

ECHO BAY MINES

Annual report 1986

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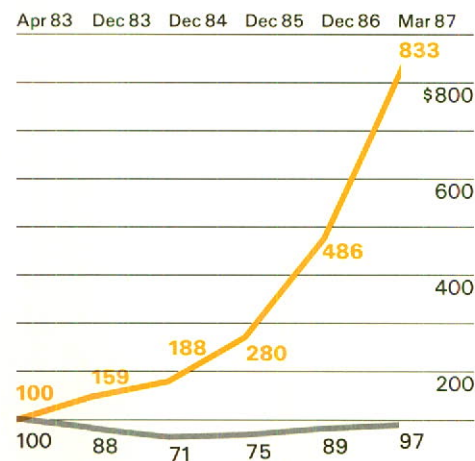
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Corporate profile

- Echo Bay Mines Ltd. is a major North American gold mining company with one mine in Canada and five in the United States (for profiles of the mines see pages 5 to 21). The Company started as a silver mining operation in 1964, and in the following years developed special skills required to operate year-round in northern Canada. Its first gold mine, Lupin in Canada's Northwest Territories, was opened in 1982.
- The Company has grown through acquisitions and production improvements at its mines. Production increased from 118,000 ounces of gold in 1983 to 320,700 ounces in 1986. With the acquisition of three gold mines from Tenneco Inc. late in 1986, production for 1987 is estimated at 480,000 ounces.
- Echo Bay is the largest Canadian gold mining company. Its headquarters are in Edmonton, Alberta.
- The primary markets for the Company's shares are the American and Toronto stock exchanges. The shares are also listed on other major exchanges in Canada, France, Switzerland and Belgium.

Corporate objectives

- Growth – Echo Bay's key objective is to continually improve value per share. The Company increases production through improving operations, developing properties and through acquisitions. The test applied to every major investment decision is whether it benefits the shareholder by increasing earnings, cash flow, production and reserves on a "per share" basis.
- Gold – Echo Bay is a gold mining company. Gold accounted for 99 percent of operating revenues in 1986. There are no plans to diversify into other businesses.
- North America – The Company operates only in Canada and the United States.
- Quality – Echo Bay owns and operates some of North America's lowest cost and longest reserve-life operations.



Value of \$100 invested
on April 14, 1983

■ Echo Bay
■ Gold

\$100 invested in Echo Bay on April 14, 1983, when shares were first issued to the public, was worth \$486 by the end of 1986 and \$833 on March 30, 1987, excluding cash dividends. The same investment in gold bullion was worth \$89 at year end and \$97 on March 30, 1987.

Highlights

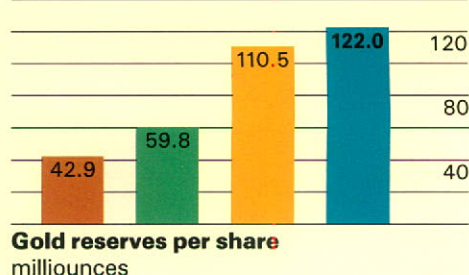
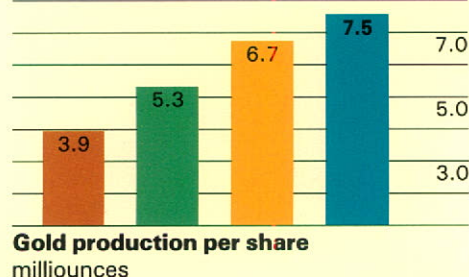
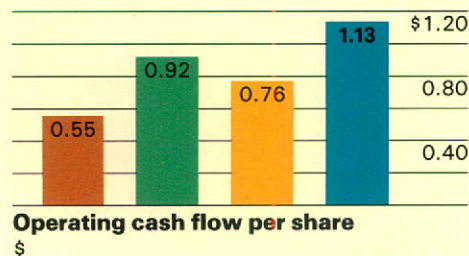
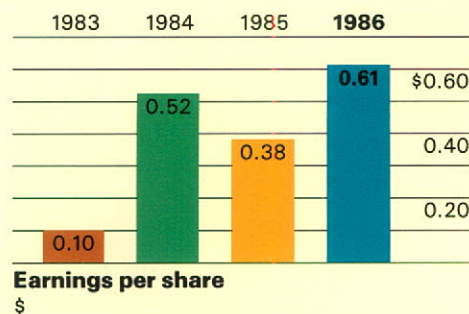
During 1986, Echo Bay Mines:

- Acquired Tenneco Inc.'s gold properties, including three mines and two development prospects.
- Started a program to about double Round Mountain production by late 1988.
- Began production at the Sunnyside mine.

	1986	1985	% Change
Financial data (millions of US dollars)			
Revenue	\$126.1	\$ 83.8	+ 50.5
Net earnings	25.9	15.2	+ 70.4
Operating cash flow	48.1	30.2	+ 59.3
Gold price realized (\$ per ounce)	367	324	+ 13.3
Operating data			
Gold produced (thousands of ounces)	320.7	264.5	+ 21.2
Gold reserves (thousands of ounces)	5,550.9	4,614.5	+ 20.3
Break-even cost per ounce			
Cash production costs	\$ 192	\$ 185	+ 3.8
General and administration	16	18	- 11.1
Total cash costs ¹	208	203	+ 2.5
Depreciation and amortization	56	45	+ 24.4
Total costs ¹	\$ 264	\$ 248	+ 6.5
¹ Before finance costs, royalties and exploration expense			
Employees at year end	1,375	805	+ 70.8
Common share data			
Per share data			
Earnings	\$ 0.61	\$ 0.38	+ 60.5
Operating cash flow	\$ 1.13	\$ 0.76	+ 48.7
Dividends	C\$ 0.13	C\$ 0.12	+ 8.3
Production (milliounces)	7.5	6.7	+ 11.9
Reserves (milliounces)	122.0	110.5	+ 10.4
Shares outstanding (millions)			
Weighted average	42.6	39.7	+ 7.3
Year end	45.5	41.8	+ 8.9
Shareholders (thousands)			
Registered and nominee-held	60.9	52.1	+ 16.9

Change to US dollar reporting

Echo Bay has changed to reporting its results in US dollars from Canadian dollars effective with the December 31, 1986 financial statements. Information for prior years has been restated in US dollars. All dollar amounts quoted are in United States currency unless otherwise noted.



OCT 07 1987

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MCGILL UNIVERSITY

1 Highlights
1000, Sheppard St. W.,
Montreal, Quebec, Canada
H3A 1G5

Letter to shareholders

Echo Bay Mines Ltd. enjoyed another record year in 1986. We achieved significant increases in the four "per share" statistics we use to measure our performance. On a per share basis, earnings rose to \$0.61, a 61 percent increase over 1985; cash flow was \$1.13, up 49 percent; production per share rose 12 percent to 7.5 million ounces, and reserves per share were 122.0 million ounces, a 10 percent gain over last year.

The \$130 million acquisition of Tenneco Inc.'s gold properties in 1986 assures further substantial growth in 1987.

For 1986, we are reporting our financial results in United States currency. We made the change from Canadian dollars since most of our operations are now in the United States, 85 percent of our registered shareholders are Americans, and the gold we produce is most commonly priced in US dollars. However, Echo Bay will remain a Canadian incorporated company with its headquarters in Edmonton.

The people of Echo Bay

Echo Bay has grown substantially since we poured our first gold bar at Lupin in 1982. Credit for that growth and for an excellent 1986 belongs to the men and women of Echo Bay. They carry out varied tasks from mining, milling and exploration to assaying, surveying

and even day care. The two of us are proud to be part of that company, and we welcome the people who joined us as a result of the purchase of Tenneco's gold properties.

Lupin

We had a good year at Lupin, our first and largest gold mine. Production and operating costs were on target. We essentially completed the shaft-sinking section of the development program. The ore body at 2,130 feet in the main Center Zone looks very similar to the same zone 1,000 feet above, indicating a large extension of the ore body. We will know more about this from the 1987 development work which should establish significant amounts of ore down to approximately 2,300 feet.

Round Mountain

We also had a very good year at the Round Mountain mine with production reaching an all-time high and costs reduced to record low levels. In 1984, the year before we acquired our 50 percent interest in this mine, its cash production cost was approximately \$250 an ounce. In 1986, it was \$182 an ounce – about the same as Lupin's. Equally important was the progress made with our joint venture partners on a major program to expand this Nevada mine, already the world's largest gold heap leaching operation. In March 1987, we announced details of a plan to about double capacity by late 1988, leading to possible further reductions in the production cost per ounce.

Sunnyside

The Sunnyside mine in southwestern Colorado was reopened in 1986. We acquired this property in late 1985. Progress in bringing Sunnyside to profitability has been slower than anticipated, and we're not there yet. Our work plan for 1987 calls for profitable operations and an expansion of ore reserves.

Exploration and development

In addition to the Round Mountain expansion and the Lupin deep development program, we made progress on a number of exploration and development projects to "fill the pipeline" with potential future producers. The nine most significant are:

- A new gold discovery at Cove, a mile away from the McCoy mine in Nevada. Results from early 1987 drilling show that 39 out of 42 holes encountered gold mineralization. Seven intersections were high grade with an average thickness of 118 feet. The drilling program continues.
- Drilling on the McCoy deposit to further delineate oxidized gold mineralization and to investigate sulfide mineralization beneath the current reserves. We have had very positive results so far.
- Development of Illipah, Nevada, which should become our seventh producing mine late in 1987.
- Commencement of a decline ramp at Cameron Lake, Ontario, to better evaluate the deposit.
- A drilling program in the Kettle River area, near Republic, Washington. Drilling in 1986 has outlined two promising mineral resources.
- A drilling program at Indin Lake, in Canada's Northwest Territories.
- Re-entry and mine cleanup at the Alaska-Juneau mine, once the largest gold mine in the U.S. In 1987, we will be doing confirmation drilling and ore-sorting tests.

Chairman Bob Calman (left) and President John Zigarlick, at the McCoy open pit mine in Nevada, one of three gold mines acquired in 1986.



The Tenneco gold properties

Echo Bay acquired Tenneco Inc.'s gold mining and exploration properties in October 1986, including:

- Three producing gold mines in Nevada — McCoy, Manhattan and Borealis — with estimated combined 1987 production of 150,000 ounces.
- Two development properties, one of which will be producing in 1987.
- Numerous exploration properties, mainly in the western United States.

The purchase price was \$130 million in cash plus a 1.5 percent royalty on sales of precious metals produced from the properties.

The purchase was financed by an offering in Switzerland of SFr 110 million, 3⁷/₈ percent, 10-year bonds with five-year gold purchase warrants attached, along with an issue of 3.6 million common shares sold at C\$29 per share in Canada, and US\$20⁷/₈ in the United States and Europe.

- Commencement of a decline ramp at Congress, Arizona, where we could have a small but high-grade underground mine in 1988.
- Evaluation work at Randsburg, California, where ore has been outlined for an open pit mine.

Gold and who buys it

In this year's annual report we have added commentaries on the gold markets in 1986 and who buys gold by Jeffrey A. Nichols, a recognized U.S. gold commentator, and Timothy Green, a British authority on gold. Their articles are on pages 25 and 27.

Outlook

The end of one year is also the beginning of a new one. We look forward to another year of improvements in 1987. Gold production will increase 50 percent to about 480,000 ounces, thanks mainly to the properties acquired from Tenneco. Cash production costs will be approximately \$200 per ounce.

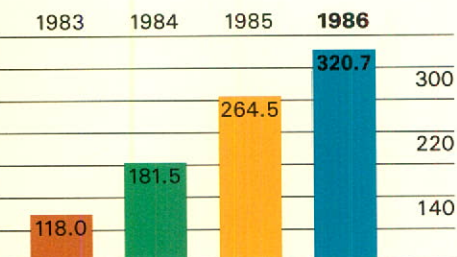
In 1987, we will be well into the Round Mountain expansion; we expect to add substantially to Lupin's ore reserves and probably McCoy's; and our seventh mine, Illipah, will be producing by year end. These and the other projects in our development "pipeline" promise continued growth for Echo Bay.

Robert F. Calman
Chairman

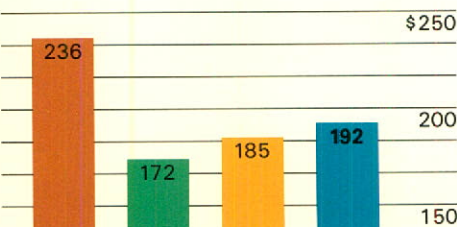
John Zigarlick, Jr.
President

March 31, 1987

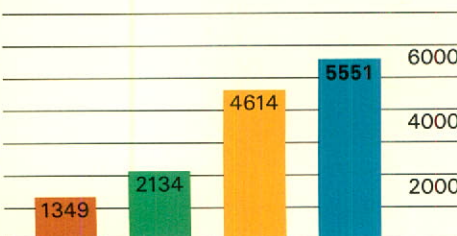
Operations overview



Gold production
thousands of ounces



Cash production costs
\$ per ounce



Year-end gold reserves
thousands of ounces

In 1986, Echo Bay produced 320,693 ounces of gold, a 21 per cent increase over 1985 and the fourth consecutive year of increased production. The average cash cost was \$192 per ounce. Comparative figures for 1985 were

264,511 ounces produced at a cash cost of \$185.

