Geology

One million tons of low-grade silver-gold ore has been developed along a 300 m segment of the main vein at Bell Mountain. The ore deposit averages 1.5 g/t gold and 50 g/t silver. It strikes east-west, dipping to the south at 45° with the slope of the terrain, making it possible to mine by open pit. In the ore zone, the vein averages more than 10 m, and is up to 18 m in true thickness. Where the vein is thicker, it contains higher silver and gold values.

The ore body contains a central shoot of better-than-average ore, about a third of a million tons averaging 2.0 g/t gold and 55 g/t silver. This better ore lies near the surface and could be selectively mined at low cost because of the approximate 2:1 waste:ore stripping ratio.

The main vein extends east and west of the ore zone, cropping out intermittently over 2 km. Several narrower veins cut the main structure at an angle. Recent surface sampling shows that they contain silver and gold. The potential of these zones will be developed in an on-going program as mining proceeds in the pit.

At the depths explored thus far, the vein is thoroughly crushed and oxidized. The principal ore minerals were electrum (Au, Ag) and argentite (Ag_2S), probably accompanied by small amounts of base metal sulphides and sulphosalts of silver. Powerful oxidation has leached some of the silver from the electrum near the surface, making it more yellowish in color. The argentite has been decomposed. Silver now occurs as native silver and yellow-gray chloride, and there is suggestion of secondary fine-grained black argentite in coatings and seams in the deeper mine workings. Sulphides and sulphosalts have been completely leached from the vein, leaving specks, seams, and cavity linings of ocherous limonite. No primary sulphides have been seen yet at Bell Mountain.

The vein is soft, consisting for the most part of manganiferous calcite. Small amounts of quartz occurs in later shoots within the carbonate matrix of the structure. Scattered slices, blocks, and "horses" of wall rock are found isolated within the vein. Adularia, barite, fluorspar, rhodochrosite, and montmorillonite are sporadically present as minor gangue minerals. A prominent feature is the lamellar texture of quartz replacing calcite characteristic of this type of Nevada silver-gold ore. Brecciation has obliterated much of the original delicate texture of the vein, but combing, cockading, crustification, and banding are common.

The walls of the vein are Tertiary rhyolite pyroclastic. Siliceous rhyolite tuff matrix contains broken fragments of andesite, and granitic and metasedimentary rock from the underlying Mesozoic basement complex. Wall rock alteration consists of broad silicification, chloritization, and argillization, with sericitization observed close against the walls of the veins.

Mining

The ore deposit at Bell Mountain will be mined by open pit on 5 meter benches. The uppermost level is the 1915 m level, and mining will eventually go to the 1800 m level. As mining proceeds downward, the stripping ratio of waste to ore will gradually increase from about 1:1 near the surface to 10:1 on the 1800 m level. Average stripping ratio through the life of the operation will be between 4 to 1 and 5 to 1. Wall rock dilution is estimated at 15%, although it may be kept under 10% above the 1850 level, where hanging and footwall are particularly distinct, making it possible to cleanly separate ore from waste.

Approximately 25,000 tons of material will be removed from the open pit each week; 4700 tons of ore and 20,300 tons of waste. All of the mine machinery has been purchased new, and qualifies for 10% investment tax credit under the new tax laws. Rotary blast-hole drilling will be done by Reedrill SK-25, a highly mobile track-mounted machine using 6 meter tool change. Blast holes will be loaded from an explosives truck. A Caterpillar 988-B wheel loader with beadless rim front tires and 5.35 cubic meter rock bucket will load into Caterpillar 769-C 32-ton trucks. Caterpillar 613 tractor/20 ton articulated Magnum water truck will be used for dust abatement, road maintenance, and fire protection. Caterpillar D7-G bulldozer and 140-G motor grader will clean up in the mine and be used for road maintenance. Night illumination will be provided by two Allman 4000-watt portable units.

Custom-built explosive, lubrication, and boom units are being installed on GMC trucks. GMC crew cab and 4-speed pickup trucks have been purchased.

The maintenance shop is located near the cyanide plant. Inventories of small items such as gaskets and filters will be kept there. The Caterpillar dealer in Reno has agreed to inventory all major parts and spares, including engines, for the drill, mine machinery, and diesel generator sets. Office and assay laboratory will be in small pre-engineered steel buildings near the cyanide plant.

To convert:

Grams per ton to ounces per ton, multiply by 0.02917
Metric tons to short tons, multiply by 1.1023
Meters to feet, multiply by 3.2808
Kilometers to statute miles, multiply by 0.6214
Kilograms to avoirdupois pounds, multiply by 2.2046
Hectares to acres, multiply by 2.4710
Grams to troy ounces, multiply by 0.03215

Cyanide Plant

Research testing of Bell Mountain ore indicates that good recovery of silver will be obtained at relatively coarse grind, within comparatively short time. Most of the gold will be taken into solution during grinding. Good settling rate of pulp solids is indicated. The ores are much softer than normal in Nevada precious metal districts, and capital and operating costs for crushing and grinding will be low. At least 95% of the gold and 75% of the silver will be recovered in the cyanide plant.

