INVESTMENT IN EXPLORATION
THE NORTH AMERICAN VIEW

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EXPLORATION BUDGETS

With the non-ferrous mineral exploration industry under siege for the past five years, overall industry exploration budgets have fallen or, at best, held their own in each successive year. At the same time, the focus of the industry has progressively narrowed to the point where we now estimate that about 80 per cent of current efforts are directed to gold; every major company’s non-ferrous exploration program has it as a target. As a result, new gold mines are continuing to be found and developed at an unprecedented rate in the United States.

Slightly over half of the major exploration groups active in the United States are looking for silver, usually in association with gold. About one-third are looking for high-grade complex base metal deposits. There is almost no direct exploration for the big copper and molybdenum deposits that were the backbone of U.S. exploration in the 1970s.

To put these figures into perspective, a recent survey by Metals Economics Group showed that 36 U.S. projects are now at the stage of proving up reserves, 38 are undergoing feasibility studies, and of these, 6 are doing test production. Of the 36 at the preproduction stage, 11 are already processing development ore. Eighty-five of these 110 projects are targeting gold, while 12 have silver as a focus. Of the 12 remaining, 7 are considered polymetallic, 3 are base metal projects, and 2 are ferroalloy developments. One platinum project is in the preproduction stage.

Another recent study examined the exploration programs of 38 companies responsible for most of the exploration activity in the United States. Major exploration efforts all fell at or under $20 million, with only a handful of companies budgeting $10 million or more in 1985. These included Newmont, Homestake, Gold Fields and Hecla. The average budget for the major companies was about $7 million, down significantly from the budget levels of 5 and 6 years ago.

With all the above companies interviewed looking for gold, there has been a significant shift in corporate strategies from those of several years ago, when a number of the majors could not justify a gold exploration program based on their minimum acceptable financial criteria. With the new focus, the amounts spent on gold exploration have not been falling in line with decreasing budgets. This trend appears to be continuing into 1986, with budget cuts and reorganizations accompanied by major discoveries. In the past year significant new finds with large mine potential have been announced by Freeport, Gold Fields, and Newmont.

Data furnished by a recent study shows that of the gold projects, 25 are at the stage of proving up reserves, 30 are undergoing feasibility studies with 5 of these doing some test production. Production decisions have been made for 20 projects and an additional 10 are processing development ore. Of the 30 gold projects rated for production, there are 18 open pit, 7 underground, 2 placers, and a couple of very small dumps and tailings operations. This distribution by the concentration continues to be on low-grade disseminated targets.

APPROACHING HALF A MILLION NEW OUNCES

Under current plans, as announced by the companies, these new operations will add over 900,000 ounces to current U.S. gold production capacity during 1986, an increase of well over 30 per cent. This figure probably understates plans, as there may be some small privately held operations not included. However, in order to arrive at an acceptable estimate of the actual increase in production likely this year, we cut the total in half, accounting for junior company promotion, start-up difficulties, and a soft gold price. An increase of 450,000 ounces in gold production still represents a substantial addition to U.S. capacity.

Specifically, Gold Fields’ Mesquite and FMC’s Paradise Peak mines will add about 100,000 ounces each.
Inspiration’s Quito and Amax’s Sleeper are estimated at 55,000 ounces each. Three large projects run by small Canadian companies — Sonora, Montana Tunnels and Summitville — are expected to add another 300,000 ounces. Carson Hill is expected to yield 62,000 ounces. Projected yearly output of gold for the remaining project mostly range between 10,000 and 30,000 ounces.

We can expect the pace of production growth to continue with the development of a number of important recent discoveries. Major projects in the feasibility study stage include Freeport’s Bull Run, Gold Fields’ Chimney, Kennecott’s Rawhide, St. Joe’s Montgomery-Shoshone, the Colosseum mine, formerly owned by Amselco and recently purchased by a group of Australian companies, Amselco’s Kiff, and several Newmont projects in the Carlin district.

FEW SILVER PROJECTS TO GO AHEAD

U.S. silver exploration and development has slowed down considerably in the last few years as a result of relatively low prices occasioned at least in part by the large stocks of metal that are currently overhanging the market. With much silver production currently marginal, there is much less activity in that metal than in gold. However, silver is playing a significant role in overall gold economics; over half of the gold projects mentioned above have potentially economic silver content. As mentioned, 60 per cent of major U.S. exploration groups have silver as a target, often in conjunction with gold. Several companies are looking for silver-copper, Troy-type targets, and others are drilling in the vicinity of existing silver producers.

Five potential silver operations are developing reserves and four are in the feasibility stage. A number of advanced projects have been suspended in the last year and only a few projects are going ahead to commercial production at the moment. Rochester is an open-pit mine scheduled to be onstream later this year, with over 100 million tons of 1.5 oz Ag/st* and 0.01 oz Au/st. Silver King’s Ward District mine is proceeding more slowly, with a 1988 target date. The mine is polymetallic with 17 million st of 2.5 oz Ag/st, along with 4.5 per cent Zn and 1.5 per cent Cu.

Another polymetallic with high silver content that should see production soon is Green’s Creek, near Juneau in Alaska, where the latest published reserve figures show 4 million st of 11.03 oz Ag/st, 7 per cent Zn, 2.5 per cent Pb, 0.3 per cent Cu and 0.09 oz Au/st. Noranda (which is closing its U.S. exploration effort) and Amselco, which recently purchased an interest in the project from Anaconda, have yet to agree on exactly how to proceed with development of Green’s Creek. It could conceivably be in production by late 1987.