Production in 1987, with a full year from the three Tenneco mines and Sunnyside, should be about 480,000 ounces at an estimated cash cost of \$200 an ounce.

Gold production

	1986		1985	
	Ounces	Cash cost per ounce	Ounces	Cash cost per ounce
Lupin	193,185	\$178	195,137	\$176
Round Mountain (50% share)	83,825	182	69,374	213
Sunnyside (5 months)	17,827	336	-	-
McCoy (3 months)	13,983	195	-	-
Manhattan (3 months)	6,876	244	-	-
Borealis (3 months)	4,997	271	-	-
	320,693	\$192	264,511	\$185

Ore reserves — gold content (proven and probable)

	1986 Dec. 31 (ounces)	1985 Dec. 31 (ounces)
Lupin	1,046,700	1,045,400
Round Mountain (50% share)	3,399,700	3,453,000
Sunnyside	88,500	116,100
McCoy	523,700	-
Manhattan	145,900	-
Borealis	127,700	-
Development properties acquired from Tenneco:		
Illipah	33,800	-
Randsburg	184,900	-
	5,550,900	4,614,500

Highlights of 1986 were:

Lupin

- Development from the deepened shaft has encountered ore 1,000 feet below previous reserves.

Round Mountain

- Will about double capacity by fourth quarter 1988.

Sunnyside

- Reached commercial production in August.
- The start-up so far has not met expectations but improvements are anticipated in 1987.

The Tenneco mines — from October:

McCoy

- Drilling indicates potential for substantially greater reserves.
- New gold discovery made at Cove.

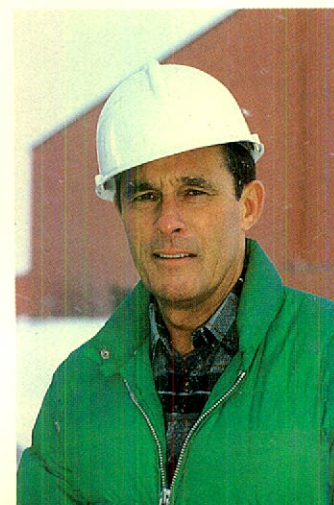
Manhattan

- An exploration program to increase reserves has begun.

Borealis

- A new deposit, Freedom Flats, began production in early 1987.

Peter Clarke, Senior Vice President, Operations.



Lupin



Lupin, 56 miles south of the Arctic Circle in northern Canada, was Echo Bay's first gold mine and remains its largest producer. It came into production in 1982 and is now a finely tuned operation that produced 193,185 ounces of gold at a cash cost of \$178 an ounce in 1986.

The miners below, Ray Lavoie (left) and J.P. Rioux, are installing timbers underground. Lupin's shaft-deepening program has increased the shaft's depth from 1,210 feet below surface to 2,550 feet. The associated lower level development program encountered ore at the 2,130-foot level. Development work in 1987 will concentrate on establishing ore reserves down to 2,300 feet.



Echo Bay's first and largest gold mine, Lupin, achieved another year of strong performance in 1986, with both production and cost per ounce coming in on target.

The mine is an underground operation. Ore is hoisted to the surface where the gold is recovered using a conventional milling process.

Significant progress was made during the year in the shaft-deepening and lower-level development program. Ore was encountered on the 2,130-foot level in both the Center and West zones, nearly 1,000 feet below the previous ore reserve depth.

Background

Echo Bay acquired the Lupin property in 1979 and, following 18 months of exploration and 20 months of construction, commercial production levels were reached in October 1982. The original construction cost was C\$135 million for a 950-ton-per-day operation. Following an expansion program, the mine is now operating at over 1,750 tons of ore per day.

Lupin is located 56 miles south of the Arctic Circle in Canada's Northwest Territories and is the northernmost gold mine outside of the Soviet Union. It is unique in another way: during the construction period everything required to build the operation was flown into the site, mainly in a Hercules cargo aircraft.

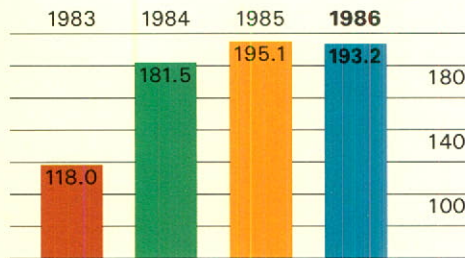
Operations

The mine produced 193,185 ounces of gold in 1986 at a cash cost of \$178 per ounce. These levels are basically unchanged from 1985. A 3.9 percent increase in ore processed, to 1,782 tons per day, compensated for a 3.7 percent decrease in the grade mined.

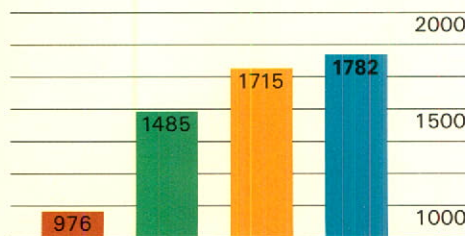
The ore body at Lupin has three zones which fold to resemble a "Z" shape (see the isometric projection on page 7). In 1986, ore was mined from all three zones. Both the Center and East zones are relatively wide, allowing highly mechanized, bulk-mining techniques to be used.

In the narrower West Zone, which ranges between three and 16 feet in width, Lupin is developing a new mechanized procedure that will allow better production rates and cost per ton than are usual in such a narrow ore body.

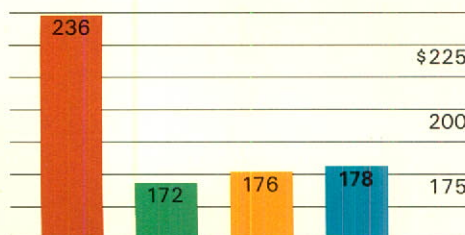
The largest project in 1986 was the continuation of the shaft-deepening and lower-level development program. The shaft has now been sunk to its current planned depth of 2,550 feet below surface from its previous depth of 1,210 feet. One level was developed during 1986 from the shaft into the Center Zone at 2,130 feet. This, together with diamond drilling of the West Zone,



Gold production
thousands of ounces



Average daily ore throughput
tons per day



Cash production cost
\$ per ounce

Operating data

	1986	1985	% Change
Gold produced - ounces	193,185	195,137	(1.0)
Ore processed - tons per day	1,782	1,715	3.9
Grade - ounces per ton	0.313	0.325	(3.7)
Recovery rate - percent	95.3	95.5	(0.2)
Cash production cost - per ounce	\$178	\$ 176	1.1

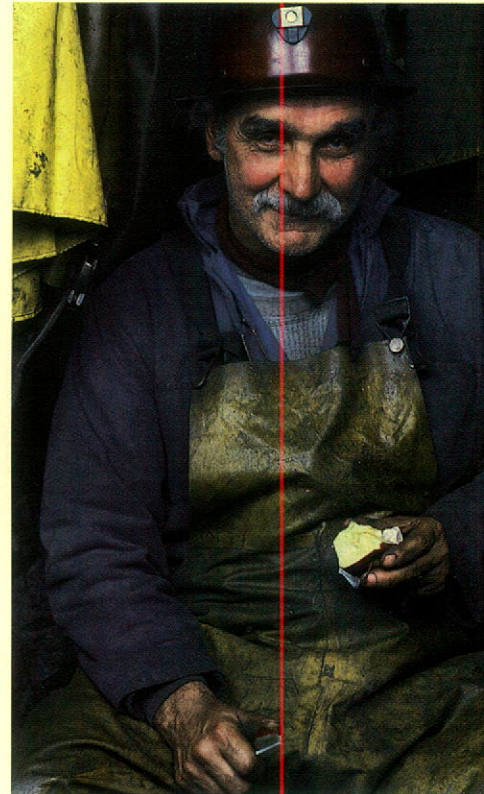
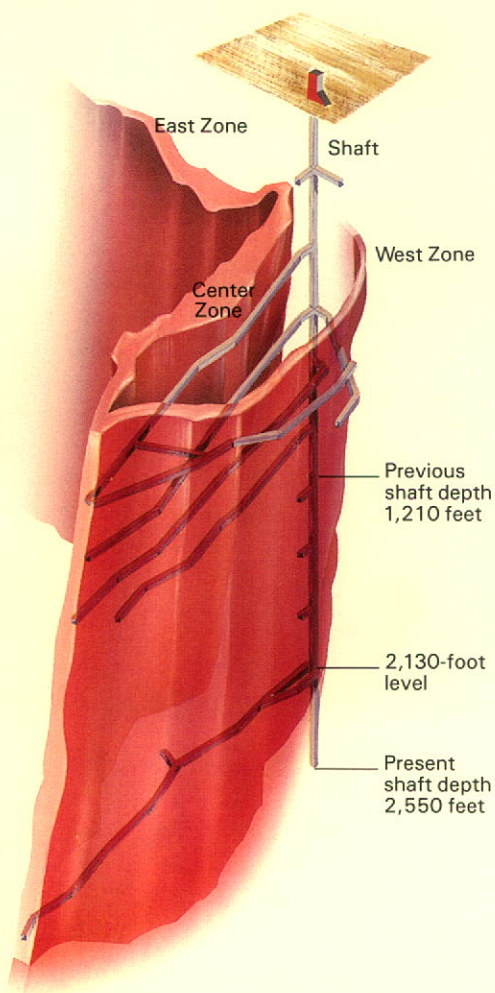
Ore reserves

(proven and probable)

	1986 Dec. 31	1985 Dec. 31
Gold content - ounces	1,046,700	1,045,400
Grade - ounces per ton	0.343	0.340
Quantity - tons	3,054,800	3,068,100

Seen from above, the Lupin ore body is folded into a "Z" shape that runs diagonally to an unknown depth. During 1986, Echo Bay completed the program to sink the shaft to 2,550 feet and continued to develop lower levels to establish the extent of the ore. Work on the 2,130-foot level added 164,000 ounces of gold reserves, bringing the total for the mine to 1,046,700 ounces. Substantial reserves should be added as development continues in 1987.

Lupin shaft-sinking program



Lupin employs 380 people, most of whom are on a work rotation schedule of two weeks in at the mine and two weeks out. The benefits of this rotation have attracted a stable workforce, resulting in an extremely low turnover rate for such a remote site. Andrew Swiderski is one of the specialized miners involved in the shaft-sinking program.

confirms the continuation of the Center and West zones to at least this depth. Mineralization in the East Zone was previously known to end at about 1,080 feet.

Other levels have to be developed in 1987 before total ore reserves can be calculated down to about 2,300 feet. Reserve additions at year end from the limited work on the 2,130-foot level were 164,000 ounces.



Echo Bay operates a Boeing 727 combination cargo/passenger aircraft that rotates people between Lupin and Edmonton, and also flies in supplies. The 90-minute flying time makes the mine seem less remote. Here, aviation manager Bill Granley is at the controls with Dev Salkeld as co-pilot.

The capital cost of shaft-sinking and the associated work to establish reserves means that underground mines must be developed in stages. Echo Bay's program is expected to cost \$14.1 million, of which \$10.8 million had been spent by year end. The program includes new underground crushing facilities and a new hoist capable of operating down to 4,000 feet.

Transportation

At its isolated Arctic site, Lupin is totally dependent on air transportation and its winter ice road. The Company operates a Boeing 727 combination cargo/passenger aircraft that rotates people between Lupin and Edmonton and flies in supplies year-round.

Standard heavy trucks are currently using the ice road for the fifth winter to supply fuel and bulk materials to the mine. The road is 360 miles long, 340 miles being over frozen lakes. It is open from mid-January to late March. Last year, trucks carrying 4.6 million U.S. gallons of fuel and 7,900 tons of bulk items made the 24-hour journey from Yellowknife to the mine.

Outlook

Lupin's production for 1987 is estimated to be 190,000 ounces at approximately the same cash cost as in 1986.

Ore reserves should increase significantly in 1987 when the development program is completed. At the same time, Lupin will consider reducing the mine cutoff grade. This would result in more gold production over the life of the mine but at a marginally higher cost.

Round Mountain



Production levels and costs were the best ever at the Round Mountain mine in 1986. Operated and 50 percent-owned by Echo Bay, this Nevada open pit mine extracts gold from the ore using the heap leach process shown here. New ore is added to the heap leach pad (foreground), while waste is removed from the next section. The mine processed 18,770 tons of ore per day in 1986, a 24 percent increase over 1985. Echo Bay's share of gold production was 83,825 ounces for the year.



Crews like Theresa "Goose" Bennett and Ken Power blasted 23 million tons of rock in 1986, helping make Round Mountain the world's largest gold heap leaching operation. During the year, preliminary work began on a program that will nearly double gold production by late 1988.

In 1986, gold production increased 20.8 percent to an all-time high, and the cash production cost was reduced by nearly 14.6 percent.

Echo Bay and its two partners in Round Mountain have completed plans for an expansion program which will nearly double tonnage capacity by late 1988.