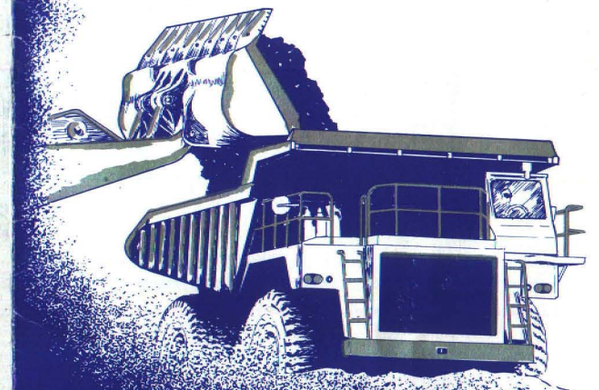
All of the mill machinery and buildings are being purchased new, and the plant will qualify for 10% investment credit and life-of-operation depreciation under the new tax laws.

A conventional two-stage crushing plant is being built as a completely highway-portable unit. Caterpillar 950-B wheel loader will load a Pioneer apron feeder over Nordberg jaw crusher. From the jaw crusher, the ore will go to a double-deck vibrating screen into Symons shorthead cone crusher, the oversize returned to the screens. The cone crusher will produce 20 mm mill feed, conveyed by radial stacker over three feeders positioned along a 2 m diameter corrugated steel reclaim tunnel set into the ground. The reclaim belt coming out of the tunnel will pass under a Kohlberg hopper, which can be loaded directly by the Caterpillar 950-B wheel loader. Sodium cyanide will be fed onto the conveyor from a flow bin; lime will be added from a silo. Weightometer and station for taking moisture samples will be outside the mill shell.

The cyanide plant is a completely conventional CCD (counter current decantation) circuit, with minimal instrumentation. Grinding will be closed through a Koppers 244 x 366 cm cylindrical ball mill with drum feed and open trunnion discharge to Krebs cone classifier. Eimco thickener mechanisms in five 14 m steel tanks will be used, along with four Lightning agitators. U.S. Filter is supplying the clarification filters. A vertical deaeration tower will precede zinc precipitation, followed by Shriver plate press filters. A Lindbergh gas-fired furnace will melt one standard bullion button each day, weighing 32 kg, 5 days per week. The buttons will contain silver and gold at the ratio of 30 to 1, and will be sold directly to a national precious metal refiner.

The leached solids will flow by gravity through a 15 cm polypropylene line to the tailings dam and distributed by spigots at intervals around the beach. The dam will be constructed in stages, using waste rock from the mine as the operation proceeds. The tailings system is designed to decant most of the waste water, returning it to the cyanide plant for re-use.

Interim Report
January 1, 1982



Bell Mountain Mining Company

Message to Shareholders

Construction has begun on the open pit silver-gold mine and cyanide plant at Bell Mountain, Nevada. American Pyramid Resources' wholly-owned subsidiary, Nevada Silver, Inc., is developing the property under the name Bell Mountain Mining Company.

The Bell Mountain Mine is 63 km southeast of Fallon, in the Fairview Mining District, in Churchill County. A new access road is being constructed from paved U.S. Highway 50 on Stingaree Flat, south 12 km to the mine. A water well has been drilled on Stingaree Flat. A 10 cm steel water line will be buried along the new road. Power for the cyanide plant will be generated by Caterpillar diesel units.

The six original central mining claims have been purchased outright. Nevada Silver, Inc. is the sole owner of 38 contiguous lode claims (318 hectares) and 36 mill sites (73 ha) covering the known mineralization in the district. There will be no royalties on production.

The mine is being developed by a combination of equity and debt financing, at a total cost of US $8,000,000. American Pyramid Resources has invested part of the funds, and The Royal Bank of Canada is loaning the remainder in a series of monthly draws which began October, 1981.

775 metric tons of ore will be mined from the open pit each day, 2 shifts per day, 6 days per week. The cyanide plant will treat about 650 tons per day, 3 shifts per day, 7 days per week.

In the central portion of the main vein, one million metric tons of ore has been blocked out in crosscuts underground across the vein at 20 to 25 m intervals. The open pit will be mined from the 1915 m level down to the 1800 m level. Above the 1800 m level the vein averages 1.5 g/t gold and 50 g/t silver. Prospects are good for developing additional ore in both directions along the trend of the main vein, at depth, and in several narrower veins off the main structure, where results of recent surface sampling are encouraging.

Direct costs (excluding capital) of administration, mining, cyanidation, power plant, water system, road maintenance, etc., are estimated to be $13.50 per ton of ore treated.

Construction is scheduled as follows:

1. *Build new access road. December 1981-January 1982.*
2. *Construct water system. January-February 1982.*
3. *Construct cyanide plant, office, assay laboratory, crushing plant, maintenance shop. January-April 1982.*
4. *Begin mining. February 1982.*
5. *Start up. April 1982.*

After allowing for mine dilution, recovery in the cyanide plant, and refining losses, an estimated 1.43 metric tons of gold and 37.5 metric tons of silver will be produced from the million-ton central ore zone.

Sincerely,

A.H. Lenec, President
AMERICAN PYRAMID RESOURCES, INC.
302 - 750 West Pender Street
Vancouver, B.C. V6C 2T7
Telephone 604 682 4641

Opposite: Artist's water color rendition of Bell Mountain mine and cyanide plant.