
- 3. The Buyer shall have reasonable access to his/her property at all times and will, in turn, grant reasonable access to other property owners.
- 4. It is agreed by the Seller and Buyer that mining operations of said tonnage will commence within a reasonable time and are to be performed expeditiously from the mining claims referred to above.

- 5. Execution hereof by the Seller is an acknowledgment and representation relied upon by the Buyer as a part of the consideration hereof that deposits of precious metals are known to exist in sufficient quantity and quality to reasonably justify commercial exploitation.
- 6. Buyer hereby acknowledges the option to have the Houston Corporation, under a separate agreement, to mine, process and refine any precious metals in the ore in said claim to hallmarked bars on behalf of Buyer, by executing a mining, processing and refining contract.
- 7. The Seller warrants to Buyer that the net smelter value of said ore shall have a minimum value of Forty Two dollars (\$42) per ton of ore purchased and, if lacking that value, Seller reserves the right to substitute an ore body of greater value, or shall sell to owner additional ore at a cost of one cent (\$0.01) per ton and shall process said ore upon the same terms until sufficient ore has been purchased and processed to provide equivalent value to Buyer as required this Warranty for the amount of the original ore purby Seller has placed an ore reserve with Universal chase. Bookkeeping Service in the amount of Seven Hundred Fifty Thousand (750,000) tons to be used in the event the values do not meet the Forty Two dollar (\$42) per ton Warranty.
- 8. <u>Default by Buyer</u>. If Buyer shall be in default under this Agreement and such default shall not be remedied within ten (10) days after written notice, Seller may elect to terminate this agreement and retain any interest earned hereunder as liquidated damages. In that event, Seller shall have no further recourse against Buyer for the collection of any remaining principal or interest.

THE PARTIES HEREBY AGREE to the terms and conditions set forth herein on the date first written above.

Accepted and Approved by Seller

Accepted and Approved by Buyer

Berg Management Group, Inc.

Signature

#### AGREEMENT OF UNDERSTANDING

#### BUYER AND SELLER UNDERSTAND AND AGREE TO THE FOLLOWING:

#### 1. WARRANTY:

IT IS UNDERSTOOD AND AGREED: The gold and silver value per ton in Buyer's Ore Agreement will be a minimum of \$42.00 per ton, and further, shall provide no less than 25 troy ounces of gold per 250 ton unit. If not, Seller agrees to sell Buyer additional tonnage at one cent (\$0.01) per ton from the warranty reserve held by Universal Bookkeeping Service until the value has reached \$42.00 per ton in Buyer's Purchase Agreement.

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IT IS UNDERSTOOD AND AGREED: That there is no way to pinpoint an exact date of delivery; however, the projected delivery date would be one to three years, depending on the startup date and the date Buyer makes his/her purchase.

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IT IS UNDERSTOOD AND AGREED: That the Buyer, subject to a 30-day notice, can cancel his/her Agreement at any time, for any reason, and receive a refund of all principal payments, plus accumulated bank interest on the same.

Buyer

Contraction and the second second

#### MINING, PROCESSING AND REFINING AGREEMENT

FOR VALUABLE CONSIDERATION, the parties hereto agree:

- 1. Refiner will process and refine \_\_\_\_\_\_ tons of Buyer's ore and deliver refined bars of gold and silver to a reputable company for certification of weight and purity and application of said company's "hallmark" to said bar(s).
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- 4. The Buyer will receive a copy of the agreement with the hallmarking company entered into by the refiner. In the agreement shall be indicated the amount of gold, silver or other precious metal the Buyer is to receive. The Buyer will present his/her copy of the agreement proper identification to the hallmarking company.
- 5. The time of refining is based upon a "first in first out" basis.
- 6. This Agreement may be terminated by Buyer upon 30 days written notice to Refiner.

This agreement is entered into this day of 19

Houston Corporation

Buyer

Type or Print Name

Address

Buyers A/C and Telephone No.

City, State, Zip