Background

Effective January 1, 1985, Echo Bay acquired its 50 percent interest and became the operator of the Round Mountain mine. The other two partners in the operation are Homestake Mining Company, through a subsidiary, and Case, Pomeroy & Company, Inc., each with a 25 percent interest.

Round Mountain is an old gold mining area but the present open pit, heap leach operation was started in 1977.

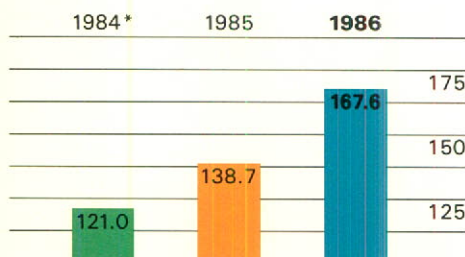
Operations

In 1986, gold production increased 20.8 percent to 167,650 ounces. This increase was primarily due to leaching additional low-grade ore both on the reusable pads and on a new dedicated pad. Both the grade of ore processed and the recovery rate were lower due to a higher proportion of low-grade ore being leached.

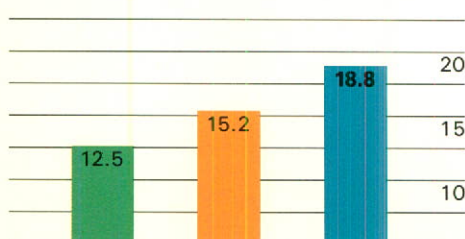
The cash production cost for 1986 was reduced 14.6 percent to \$182 per ounce. Higher production volume and new, larger mining equipment were the main reasons for this improvement.

Heap leaching

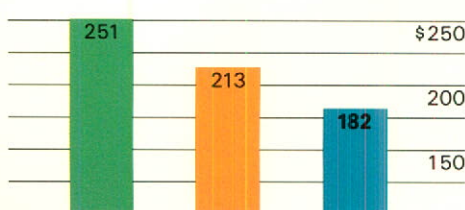
Heap leaching is the gold recovery process used at Round Mountain. The process can only be applied in certain geological circumstances as the ore must be porous to allow the leach solution to reach the gold. At Round Mountain, gold occurs mainly along the small fractures of Type I ore and within the voids of the pumice of Type II.



Total gold production
thousands of ounces
(Echo Bay's share is 50 percent)



Average daily ore throughput
thousands of tons per day



Cash production cost
\$ per ounce

*1984 operating data is shown for comparison purposes. Echo Bay acquired its 50 percent interest effective January 1, 1985.



The Company runs this day-care center for the children of people working in the Round Mountain area.

Operating data (100%)	1986	1985	% Change
Gold produced – ounces ¹	167,650	138,748	20.8
Ore processed – tons per day	18,770	15,170	23.7
Grade – milliounces per ton	32.5	37.3	(12.9)
Recovery rate – percent	69.0	72.9	(5.3)
Cash production cost – per ounce	\$ 182	\$ 213	(14.6)

¹Echo Bay's 50% share is 83,825 ounces for 1986, and 69,374 ounces for 1985.

Ore reserves (100%)	1986	1985
(proven and probable)	Dec. 31	Dec. 31
Gold content – ounces ²	6,799,400	6,906,000
Grade – milliounces per ton	35.0	39.0
Quantity – tons	194,267,000	175,630,000

²Echo Bay's 50% share is 3,399,700 ounces for 1986, and 3,453,000 ounces for 1985.

Here is how Round Mountain's reusable leach pad operation works. The details, but not the principles, vary between individual mines.

Ore is mined and hauled by truck from the open pit.

Mining



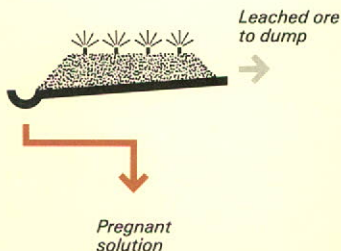
Crushing reduces the ore to less than half an inch in size. Lime is added to assist in leaching.

Crushing



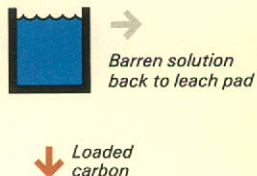
After being loaded onto the leach pad, the ore is sprinkled for 55 days with a weak sodium cyanide solution. This penetrates the ore, dissolving the gold and silver. The "pregnant" solution drains to the lower side of the pad and flows to a pump. The leached ore is then washed with water and drained during the 10-day balance of the cycle.

Leaching



The pregnant solution is pumped through a series of tanks containing activated carbon which removes the gold and silver from the cyanide solution. The "barren" solution is recycled back to the leach pads.

Carbon adsorption



The gold and silver are stripped from the carbon, forming a more highly concentrated solution. The carbon is regenerated and returned to the adsorption circuit.

Desorption



The precious metals in the concentrated solution are electrolytically deposited on steel wool cathodes in the electro-winning cells.

Electrowinning



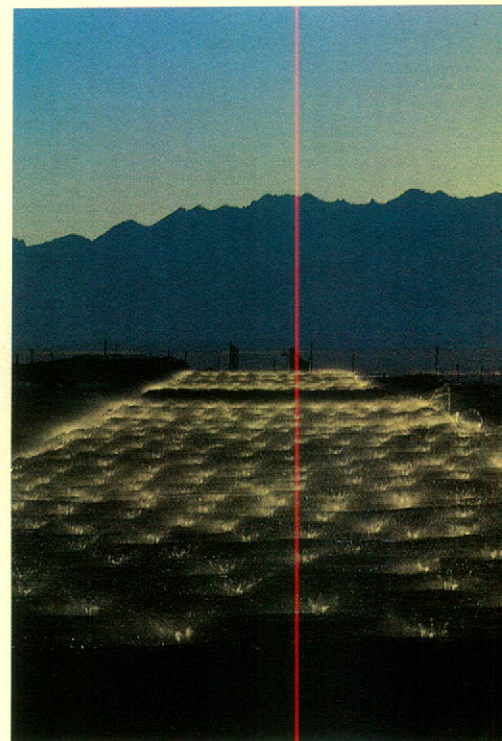
The cathodes are fire-refined at site where doré bars (a mixture of gold and silver) are poured. The bars contain about two-thirds gold and one-third silver, together with minor amounts of impurities.

Refining



The doré bars are shipped to a precious metals refinery for final processing into pure gold and silver.

Bullion



Round Mountain operates two reusable leach pads to extract gold from most of its ore. The longer pad, shown here, extends for 2,525 feet. Over a 65-day continuous cycle, ore is sprinkled with a leach solution, washed, hauled to the tailings dump, and replaced with new ore. In 1986, this low-cost method recovered 69 percent of the gold.

The aerial view of Round Mountain demonstrates the size of the operation. The longer of the two reusable leach pads, to the left, is nearly half a mile long.

The isometric projection below the photograph is a scale drawing of the ore body viewed from the same angle, illustrating the extent of the underlying 194 million tons of ore.

Now that Type II ore has proved to be economical to heap leach, an expansion plan is now being implemented. Capacity will be nearly doubled by late 1988 at a cost of approximately \$140 million. Echo Bay's share will be half.



■ Type I ore
■ Type II ore

Expansion

Test work carried out in 1985 on Type II gold mineralization demonstrated that it could be heap leached economically. Type II was subsequently reclassified as ore, increasing reserves by approximately 300 percent (see isometric view of the ore body below). This prompted the consideration of a major expansion for the operation.

During 1986, while an engineering study was in progress, a ramp was driven down into the Type II ore. A 19,000-ton bulk sample was extracted and leached satisfactorily under normal operating conditions.

The Type I ore currently being mined has a recovery rate of approximately 70 percent over a 65-day leach cycle. The bulk sample test confirmed that Type II ore has a slightly higher recovery rate but requires about 100 days for the cycle.

Detailed expansion plans were announced by the partners in March 1987. Tonnage capacity will increase to 35,000 tons per day at a total cost of about \$140 million. The project should be completed in the fourth quarter of 1988, with full production of about 300,000 ounces a year to be reached in 1989. Echo Bay's share of the capital cost and gold production will be 50 percent.

Outlook

The coming year will be one of great activity at Round Mountain as the expansion project moves ahead. Pre-stripping to enlarge the open pit is already in progress.

Production levels and costs for 1987 are expected to be about the same as in 1986. The benefits of increased production will not be seen until late in 1988.

Sunnyside



The Sunnyside mine was acquired by Echo Bay in late 1985 and reopened in 1986. The mine, in the San Juan mountains of southern Colorado, is "upside down" with the entrance, shown at left, providing access to the shaft that extends up into the mountain. The start-up has not met expectations. Production of 17,827 ounces of gold during the five months of commercial operation in 1986 fell short of the 25,000-ounce target. Echo Bay expects to overcome the initial production problems.



In an area with a rich mining heritage, Echo Bay can draw on the experience of miners like Jerry Safir who works underground at Sunnyside.



Don Reid is one of the 320 people at Sunnyside. Most of them work at a high elevation since the mine entrance is 10,600 feet above sea level and mine levels extend upwards to 12,200 feet.

The Sunnyside gold and silver mine was acquired in November 1985. Echo Bay has subsequently refurbished it at a cost of approximately \$6.4 million, reaching commercial production levels in August 1986.

Sunnyside, located near Silverton in Colorado, is an underground mine first developed in 1890. Gold, silver and some base metals (mainly zinc) are recovered in a conventional milling circuit.

So far, the operations start-up has not gone as expected. Grade, production levels and the resulting cost per ounce have not met forecast. Echo Bay is working to overcome these difficulties and make Sunnyside a profitable operation.

Operations

In the five months of commercial production from August to December 1986, Sunnyside produced 17,827 ounces of gold and 162,547 ounces of silver, compared with targets of 25,000 ounces of gold and 300,000 ounces of silver. The cash cost per ounce was significantly above plan at \$336. The major reason for the poor results was grade which for the period averaged 0.202 ounces of gold per ton, well below the target of 0.25 ounces.

Ore production tonnages in the mine and the mill also fell short of target. In both areas, equipment needed more refurbishing than initially

expected. The lack of developed stopes has also contributed to lower underground production.

Ore reserves

The reserve grade decreased from 0.25 ounces of gold per ton in December 1985 to 0.19 ounces in 1986 due to the erratic occurrence of mineralization within the narrow veins of the Sunnyside mine. An aggressive underground exploration program is underway to establish further ore reserves. Individual reserve additions are not likely to be large, but ore mined should at least be replaced on a continuing basis.

Adding to the potential for reserves is Echo Bay's right to acquire 51 percent of the Gold King Extension, an attractive property that adjoins the Sunnyside mine. The Company paid \$1 million in 1986 for an option to earn that interest through spending \$4 million on exploration and development.

Outlook

Efforts in 1987 will be centered on improving Sunnyside's performance. The three programs that will receive most attention are: increasing productivity, developing more working stopes, and exploring for additional reserves.

In 1987, Sunnyside is expected to produce 40,000 ounces of gold at a cash cost of \$250 an ounce, and 400,000 ounces of silver.

Operating data

	1986 (5 months)
Gold produced – ounces	17,827
Silver produced – ounces	162,547
Ore processed – tons per day	682
Grade – ounces of gold per ton	0.202
Recovery rate of gold – percent	91.6
Cash production cost – per ounce of gold	\$336

Ore reserves

	Dec. 31 1986	Dec. 31 1985
(proven and probable)		
Gold content – ounces	88,500	116,100
Grade – ounces per ton	0.19	0.25
Quantity – tons	468,400	473,300



The McCoy mine in northern Nevada is the largest of the three gold mines purchased from Tenneco Inc. This open pit, heap leach operation produced 34,035 ounces of gold since start-up in April 1986. Echo Bay's share of 13,983 ounces was for fourth-quarter production only.

"Charlie" Hager-Turk, surveying in the pit, is one of the former Tenneco people who have brought their expertise to Echo Bay.



McCoy is the largest of the three producing mines acquired from Tenneco Inc. in the fourth quarter of 1986. It is an open pit, heap leach operation, located in northern Nevada. Development and construction of the mine began in November 1985 and operations started in April 1986.

Recent exploration drilling of the McCoy deposit indicates the potential for a major increase in reserves. Also, a new gold discovery was made in the Cove area of the property in early 1987, about one mile from the mine.

Operations

Total gold production since start-up in April was 34,035 ounces. The portion attributable to Echo Bay (fourth quarter only) amounted to 13,983 ounces of gold. The cash production cost for the last quarter of 1986 was \$195 per ounce.

The tonnage of ore placed on the leach pad was lower than originally planned by Tenneco. Crushing equipment supplied by the mining contractor has proved to be undersized for the volume required. A larger crusher is currently being installed.

The heap leach process at McCoy has one notable difference compared with Round Mountain's (described on page 11). At McCoy, a dedicated leach pad is used. When the ore completes primary leaching, the material stays on the pad and another layer of ore is placed on top. The pad ultimately becomes the tailings dump.

The dedicated pad, 2,100 feet long by 900 feet wide, is divided into eight separate leaching sections, or cells. It was designed to hold the previously known total reserves of the McCoy deposit. Since substantial additional reserves are believed to exist, a new pad will be required.