Asarco and U.S. Borax are each currently assessing the viability of their huge Cabinet Mountains silver-copper deposits. Both have over 120 million st of reserves, grading about 1.7 oz Ag/st and 0.7 per cent Cu.

DEVELOPMENTS IN OTHER METALS

Currently, there are no U.S. mines producing platinum nor palladium. Base metal deposits in the United States tend not to be as rich as elsewhere in the world, with the exception of Green’s Creek and Red Dog (both in Alaska), outside the continental United States. The richest, largest polymetallic mine in the lower 49 states is Crandon, with 42.9 million st of 8.4 per cent Zn, 0.04 oz Au/st, 1.53 oz Ag/st, 0.6 per cent Cu, and 0.73 per cent Pb.

Exxon, owner and operator of Crandon, is currently downsizing its plan in order to justify proceeding in today’s climate of low metals prices.

OWNERSHIP

The ownership of the 98 advanced precious metal projects provides a revealing picture of the current pattern of investment and control in the U.S. exploration industry. Major U.S. mining companies control 22 per cent of the profits at present, while 34 per cent belong to intermediary and smaller U.S. groups, including junior mining companies, construction companies, or investment groups. Some 26 per cent of U.S. projects are held by Canadian juniors, mainly based in Vancouver. Although the publicity mills would indicate an even larger percentage of Canadian junior ownership, many of the properties held by these companies are on hold, awaiting higher prices or financing. The lessened public fervour for gold has diminished the availability of funds through the Vancouver Stock Exchange since 1983 and the increased access to flow-through-share financings have made it more attractive for Canadians to put their dollars into the ground at home. Thus, the smaller Canadian companies are currently a diminishing, although still significant, presence in American exploration.

Canadian major and intermediate companies hold 9 per cent of these advanced projects. Placer and Noranda are the only major Canadian companies with

* st = short tons of 2000 lbs
such projects, while Echo Bay, with three of the properties, is the most aggressive among the intermediates. Major European companies hold 6 per cent, and the remaining 3 per cent are held by Australian companies, relative newcomers to the American scene. Moruya Gold Mines, Consolidated Gold Mining Areas, Golconda, and the newly formed Colosseum Gold Mines are all Australian companies active in the United States. These were preceded by BHP, whose purchase of Utah International created a major Australian presence.

There has been no known direct South African presence in U.S. exploration until recently, but we can expect to see a growing influence in the near future. One small new company is already operating in Nevada, and Gencor has reportedly recently committed $70 million to North American mining acquisitions.

ACQUISITION VERSUS DISCOVERY

Companies often have differing philosophies on whether to concentrate their efforts in relatively virgin areas or in known mining districts. Of the U.S. gold and silver projects in later stages of development, 62 per cent are past producers. A number of larger companies have been vacillating over the past several years between strategies based on acquisition versus those centered on generative programs. With a large number of companies looking to acquire late-stage projects, the price tags tend to be less attractive, fueling the conclusion that grass-roots exploration may be a cheaper route to a gold mine after all. However, grass-roots demands money being spent over a fair amount of time, which many companies feel they cannot afford.

A LOOK TO THE FUTURE

There is a general consensus that base metal and ferroalloy metal prices are not likely to make dramatic long-term gains in the next five years. In addition, U.S. properties (except in Alaska) are generally uncompetitive when compared with the rich copper and polymetallic deposits found abroad. Silver tends to be less attractive to investors due to the existence of large silver inventories. Thus, we see the worldwide emphasis on gold continuing, with a particular singlemindedness about it in North America. Even at $330/oz, gold is making quite good profits for the majority of its producers, as the weighted average U.S. cash production cost is currently $224/oz.

Gold development is being aided, in part, by some new financing techniques. Several U.S. companies—St. Joe, Freeport and Duval (now Battle Mountain Gold)—have spun off their gold properties and exploration into new public companies. This takes advantage of the paucity of pure gold investments in the U.S. stock market and has substituted financing from the public for difficult internal budget battles. Bullion loans are also beginning to make their appearance in the United States, which is far behind Australia in this regard. Only a few have been done in the United States, but they represent a very attractive method for securing low-cost development funds when the gold price is at acceptable levels.

The disposition of proposed major tax legislation currently before the U.S. Congress could have a major effect on future development. Lower investment tax credits and slower depreciation would result in raising the economic threshold for projects.

The cast of characters making efforts in U.S. exploration may continue to change. Last year Anaconda, Getty and Duval all closed up shop. Falling oil prices and a growing recognition among some oil companies that gold revenues are unlikely to bring them the level of financial results necessary may force some of the larger exploration groups out of gold, or out of exploration altogether, in the next few years. On the other hand, rail and power utilities have been a major new source of available cash in recent years through Nerco, Santa Fe, and Meridian's efforts. Costain, a British construction company, just purchased Nicor and apparently intends to support continued exploration.

Many entrepreneurially minded geologists, further inspired by a lack of traditional jobs, are given to starting small companies. Paul Bailley, for one, has been particularly successful in funding the Ventures Trident group limited partnership, which is believed to have raised over $30 million largely from institutional investors, and is currently helping to finance a number of advanced-stage projects.

REFERENCES