Operating data	1986 (3 months)
Gold produced – ounces	13,983
Ore processed – tons per day	6,235
Grade – milliounces per ton	38
Cash production cost – per ounce	\$195

Note: A recovery rate has not been given as a dedicated leach pad is used at McCoy. The ultimate percentage of gold recovered is expected to be 65%.

Ore reserves (proven and probable)	1986 Dec. 31
Gold content – ounces	523,700
Grade – milliounces per ton	54
Quantity – tons	9,667,000



Drill operator Ted Carter is one of the contract miners who supplement the regular workforce at the McCoy mine.

Outlook

Based on present operations, McCoy should produce about 85,000 ounces of gold annually, once the crushing system is upgraded. The cash production cost should be less than \$200 per ounce.

An extensive exploration program is now in progress at the mine. This includes 125,000 feet of drilling in the first half of 1987 which will better outline the ore body and test high-grade sulfide mineralization found at depth under the McCoy pit. The potential to increase reserves significantly appears high.

In addition, exploration drilling is being carried out on the Cove area of the property located about a mile from the mine.

On March 31, 1987, the discovery of a gold deposit was announced. At that time 42 holes had been drilled of which 39 encountered gold mineralization over a strike length of 2,800 feet. Seven of the drill holes in a 400-foot by 400-foot area averaged 0.185 ounces of gold and 1.8 ounces of silver. These intersections averaged 118 feet in thickness beneath overburden of 25 feet.

The Cove drilling program will continue in order to delineate the extent of the deposit. At present, it is open at depth and in most directions.

While it is too early to form any conclusions, the higher grade of the McCoy sulfides and the Cove mineralization suggests conventional milling to augment McCoy's heap leaching operations.

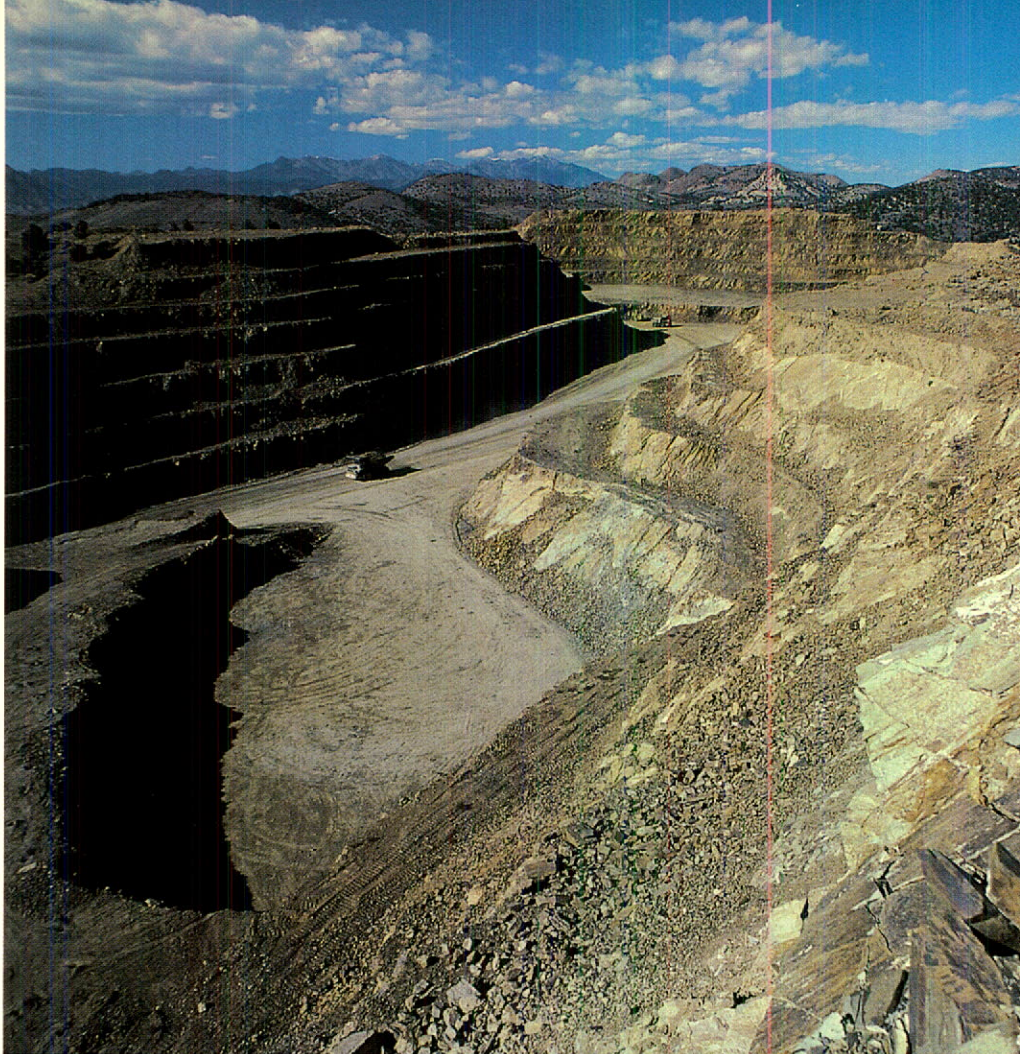


The McCoy open pit mine, shown with the dedicated leach pads behind it, had ore reserves at year end of 523,700 ounces of gold. Exploration drilling since Echo Bay acquired the property indicates that reserves should increase substantially in 1987.

Manhattan

The Manhattan gold mine, acquired from Tenneco in late 1986, began operations three years ago. The East pit, shown here, is one of the two open pits currently being mined. Total gold production in 1986 was 26,315 ounces, with 6,876 ounces produced during Echo Bay's ownership.

Gold is recovered at Manhattan by conventional milling that uses gravity and flotation methods. Here, John Jakus is monitoring a filter that removes water from the gold-bearing flotation concentrate.



The Manhattan mine has two open pits, and uses conventional milling. It is one of the three mines acquired from Tenneco and is located 10 miles south of the Round Mountain mine in central Nevada.

Since 1905, gold has been mined in the Manhattan district from numerous underground workings and surface placer deposits. Present operations at the Manhattan mine began in mid-1984.

Operations

Manhattan's total gold production for the year was 26,315 ounces. Production attributable to Echo Bay for the last three months of 1986 was 6,876 ounces, produced at a cash cost of \$244 per ounce.

The ore reserve grade averages 57 milliounces per ton, which at Manhattan is too low to support a conventional milling operation unless the ore is upgraded.

To upgrade the ore, it is crushed and breaks along fractures and small veins where the gold is held. The ore is then segregated by size, the smaller pieces containing the majority of the gold.

The larger sizes are tumbled together in water so that most of the gold on the exposed faces is "scrubbed" off. These pieces, although they still contain some gold, are then rejected, since they are uneconomical to process further.

The higher-grade material is processed in the mill. The gold is recovered first through gravity and then flotation methods. Based on the grade of ore being fed to the mill, the recovery rate of gold was 68.9 percent in the last quarter of 1986.

Outlook

Three aspects of Manhattan's operations will have priority in 1987:

A study of the relatively low recovery rate will be undertaken to see if any metallurgical improvements can be made to the process.

Expansion of production will be investigated.

An exploration program to increase ore reserves will continue.

Production for 1987 is estimated to be 30,000 ounces at approximately the same cost per ounce as in 1986.

Operating data	1986 (3 months)
Gold produced – ounces	6,876
Ore processed – tons per day	2,562
Grade – milliounces per ton	45
Recovery rate – percent	68.9
Cash production cost – per ounce	\$244
Ore reserves (proven and probable)	1986 Dec. 31
Gold content – ounces	145,900
Grade – milliounces per ton	57
Quantity – tons	2,557,000

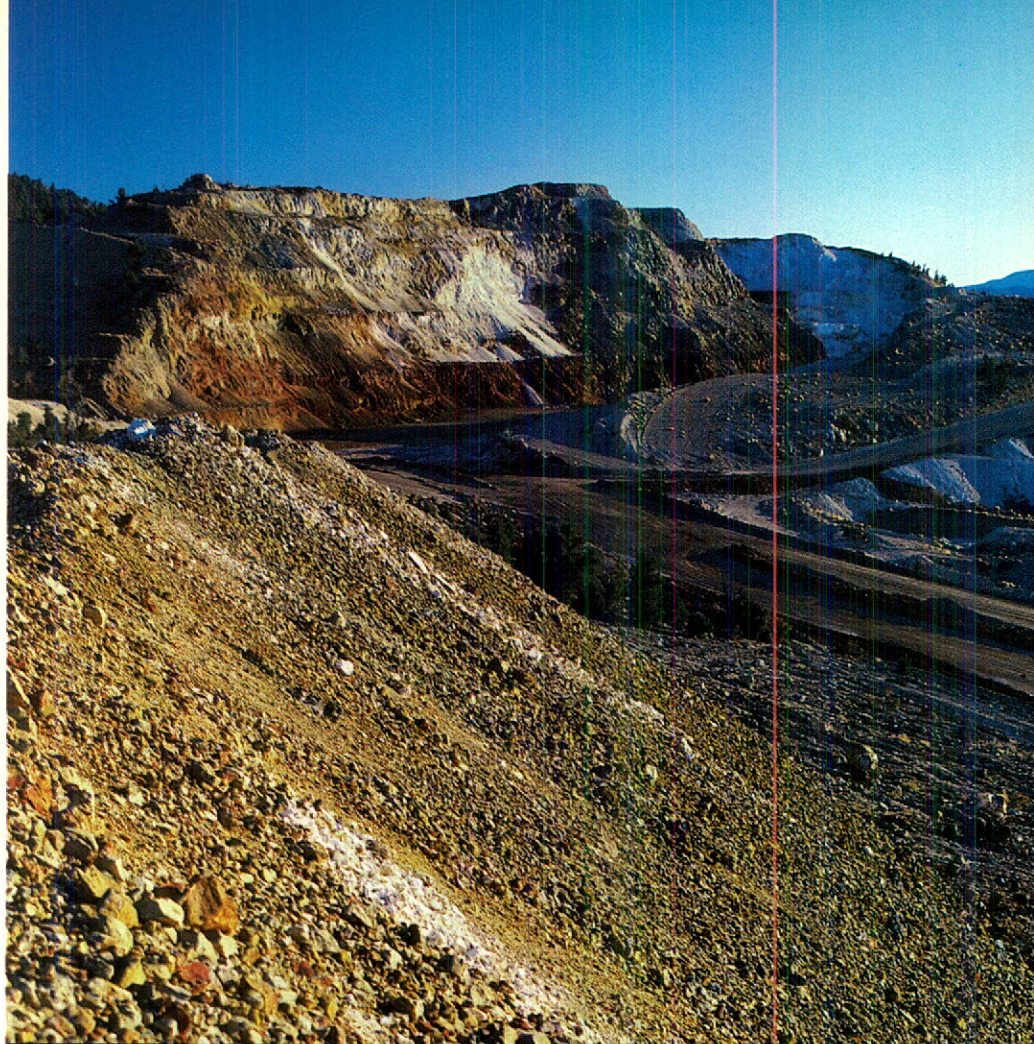


The East pit, foreground, was the major source of ore at Manhattan until the West pit began production in 1986. The pits, and the processing facilities in the background, are 10 miles south of the Round Mountain mine.

Borealis

Borealis is the third former Tenneco gold mine acquired by Echo Bay. Shown here is the East Ridge open pit. A new ore body, Freedom Flats, began production in early 1987.

Doré, a mixture of gold and silver, is poured at the mine's refinery. The bars are shipped to a precious metals refinery for final processing into pure gold and silver.



Borealis is the third mine acquired from Tenneco. It is an open pit, heap leach operation located in central Nevada, 15 miles from the California border.

Several ore bodies have been mined and depleted since the Borealis operations began in 1981. The new Freedom Flats ore body began production in early 1987.

Operations

Production attributable to Echo Bay, for the last quarter of 1986, was 4,997 ounces of gold at an average cash production cost of \$271 per ounce.

No newly mined ore was leached in the period as the Freedom Flats pit was not then developed for mining. Production came from re-leaching tailings and leaching low-grade ore on new dedicated pads. This resulted in higher than normal production costs.

Borealis' heap leach process is similar to Round Mountain's (described on page 11), with one exception: the Freedom Flats ore has a high clay content which would normally prevent proper percolation of the leach solution through the heap. Cement and water are added to the crushed ore, binding the fine clay material and allowing percolation. The leach cycle is about 30 days.

Outlook

The Freedom Flats pit commenced operations in the first quarter of 1987. This should increase gold production to about 40,000 ounces in 1987 at an estimated cost of \$200 per ounce.

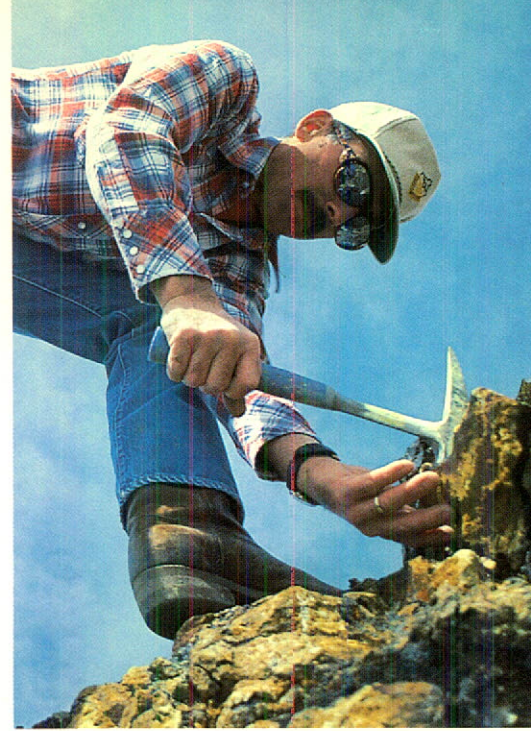
The size of the previous deposits at Borealis has been limited and Freedom Flats is no exception. An active exploration program is therefore underway to find further deposits on the property.

Operating data	1986 (3 months)
Gold produced – ounces	4,997
Cash production cost – per ounce	\$271
Note: Operating data is limited since the Freedom Flats ore body was not in production during the period. Gold was produced from re-leaching tailings and leaching low-grade ore.	
Ore reserves (proven and probable)	1986 Dec. 31
Gold content – ounces	127,700
Grade – milliounces per ton	113
Quantity – tons	1,132,000



Tailings that were stockpiled in earlier years are loaded and hauled to a newly constructed pad for re-leaching. During 1986, 1.3 million tons of tailings were re-leached producing 8,718 ounces of gold.

Exploration and development



Operating mines

- A. **Lupin**
Northwest Territories
- B. **Round Mountain**
Nevada
- C. **Sunnyside**
Colorado
- D. **McCoy**
Nevada
- E. **Manhattan**
Nevada
- F. **Borealis**
Nevada

Advanced programs

Property	Echo Bay interest	Background	1987 plans
1. Alaska-Juneau Alaska	85%	Large-tonnage, low-grade mine operated 1901-43.	Feasibility of optical ore-sorting being studied. Resource information being confirmed by drilling.
2. Cameron Lake Ontario	Up to 49%	Echo Bay can earn up to a 49% interest in Nuinsco Resources Ltd. by funding development of the Cameron Lake program. At year end, Echo Bay's interest was 27%.	Currently driving a decline ramp to examine deposit from underground. Drill indicated resource of 1.2 million tons containing 200,000 ounces gold.
3. Congress Arizona	Up to 51%	Property contains geological resource of 100,000 ounces gold.	Currently a decline ramp is being driven to access the deposit. Potential for small tonnage mine in 1988.
4. Cove Nevada	100%	Recently discovered gold deposit on McCoy mine property. Both high- and low-grade resources found.	Active drilling program to delineate mineralization. Currently open at depth and in most directions.
5. Easy Junior Nevada	100%	Geological resource of approximately 400,000 ounces gold indicated by drilling.	Drilling to determine extent of resource. Potential for open pit, heap leach operation.
6. Illipah Nevada	100%	55,000-ounce gold resource identified, including 33,800 ounces of ore reserves.	Being developed for production in 1987. Exploration will continue on the property.
7. Indin Lake Northwest Territories	75%	Extensive drilling on Main and Cass zones in 1985 and 1986.	Additional drilling is already underway on Cass.
8. Kettle River Republic, Washington	Up to 60%	The Granny and Key projects contain geological resources of 350,000 ounces gold.	\$1.1 million budgeted for delineation drilling and preliminary feasibility in 1987.
9. Randsburg California	100%	Geological resource of 260,000 ounces, including 184,900 ounces in reserves, in two surface deposits identified.	Feasibility study underway for possible 1988 production.

Early stage programs

10. Bagdad Chase California	100%	Drilling has outlined three areas of gold mineralization.	Further exploration being evaluated.
11. Bathurst Inlet Northwest Territories	100%	Properties cover 91,400 acres of Lupin-type iron formation.	Surface drilling.
12. Foreman Creek Nevada	100%	Claims located 5 miles north of Jerritt Canyon deposit.	Surface drilling.
13. Frying Pan and East Walker River California-Nevada border	100%	Located on the westward continuation of the Fletcher Basin which contains the Borealis mine.	Exploration for Borealis-type gold deposits.
14. Herbert Glacier Alaska	100%	Property covers narrow vein system containing high-grade gold values.	Additional work to evaluate potential for small tonnage resource.
15. King Solomon Nevada	100%	Drilling has identified a geological resource of 100,000 ounces gold.	Drilling to define extent of the resource.
16. Lupin Region Northwest Territories	100%	103,000 acres of property extending 70 miles west from the Lupin mine.	Surface drilling.
17. Morgan Ranch Nevada	100%	Property covers large alteration system in volcanic rocks with surface gold anomalies.	Surface drilling
18. Oro Blanco Arizona	50%	20,000-ounce gold resource in stockwork vein system.	Drilling on additional alteration zones.
19. Williams Vein Alaska	100%	Quartz vein produced 24,000 tons grading 0.30 ounces per ton between 1931 and 1942.	Additional work to evaluate potential for small tonnage resource.

Corporate development



McCoy, above, is the largest of the three gold mines acquired from Tenneco. These mines will increase Echo Bay's gold production by 150,000 ounces in 1987. Other exploration and development properties were also part of the purchase.

Echo Bay uses three approaches to achieve its key corporate objective of growth:

- Increasing current mine production.
- Exploring for new ore bodies.
- Acquiring producing mines and potential ore bodies.

The corporate development team is responsible for the active search for acquisitions. Under the leadership of Senior Vice President Richard Kraus, it has made an outstanding contribution to the Company's growth in the past three years:

1984: acquired a 50-percent interest in the Round Mountain mine.

1985: purchased the Sunnyside mine.

1986: acquired Tenneco Inc.'s gold mining and exploration properties.

The purchase of Tenneco's gold properties fitted well with the criteria applied to all of Echo Bay's major investment decisions. It added earnings, cash flow, production and reserves, all on a "per share" basis.

The assets acquired from Tenneco include:

- Three producing gold mines in Nevada – McCoy, Manhattan and Borealis. These will produce an estimated 150,000 ounces of gold in 1987 at an average cash production cost of about \$210 per ounce.
- Two development properties – Illipah in Nevada and Randsburg in California. Illipah should be brought into production in 1987.
- Proven and probable ore reserves at September 1, 1986 of 1,044,600 ounces of gold, and 460,000 ounces in mineral inventory.
- Numerous gold exploration properties, mainly in the western United States, making Echo Bay the largest claim holder in Nevada.

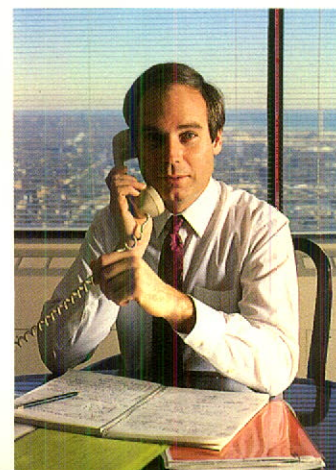
Most important, the acquisition brought Echo Bay the successful Tenneco team that found, developed and now operates the McCoy, Manhattan and Borealis mines. Continuing its success, this team has just made the Cove discovery on the McCoy property.

Echo Bay paid \$130 million to Tenneco in November 1986. Tenneco also retained a 1.5 percent royalty interest in the properties. Part of the purchase price was financed in October through a Swiss issue of SFr 110 million, 10-year, 3⁷/₈ percent bonds, with gold purchase warrants attached. Each SFr 5,000 bond carries a five-year right to buy six ounces of gold from the Company at \$560 per ounce.

The balance of the acquisition was financed through the sale of 3.6 million common shares in November. One million shares were sold in Canada at C\$29 per share, and two million in the United States and 600,000 in Europe at US\$20⁷/₈.

Echo Bay will use 1987 to consolidate the Tenneco acquisition while the corporate development team continues to look for new growth opportunities.

Senior Vice President and Chief Financial Officer, Richard Kraus.



Gold: The Year in Review

by Jeffrey A. Nichols

To give investors an objective overview of the gold markets in 1986, Echo Bay asked Jeffrey A. Nichols, a recognized market commentator and President of American Precious Metals Advisors, Inc. of New York, to give his views on the major developments of the year.

1986 was an extraordinary year for gold as the metal's price rose smartly, seemingly against all odds. In recent decades, gold has relied on investment demand to fuel bull markets but, with oil prices declining and continued low inflation, there was no need to buy gold last year as an inflation hedge, its major attraction to most investors. And it was a year of booming stock and bond markets around the world – prompting investors to ask: "Why buy gold when high returns on these securities seem assured?"

Despite low investor interest during 1986, gold appreciated by 24 percent, outdistancing even the 19 percent gain registered by the S&P 500 U.S. stock market index and total returns of 16.5 percent for long-term U.S. Treasury bonds.

Supply and demand

Gold's advance last year appears even more remarkable because it occurred at a time of record supplies. More than 60 million ounces of gold came onto the market from expanding mine output, scrap recovery and large-scale sales of the metal by the communist nations.

But demand grew apace – from jewelry manufacturers and other industrial users, from gold coin programs in the United States and, especially, Japan, and from central banks augmenting their official reserve holdings. As a consequence, even last year's record level of supplies was insufficient to satisfy demand except at higher prices.

Looking at the major sources and uses of gold during 1986, several key features stand out. First, it was the sixth consecutive year of rising output from the non-communist world's gold mines. As a result of the big run-up in the price of gold in 1979-80 and the significantly higher average price prevailing in this decade, there has been a price-inspired rush to search for and develop new mines around the world. Meanwhile, higher prices have allowed South Africa, the world's dominant producer, to maintain production near 1980 levels.

The other components of supply often have a far greater influence on the gold price because of their year-to-year volatility. For example, sales of gold by communist countries in 1985 and 1986, roughly 10 million ounces annually, were two to three times the rate of the prior few years. The increase in sales probably reflected the deterioration in the trade situations of the Soviet Union and China, the two principal sellers. Remarkably, this additional supply seemed to have little price-dampening effect, partly because their traders are adept at selling during price strength and withdrawing at moments of weakness.



The third major source of supply – old scrap – rose to over 20 million ounces in 1980 as holders of gold-bearing items ranging from old jewelry to electronics scrap cashed in at high prices. Since then, secondary supply has been running at roughly half that rate. Last year, it probably slumped to less than nine million ounces. This downtrend in secondary supply has offset some of the growth in mine output and communist sales that have characterized the past few years.

Higher demand

Demand, the other side of the market, developed in a rather spectacular and surprising fashion in 1986. Industrial and jewelry fabrication demand both edged higher. This continued the gradual and intermittent recovery in usage from the beginning of the decade when high metal prices and poor world economies battered these end-use sectors. Total fabrication demand stood at 39 million ounces last year, up some 15 million ounces from 1980's depressed level. By contrast, world mine production has grown by roughly 10 million ounces over the same period while total supply, reflecting changes in communist sales and secondary supply, has grown by only six million ounces.

Much more interesting, however, has been the fluctuating central bank demand in recent years and 1986's marked increase in gold coinage, a popular form of private investment.

Central banks, as a group, were net sellers of gold in 1983 and 1984 when a number of financially hard-pressed developing nations were forced to liquidate their holdings. However, in the past couple of years, many of these countries have become buyers, making the official sector a net buyer of gold again.

Ironically, much of the buying has been by the same countries that had previously been sellers, countries such as Brazil, Colombia and the Philippines, which purchase gold from their domestic mining industries.

It is thought that some countries with large trade surpluses, such as Taiwan and Japan, have quietly been augmenting their official holdings, though they tend not to report these purchases. Published gold holdings of all central banks (excluding most of the Eastern bloc) totaled approximately 950 million ounces at the end of 1986. Valued at \$400 an ounce, gold accounted for about 70 percent of the world's official monetary reserves.

Gold coins

Gold demand for the fabrication of official coins soared last year to 12.5 million ounces, an increase of nearly 10 million ounces from 1985. The single biggest force behind 1986 price strength was the Japanese government's purchase of 9.6 million ounces for the commemorative coin program honoring Emperor Hirohito's diamond jubilee.

The other coin program of note in 1986 was the much-heralded American Eagle, the first legal-tender bullion coin issued by the United States in over half a century. American interest in the gold Eagle was brisk from late October and by year end 1.76 million ounces had been sold.

In both cases, purchases were for collections or gifts, not as inflation hedges – the usual motivation.

Non-coin gold investment interest was, at best, lackluster for most of last year, except for brief periods when dollar weakness, large one-day tumbles on Wall Street, South African-related fears and other monetary anxieties brought the investor back to gold.

During 1986, gold behaved more like a traditional commodity and less like an investment asset, with the fundamentals of supply and demand pushing the price intermittently and erratically higher. For gold to build on last year's advance in the months ahead will require at least a mild rekindling of investor interest.

Investment influences

What could bring the investor back and extend the bull market for gold during the next year or two? Factors to watch out for include:

- Rising inflation, caused by higher oil prices and rapid money supply growth in some countries.
- Further weakness in the U.S. dollar.
- Continued firmness in the price of oil which shifts wealth back to countries that are more likely to invest in gold.
- Signs of weakness on world stock and bond markets.
- More problems in South Africa and anxieties about its supply of gold.
- Worries about Third World debt.
- Doubts about President Reagan's leadership abilities, increasing conflict with the Democratic Congress, and the probable "changing of the guard" at the Federal Reserve Board this summer.

Alternatively, gold would be adversely affected if these factors move in the opposite direction. Potentially, the most detrimental to gold would be renewed dollar strength and/or signs of disinflationary or deflationary trends in the economy. As of early 1987, both of these seem extremely unlikely.

Who Buys Gold?

by Timothy Green

For a broader look at the market for gold, Echo Bay asked Timothy Green, a British writer, to identify the real buyers of gold. Mr. Green is the author of The New World of Gold and is currently completing The Prospect for Gold, the view to the year 2000.

Each year Echo Bay and other mining companies of the non-communist world burrow out of the ground just over 40 million ounces of gold. Sales from the Soviet Union and other communist producers add between three million and 10 million ounces, so the international gold market has to absorb up to 50 million ounces annually, worth almost \$20 billion with gold at \$400 an ounce. What happens to it? Whose \$20 billion buys the gold?

There has been a fundamental shift in gold buying over the past 20 to 30 years. Historically, gold was a monetary metal, and its prime destination was coins and government reserves. Even in the first 20 years after World War II, virtually half of all gold coming on the market was purchased by central banks. But over the past 20 years, what a different story! A rising tide of private buying for jewelry, industry and investment has transformed the gold market.

A different commodity

Since the official link of gold with the U.S. dollar was formally snapped in 1971, gold has made its way essentially as a commodity, not as a monetary metal. The key, however, is that it remains a commodity with a special attraction for the individual investor.

Today's market has two foundations: the "bread-and-butter" demand for jewelry and industry; and the unique appeal of gold as a private investment vehicle, whether in the form of coins like the Canadian Maple Leaf or the new American Eagle, or through metal account trading or the futures and options markets. Central banks, once the cornerstone of the market, have actually been net sellers into the marketplace over the past two decades.

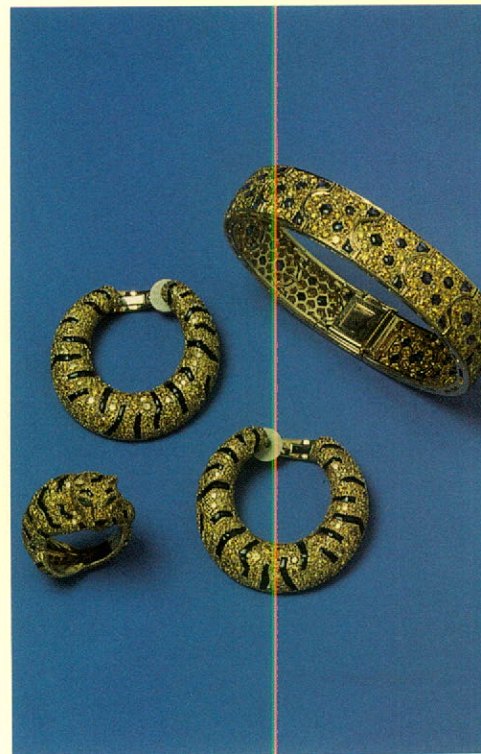
Jewelry

The new cornerstone of the gold business is jewelry. Worldwide jewelry fabrication takes up between 25 million and 30 million ounces a year – nearly 60 percent of the gold coming on the market. The motive for buying jewelry varies. In North America or Europe or Japan you may buy a piece of 10, 14 or 18 carat jewelry primarily for adornment, paying between three and four times the value of the gold content.

By contrast, throughout North Africa, the Middle East, India and Southeast Asia, people still buy 21, 22 or even 24 carat gold ornaments primarily for investment on very low markups of only 10 to 20 percent over the gold price of the day. This "investment" jewelry is the basic form of saving for millions of people in developing countries where banking systems, savings schemes and stock markets are not available or are not trusted by most of the population. In all, "investment" jewelry takes up between 25 and 35 percent of all gold annually – a slice of the market worth \$5 billion to \$7 billion.

High-tech

Jewelry may provide the glamor, but the steady industrial demand for gold, mainly in electronics and dentistry, takes up another slice worth \$3 billion. Our era of high technology has found that gold's traditional virtues of malleability, ductility, reflectivity and resistance to corrosion are matched with unparalleled ability as a thermal and electrical conductor. So gold is indispensable for semi-conductors, contact points and bonding wires in everything



Gold in the master goldsmith's hands produces works of great beauty such as these from Cartier.

from pocket calculators to spacecraft. In the United States and Japan alone, between two and three million ounces of gold, worth around \$1 billion, is used for electronics annually. The motto for modern high technology really is, "Nothing is as good as gold."

Individual investors

Countless individuals around the world believe it as well, but for different reasons. They still like to squirrel away a few gold coins or gold kilo bars against a rainy day. The economist John Maynard Keynes called gold "this barbarous relic," but it remains the only universally accepted medium of exchange. It is a life belt for all seasons, especially the bad ones. Each year, up to 20 percent of all new gold, worth \$4 billion, is tucked away in bars under beds, in cellars or in safety deposit boxes around the world. A few years ago the big buyers were in Saudi Arabia, but nowadays most kilo bars disappear into Hong Kong, Indonesia, Japan and Taiwan. Japan alone absorbs about \$1.5 billion in bars annually.

The most exciting newcomer of the last decade or so, however, has been the bullion coin. The Krugerrand ushered in a new era of one-ounce coins sold to the small investor at a very low premium over the gold price of the day. This radical initiative has attracted a whole new generation of gold buyers, especially in Europe and North America, to whom gold was previously a rather remote metal. Then, last year, the Japanese snapped up nearly 10 million special coins minted to commemorate Emperor Hirohito's sixtieth anniversary. With the introduction of the American Eagle at the same time, 1986 became a vintage year with about 10 million ounces of newly mined gold worth \$4 billion going into coins.

Outlook for coins

Over the next few years, coins will expand their role as more investors see them as a convenient vehicle for part of their savings, and as the array of coins available has grown. Canada's Maple Leaf is well established. The American Eagle got off to an auspicious start last October with well over one million coins sold in the first three months, and a target of two million coins or more

annually. Australia is set to launch its Nugget coin in 1987. Even China is making good headway with its Panda coin, whose sales are virtually doubling each year and may reach 200,000 in 1987. Japan may build on the success of the Hirohito coin with a re-strike or another coin.

The advantage and appeal of this new generation of gold coins is that it enables even the small investor with only a few hundred dollars to buy gold very close to the spot price, in the knowledge that he can re-sell worldwide with quite a narrow spread and at a clearly posted price.

Jewelry, industry, small bars and coin are the bedrock of the gold market. This is where, year in, year out, gold from mining groups like Echo Bay ends up. The additional dimension, of course, and the real driving force in a price rise, is investment buying from banks or bullion dealers, and the ebb and flow of trading on the futures and options markets. The mood there is dictated by worries about inflation, by fears about currencies or a stock market collapse or by political unrest. And for a while money can flow into the gold market like a tidal wave. The price can soar \$50 to \$100 in a matter of days, if not hours.

Such a surge can be very profitable to a mining company selling part of its production forward. But it is a bonus. The real foundation is seen in the bustling jewelry stores on New York's 47th Street, the golden baubles, bangles and beads in the windows of the little stores in the Middle East, continuing growth in the electronics business, or investors lining up to buy a few gold coins in a Swiss bank.

(Mr. Green's books on gold are available from: Rosendale Press, 140 Rosendale Road, London SE21 8LG, England.)



Individual investors can readily buy gold kilo bars and gold coins such as the Canadian Maple Leaf, the American Eagle and the Japanese commemorative Hirohito coin.

- **Echo Bay added 80,000 ounces to gold sales in 1986. Combined with a \$43-per-ounce increase in the average realized gold price, this led to improved earnings of \$25.9 million (\$0.61 per share), up from \$15.2 million (\$0.38 per share) in 1985.**
- **Approximately 43,700 ounces of the increase resulted from the Company's most recent acquisitions. The producing gold mines acquired from Tenneco Inc. contributed 25,856 ounces and the Sunnyside mine contributed 17,827 ounces. Consolidated revenue was \$126.1 million, an increase of \$42.3 million over 1985.**
- **The increased gold price and sales volume resulted in operating cash flow of \$48.1 million, a \$17.9 million increase.**

Change to US dollar reporting

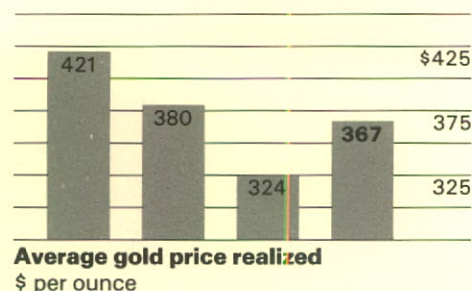
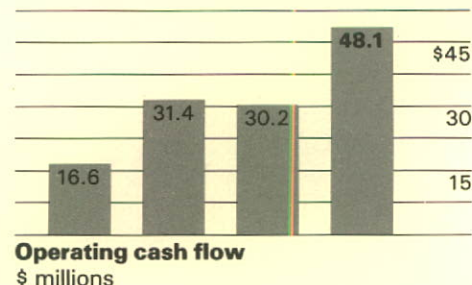
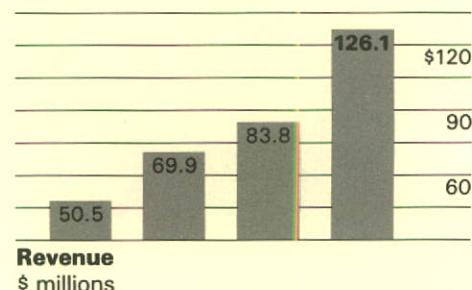
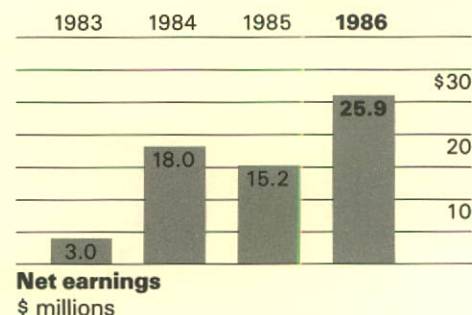
Echo Bay has changed to reporting its results in US dollars from Canadian dollars effective with the December 31, 1986 financial statements that follow. Information for prior years has been restated in US dollars. All dollar amounts quoted are in United States currency unless otherwise noted.

The change was made because the majority of operations are now in the United States, 85 percent of registered shareholders are U.S. residents and gold is most commonly quoted in US dollars.

For the information of the Company's Canadian shareholders, the exchange rate on December 31, 1986 was:
US\$1.00 = C\$1.379.

Troy ounce

Throughout this annual report the terms troy ounce and ounce are both used to describe the troy ounce, a precious metals measurement used since the sixteenth century. A troy ounce is equivalent to 1.097 standard ounces, 31.103 grams, and 1,000 troy milliounces.



Consolidated statement of earnings

Year ended December 31

thousands of US dollars,
except for per share data

	1986	1985	1984
Revenue:			
Gold operations	\$124,292	\$83,043	\$68,285
Other income	717	749	747
Gain on sale of assets	1,046	–	833
	126,055	83,792	69,865
Costs and expenses:			
Cost of sales	66,204	46,865	31,025
Depreciation and amortization	17,702	11,612	9,997
Exploration	2,785	1,105	1,259
General and administrative	5,287	4,925	4,691
Interest on long-term debt (note 9)	1,721	725	610
	93,699	65,232	47,582
Earnings before income taxes	32,356	18,560	22,283
Income tax expense (note 12):			
Current	929	–	–
Deferred	5,547	3,378	2,854
	6,476	3,378	2,854
Net earnings	25,880	15,182	19,429
Dividends on redeemable preferred shares (note 10)	–	–	1,478
Net earnings applicable to common shares	\$ 25,880	\$15,182	\$17,951
Earnings per share (note 14)	\$ 0.61	\$ 0.38	\$ 0.52

Consolidated statement of retained earnings

Year ended December 31

thousands of US dollars,
except for per share data

	1986	1985	1984
Balance, beginning of year	\$ 44,389	\$35,049	\$22,486
Net earnings	25,880	15,182	19,429
	70,269	50,231	41,915
Dividends on redeemable preferred shares	–	–	1,478
Dividends on common shares (note 11) (1986 – \$0.10 per share; 1985 – \$0.09 per share; 1984 – \$0.08 per share)	4,110	3,528	2,983
Common share issue costs (net of income tax benefits: 1986 – \$2,009; 1985 – \$1,971; 1984 – \$983)	2,359	2,314	2,405
	6,469	5,842	6,866
Balance, end of year	\$ 63,800	\$44,389	\$35,049

See accompanying notes.

Earnings statement discussion

The consolidated statement of earnings summarizes Echo Bay's revenue, expenses and earnings for the past three years.

Revenue – Revenue from gold operations is derived principally from the sale of gold bullion in Canada and the United States. The most significant variables in the determination of revenue are the volume of gold production from the Company's mining operations and the price received for the gold produced.

The table below sets out an analysis of the variances that affected gold operations revenue compared to the previous year.

The 31 percent increase in the volume of gold sold during 1986 compared with 1985 is a direct result of an increase in consolidated gold production to 320,693 ounces of gold from 264,511 ounces in 1985.

The equivalent gold revenue variance consists of the Sunnyside silver revenue of 155,244 ounces which, at an average silver-to-gold ratio of 73:1, is "equivalent" to 2,131 ounces of gold. Due to its significance at the Sunnyside mine, and its precious metals nature, silver revenue is considered to be gold equivalent.

Approximately 43,700 ounces of the increase for 1986 resulted from the Company's most recent acquisitions. The precious metals assets acquired from Tenneco Inc. contributed 25,856 ounces since October 1, 1986. The Sunnyside mine, acquired in November 1985, reached commercial production levels in August 1986 and contributed 17,827 ounces of gold. The Sunnyside mine also contributed 162,547 ounces of silver production during the commercial production period. The Company's share of production from the Round Mountain mine increased to 83,825 ounces in 1986 compared with the 1985 level of 69,374 ounces of gold. This increase is attributable to certain production modifications implemented during the latter part of 1985. Production from the Lupin mine in 1986, at 193,185 ounces, was marginally below the 1985 level of 195,137 ounces.

**Gold revenue
variance analysis**

Year ended December 31	1986	1985	1984
Ounces of gold sold	336,242	255,936	179,315
Average price realized	\$ 367	\$ 324	\$ 380
Variances			
thousands of US dollars			
Higher volume effect	\$ 26,057	\$ 29,178	\$ 25,506
Higher/(lower) price effect	14,351	(14,420)	(7,499)
Equivalent gold revenue	841	-	-
Increase in gold revenue over the previous year	\$ 41,249	\$ 14,758	\$ 18,007

The acquisition of the precious metals properties from Tenneco Inc. is expected to add more than 150,000 ounces to consolidated gold production in 1987.

The majority of the 43 percent increase in ounces sold during 1985 relative to 1984 was attributable to the acquisition of the 50 percent undivided interest in the Round Mountain mine in January 1985.

Other income consists mainly of interest earned on excess cash invested. Total revenue includes a gain of \$1.0 million from the sale of the Company's Convair 640 aircraft in 1986 and \$0.8 million from the sale of its Hercules C-130 transport aircraft in 1984.

Gold forward sales – Echo Bay sells gold forward to ensure its ability to meet known cash commitments. The Company also borrows gold which it sells to partly finance acquisitions, making gold repayments from future production. In 1986, approximately 40 percent of gold production was delivered against forward sales and loan obligations at an average price of \$343 per ounce. This compares with 35 percent of gold production at an average price of \$340 per ounce in 1985 and 17 percent at \$461 in 1984. The increased percentage of production hedged beginning in 1985 was due to increased cash commitments to finance acquisitions and other capital expenditures.

Based on present known commitments, the Company anticipates 1987 hedging will not exceed 30 percent of estimated gold production. As of December 31, 1986 the Company has sold forward 120,000 ounces of 1987 production at an average price of \$381 per ounce, and 34,000 ounces of 1988 production at \$399 per ounce. There will also be repayments under the gold loans of 24,000 ounces for each of 1987 and 1988, equivalent to forward sales at \$311.

Cost of sales – This includes costs associated with the mining and processing of gold sold during the year. The most significant of these costs are labor, consumable materials, machinery and equipment repair costs, fuel and related power generating expenses. The cost of transporting personnel and freight to the Lupin mine is also a significant cost for that operation. Royalty expenses are included as a cost of sales. The various royalty agreements that the Company is subject to are described in note 17.

The inclusion by the Company of the costs of the Sunnyside mine and the costs of production experienced at the Tenneco properties increased the consolidated cash production cost per ounce to \$192 in 1986 from \$185 in 1985. Costs on a per ounce basis at the Lupin mine are showing a slightly upward trend (1984 – \$172, 1985 – \$176 and 1986 – \$178) due to the mining of a lower grade. Round Mountain's cost per ounce during 1986 was \$182 compared with \$213 in 1985. This 15 percent decrease in unit costs is a result of improvements to production capacity in 1985. These improvements

included increases in leach pad capacity and the treatment of uncrushed, upgraded lean ore as well as real cost savings. The costs at the Sunnyside mine were \$336 per equivalent ounce produced. The Sunnyside operation is still in the early stages of re-establishment after the rehabilitation of the mine and mill was completed effective August 1, 1986. The unit costs of the Tenneco properties were \$223 per ounce on a combined basis since the date of acquisition.

Exploration – This item includes general exploration costs and the costs of certain projects which were determined during the year to have little or no likelihood of being developed into economic ore reserves.

General and administrative expenses – These include a number of expenses such as public company requirements and corporate management and corporate development activities. Although Echo Bay's sharp growth during the last three years has resulted in an increase in these total costs, on a per ounce basis they have declined to \$16 in 1986 from \$18 in 1985 and \$26 in 1984.

Income tax expense – The Company's effective tax rate was 20 percent in 1986 compared to 18 percent and 13 percent in 1985 and 1984 respectively. The 1985 increase occurred for the most part because of a change in the accounting treatment for investment tax credits (note 1(b)).

**Retained earnings statement
discussion**

The consolidated statement of retained earnings represents the cumulative net income less dividends declared on preferred and common shares, and less the cumulative costs of equity issues. Retained earnings are reinvested in the Company.

**Consolidated
balance sheet**
December 31

thousands of US dollars


	1986	1985
Assets		
Current assets:		
Cash and short-term deposits	\$ 5,354	\$ 14,770
Marketable securities, at cost (market - \$361; 1985 - \$1,606)	264	1,436
Accounts receivable	3,951	1,845
Inventories (note 3)	24,773	15,386
Prepaid expenses	6,205	1,184
Deferred income taxes	835	969
	41,382	35,590
Long-term investment (note 4)	2,009	-
Notes receivable (note 5)	4,796	7,438
Property, plant and equipment (note 6)	129,843	98,056
Deferred expenditures (note 7)	236,193	100,649
	\$414,223	\$241,733
Liabilities and shareholders' equity		
Current liabilities:		
Accounts payable	\$ 19,942	\$ 5,165
Accrued liabilities	6,373	3,811
Current portion of deferred revenue (note 8)	21,364	15,873
	47,679	24,849
Long-term debt (note 9)	55,627	6,429
Deferred revenue	51,028	55,089
Deferred income taxes (note 12)	17,038	11,594
Common shareholders' equity:		
Common shares (note 11), unlimited number authorized; issued and outstanding 45,495,603 shares (1985 - 41,751,728 shares)	194,672	117,003
Retained earnings	63,800	44,389
Foreign currency translation account (note 13)	(15,621)	(17,620)
	242,851	143,772
Commitments and contingencies (notes 17 and 19)		
	\$414,223	\$241,733

See accompanying notes.

On behalf of the Board:



Robert F. Calman,
Director



John Zigarlick, Jr.,
Director

Balance sheet discussion

The consolidated balance sheet represents the Company's assets, liabilities and shareholders' equity at the end of each of the past two years.

Assets

The substantial 71 percent increase in total assets in 1986 compared with 1985 is mainly the result of the acquisition of the Tenneco properties which was completed on November 19, 1986.

Current assets - The increase in current assets during 1986 is due primarily to the inclusion of the current assets of the Tenneco properties with those of the Company's other operations.

Long-term investment - This consists of a 27 percent interest (17 percent in 1985) in voting common shares of Nuinsco Resources Limited, a Canadian public company. Nuinsco Resources Limited has a number of precious metal properties in the exploration or development phase, including the Cameron Lake gold property. This investment was classified as a marketable security and included in current assets in 1985.

Notes receivable - Approximately \$4.2 million of the balance represents a portion of the proceeds due to the Company in connection with the sale in October 1985 of the White Pine copper mine and mill complex. The note is denominated in silver, a by-product of the mine, and is repayable through quarterly installments over the next six years. The Company received the third scheduled repayment under the silver note on January 1, 1987. The first three repayments have been applied to reduce the carrying value of the note.

Property, plant and equipment - This category and the deferred expenditures category comprise the assets from which the Company generated its revenues. Property, plant and equipment are shown on the balance sheet net of accumulated depreciation.

Deferred expenditures - These represent expenditures made in the acquisition and development of known ore bodies and in the exploration for others.

During 1986, the Company spent \$141.2 million on the acquisition of the Tenneco properties of which \$112.7 million was included in this category (note 2).

1986 capital expenditures – Capital expenditures in 1986 amounted to approximately \$36.2 million including: \$8.0 million on the Lupin shaft-deepening program, \$11.3 million on pre-production, pre-commercial and sustaining capital at the Sunnyside property and \$3.2 million on the expansion project at the Round Mountain gold mine. A further \$8.3 million was spent on exploration and development in 1986.

1987 capital expenditures – Capital expenditures in 1987 are expected to be approximately \$111.5 million. This includes \$39.4 million on the Round Mountain expansion project, approximately \$29.3 million of sustaining capital at current operating properties, \$19.5 million of development expenditures on properties currently not in production and \$19.9 million of development expenditures on properties currently in production. A \$4.5 million "grassroots" exploration program is also being undertaken.

Liabilities

Like the increase in assets, the 75 percent increase in total liabilities is primarily related to the acquisition of the Tenneco properties. Liabilities are listed according to their required time of payment.

Current liabilities – A significant portion of current liabilities relates to the current portion of deferred revenue, which has three components – gold purchase warrants due to be tendered January 31, 1987 (\$8.4 million), gold loan repayments (24,000 ounces which have been recorded at \$7.5 million) and the current portion of the forward sales contracts assumed on acquisition of the Tenneco properties (\$5.5 million) as described in "Deferred revenue" below.

At the end of 1986, Echo Bay had a number of unutilized bank credit facilities which permitted it to borrow up to \$ 61.5 million.

Long-term debt – The 1986 balance relates to an offering completed on October 29, 1986 of 3 ⁷/₈ percent bonds with gold purchase warrants in the aggregate principal amount of 110 million Swiss francs (approximately \$65.7 million). The proceeds were used to partially fund the Tenneco properties acquisition. The difference between the maturity amount of the bonds and the value allocated upon issuance will be amortized to earnings over the life of the bonds.

The Company does not have any bank borrowings outstanding as of year end. The amount borrowed to finance the 1984 purchase of royalty interests in the Lupin mine was repaid in the fourth quarter of 1986.

Deferred revenue – This item includes four distinct components as follows:

- Gold loans used as partial financing of the Round Mountain and Sunnyside acquisitions in 1985. These gold loans are repayable in total monthly installments of 2,000 ounces of gold, through to the maturity date of December 15, 1990. The portion due in 1987 is shown as part of the current portion of deferred revenue.
- Gold purchase warrants which entitle the warrant holder to either purchase gold from Echo Bay at \$595 per ounce or to receive a refund of the original prepayment (note 8). The warrants are exercisable at various future dates, with those exercisable in 1987 shown as a current liability. This was part of the original financing for the construction of the Lupin mine.
- The value attributed to 22,000 gold purchase warrants issued with the Swiss franc bonds.
- In connection with the acquisition of the Tenneco properties, the Company agreed to assume Tenneco Inc.'s obligations to deliver approximately 150,000 ounces of gold from 1986 to 1988 at an average price of \$378 per ounce. These contracts were valued at their market price as at the acquisition date with the increment being recorded as deferred revenue. This increment will be recognized as revenue as gold is delivered against each contract.

Deferred income taxes – This amount represents the cumulative total of deferred income taxes which have been charged through the Company's consolidated statement of earnings.

Common shareholders' equity

Shareholders' equity is the investment that common shareholders have in the Company. It is the difference between the liabilities of the Company and its total assets. During 1986, common shareholders' equity increased by 69 percent, largely because of the public financing in November and the growth in net earnings.

Financial position

Echo Bay Mines continues to be in a strong financial position. The Company's financial resources and liquidity will readily enable it to:

- Meet all short-term liabilities. Although the current ratio (the ratio of current assets to current liabilities) was only 0.87:1 at the end of 1986, the Company has its cash flow and credit facilities to satisfy all current liabilities.
- Pursue additional acquisition, investment and exploration opportunities. The mix of the Company's capitalization will allow flexibility in funding additional opportunities. At the end of 1986, total debt, including deferred revenue, of \$128.0 million was equivalent to about 16 months cash flow from production of 40,000 ounces per month at a \$400 gold price and a \$200 cash production cost.
- Provide for the Company's capital expenditure program, which includes the Round Mountain expansion program and development at other properties.

**Consolidated statement
of changes in cash resources**

Year ended December 31

thousands of US dollars	1986	1985	1984
Cash provided by (used in) operating activities			
Net earnings	\$ 25,880	\$ 15,182	\$ 19,429
Add (deduct) items not affecting working capital:			
Depreciation and amortization	17,702	11,612	9,997
Deferred taxes	5,547	3,378	2,854
Gain on sale of assets	(1,046)	—	(833)
Working capital provided from operations	48,083	30,172	31,447
Decrease (increase) in cash reinvested in working capital related to operations (note 16)	2,908	(4,504)	653
	50,991	25,668	32,100
Cash provided by (used in) financing activities			
Net proceeds from common share issues	76,128	58,668	33,277
Net proceeds from bond and gold purchase warrant issue	64,878	—	—
Gold loan borrowed	—	40,424	—
Gold loan repaid	(7,473)	(3,067)	—
Long-term debt borrowed	—	—	11,508
Long-term debt repaid	(6,429)	(394)	(13,065)
Forward sales contracts assumed (note 8(d))	(2,500)	—	—
Redemption of gold purchase warrants	(8,400)	—	—
Redemption of redeemable preferred shares	—	—	(30,888)
Common share dividends	(4,110)	(3,528)	(2,983)
Redeemable preferred share dividends	—	—	(1,478)
Silver note proceeds	1,816	—	—
	113,910	92,103	(3,629)
Cash provided by (used in) investing activities			
Business acquisitions	(132,787)	(80,316)	—
Property, plant and equipment	(17,939)	(13,135)	(13,771)
Proceeds from sale of assets	1,155	—	7,781
Deferred expenditures	(23,207)	(7,341)	(4,822)
Royalty interests acquired	—	—	(16,040)
Long-term investment and other marketable securities	(1,539)	(1,089)	(125)
Change in foreign currency translation account	—	(1,120)	(1,494)
	(174,317)	(103,001)	(28,471)
Net increase (decrease) in cash	(9,416)	14,770	—
Cash position at beginning of year	14,770	—	—
Cash position at end of year	\$ 5,354	\$ 14,770	\$ —

See accompanying notes.

**Changes in cash resources
discussion**

The consolidated statement of changes in cash resources discloses for a three-year period the main sources of Echo Bay's cash, how it has been applied and the effect on the Company's cash position during the reporting periods.

Cash provided by (used in) operating activities consists of the net earnings of Echo Bay, as reported in the consolidated statement of earnings, adjusted for components of net earnings that do not require the outlay of cash during the reporting period. These include depreciation, amortization and deferred taxes. The increase in cash provided by operating activities in 1986 is due to the significant increase in net earnings as well as a decrease in cash invested in working capital related to operations.

Cash provided by (used in) financing activities indicates the proceeds from the various sources of external financing, as well as the costs associated with the use of these instruments and the payment of dividends.

A considerable portion of the cash resources that were provided to Echo Bay during the past three years resulted from financing activities.

The financing activities prior to 1985 generally took the form of public equity issues. These were completed to replace the debt instruments and redeemable preferred shares issued to finance the construction and development of the Lupin mine. This left the Company in a healthy financial position at the end of 1984.

As a result, the Company was in a position to expand in 1985 through the acquisitions of the 50 percent interest in the Round Mountain mine and the Sunnyside mine and mill. These acquisitions were funded through proceeds from common share issues and from gold loans.

This expansion continued through 1986 with the acquisition of the Tenneco properties. This transaction was financed through proceeds from a common equity issue as well as funds from a Swiss franc bond issue with gold purchase warrants attached.

During 1986, 16 percent of net earnings were paid out in the form of common share dividends.

Cash provided by (used in) investing activities outlines investments made in assets which the Company believes will provide future benefits, such as growth in production, reserves, earnings and cash flow on a per-share basis. The costs of the acquisition of the Tenneco properties in 1986 and the Round Mountain and Sunnyside mines during 1985 (Note 2) were the most significant investment activities conducted by the Company during the past two years. In 1984, most expenditures were related to the development and the maximizing of returns from Lupin. An example of the latter was Echo Bay's purchase of the royalty interests in Lupin held by other corporations.

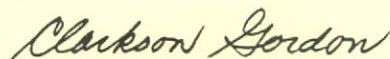
Net increase (decrease) in cash indicates cash remaining as the net result of the above activities. The Company will rely on its significant operating cash flow and credit facilities to fund the majority of 1987 anticipated cash expenditures.

Auditors' report

To the shareholders of
Echo Bay Mines Ltd.

We have examined the consolidated balance sheet of Echo Bay Mines Ltd. as at December 31, 1986 and 1985 and the consolidated statements of earnings, retained earnings and changes in cash resources for each of the years in the two-year period ended December 31, 1986. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances. The consolidated financial statements of Echo Bay Mines Ltd. for the year ended December 31, 1984 were examined by other Chartered Accountants whose report dated January 24, 1985 expressed an unqualified opinion on those financial statements.

In our opinion, these consolidated financial statements, appearing on pages 30, 32 and 34, present fairly the financial position of Echo Bay Mines Ltd. as at December 31, 1986 and 1985 and the results of its operations and the changes in its financial position for each of the years in the two-year period ended December 31, 1986, in accordance with accounting principles generally accepted in Canada applied, after giving retroactive effect to the change in 1986, with which we concur, in the reporting currency of the financial statements and except for the change in 1985, with which we concur, in the method of accounting for investment tax credits, both as explained in note 1 to the financial statements, on a consistent basis.



Chartered Accountants
A member of Arthur Young International
Edmonton, Canada
January 26, 1987

General

Echo Bay Mines Ltd. is a publicly owned Company traded on the American, Toronto, Montreal, Alberta, Paris and Brussels stock exchanges. The outstanding gold purchase warrants issued in 1981 are listed in Canada on the Toronto, Montreal and Alberta stock exchanges. The 3 $\frac{7}{8}$ percent bonds and gold purchase warrants issued in 1986 (note 9) are listed in Switzerland on the stock exchanges of Zurich, Basel, Geneva, Lausanne and Berne.

Since 1964, the year of its incorporation in Canada, the Company has been engaged in the mining and processing of, and exploration for, gold and other precious metals. The Company's revenues are derived principally from the sale of gold. The Company's operating properties consist of the Lupin mine, located in the Northwest Territories, Canada, the 50 percent undivided interest in the Round Mountain mine and the recently acquired McCoy, Manhattan and Borealis mines, all located in Nevada, and the Sunnyside mine, located in Colorado.

The consolidated financial statements are prepared by management on the historical cost basis in accordance with accounting principles generally accepted in Canada and, in all material respects, conform with those principles generally accepted in the United States, except as described in note 15, and with International Accounting Standards.

The consolidated financial statements are expressed in United States dollars (note 1 (a)).

Principles of consolidation

The consolidated financial statements include the accounts of the Company and its subsidiaries, all of which are wholly owned. The Company's 50 percent undivided interest in the Round Mountain mine is accounted for on the proportionate consolidation basis, whereby the consolidated accounts include 50 percent of the assets, liabilities and results of operations of the joint venture. Acquisitions have been accounted for by the purchase method and accordingly the results of operations of subsidiaries are included from the dates of acquisition.

Foreign currency translation

Financial statements of self-sustaining Canadian operations are translated into U.S. dollars using the current rate method. Under this method, assets and liabilities are translated at the year-end exchange rate while revenue and expense items are translated at the weighted average of exchange rates prevailing during the year. Exchange differences arising on translation are deferred and disclosed as a separate component of shareholders' equity.

Foreign currency transactions and balances of the corporate office and U.S. operations are translated into U.S. dollars using the temporal method. Under this method, monetary items are translated at the rate of exchange at the balance sheet date while non-monetary items are translated at historic exchange rates and revenue and expense items are translated at the weighted average of exchange rates prevailing during the year with the resulting gains and losses being included in income in the current year.

Long-term monetary items with a fixed and ascertainable life such as the Swiss franc-denominated bonds are translated at the year-end exchange rate. The resulting unrealized exchange gain or loss is deferred and amortized over the remaining life of the bonds.

A summary of relevant exchange rates, expressed in U.S. dollars, is as follows:

	1986		1985		1984
	Average	December 31	Average	December 31	Average
Canadian dollar	.7197	.7254	.7328	.7156	.7722
Swiss franc	n/a	.6086	n/a	n/a	n/a

Revenue recognition

Revenue from gold operations is recognized when the gold is delivered against sales agreements or contracts and title to the gold passes to the buyer.

Inventories

Inventories of gold, which include bullion and bullion in-process, are valued at the lower of cost, using the "first-in, first-out" method, and net realizable value.

Materials and supplies are valued at the lower of average cost and replacement cost.

Property, plant and equipment

Property, plant and equipment are recorded at cost. Depreciation is provided using the straight-line method. Under this method, the cost of the property, plant and equipment is expensed in equal annual amounts over their estimated economic life to a maximum of 15 years for tangible fixed assets.

Upon sale or retirement, the cost of the property, plant and equipment and related accumulated depreciation are removed from the accounts and any gains or losses thereon are taken into income.

Interest costs on major construction projects are capitalized.

Repairs and maintenance expenditures are charged to operating expenses; improvements and replacements are capitalized.

Deferred expenditures

The Company capitalizes various expenditures related to projects for which there is an expectation that such projects will generate revenues in future periods. It is anticipated that these costs will be charged as operating expenses against such future revenue.

Deferred mine expenditures include acquisition, development, interest and certain construction costs. These expenditures are charged to operations on the unit-of-production method (note 7). Under this method, the amount expensed in a year is based on the ratio of units produced during that year to the total estimated production over the expected economic life of the mine.

Exploration and development costs for specific major projects are deferred until a project is determined commercially feasible at which time they are added to deferred mine expenditures and charged to operations as described above. When a project is determined not to be commercially feasible the deferred costs are charged to operations in the year in which the determination is made. General exploration costs and related administrative expenses are charged to operations as incurred.

Royalty interest acquisition costs, and interest costs incurred on funds borrowed to effect such purchases, are deferred until production reaches certain aggregate levels (note 7). The acquisition costs are then added to the related deferred mine expenditures and charged to operations as described above.

Income taxes

Income taxes have been provided for on the tax allocation basis of accounting. Under this method, the provision for income taxes each year is determined by income and expense items included in the consolidated statement of earnings rather than the related amounts reported in the income tax returns of the Company and its subsidiaries.

Investment tax credits

Investment tax credits resulting from additions to plant and equipment and deferred mine expenditures are deducted from the cost of the related asset or expenditure. As a result, benefits from investment tax credits are included in earnings on the same basis as the related expenditures are charged to earnings (note 1(b)).

Flow-through securities

The Company finances a portion of its Canadian exploration programs with flow-through share issues. Shares are issued at a fixed price, which is at a premium to the market price, and the proceeds are used to fund exploration within a defined time period. Income tax deductions relating to these expenditures are claimable only by the investors.

Common shares issued pursuant to flow-through financings (note 11) are included in common shareholders' equity at the market value of the Company's common shares at the time of pricing the flow-through securities. The portion of the price relating to the transfer of tax benefits to the investor reduces the carrying value of the related exploration expenditure.

Changes in presentation

The consolidated financial statements are now expressed in U.S. dollars as described in note 1(a).

Certain of the comparative figures have been reclassified to conform with the current year's presentation.

**Notes to consolidated
financial statements**

December 31, 1986

stated in US dollars unless otherwise noted

1. (a) Reporting currency change

The consolidated financial statements are expressed in U.S. dollars. As a result of the 1986 and 1985 U.S. acquisitions (note 2), the U.S. dollar became the principal currency of the Company's business. Accordingly, comparative figures have been restated from Canadian to U.S. dollars. Had the Company continued to express its consolidated financial statements in Canadian dollars, the following amounts would have been reported:

thousands of Canadian dollars, except for per share data	1986	1985	1984
Earnings statement data			
Revenue	\$173,408	\$111,939	\$89,260
Net earnings applicable to common shares	34,353	18,093	22,005
Earnings per share	0.81	0.46	0.64
Balance sheet data			
Total assets	\$571,007	\$338,426	
Common shareholders' equity	337,854	206,489	
Other data			
Working capital from operations	\$ 65,175	\$ 38,613	\$39,465

(b) Accounting policy change

As of January 1, 1985 the Company prospectively adopted the cost reduction method of accounting for investment tax credits, pursuant to a recommendation of the Canadian Institute of Chartered Accountants. This change, from the flow-through method, requires that investment tax credits be deducted from the related expenditures with the associated benefits included in earnings on the same basis as the related expenditures are charged to earnings. Under the flow-through method, investment tax credits were recognized as a reduction of income tax expense. If the change was made for 1984, net earnings would have been \$17,749,000.

2. Business acquisitions

Tenneco properties

In September 1986, the Company purchased the gold and other precious metals assets of Tenneco Inc. (the "Tenneco properties") for \$130 million in cash, plus a net smelter revenue production payment payable to Tenneco Inc. (note 17) and assumption of certain forward gold sales obligations (note 8(d)). The Tenneco properties include three producing gold properties in Nevada – the McCoy, Manhattan and Borealis mines; two development properties – Illipah, located in Nevada, and Randsburg, located in California; and numerous exploration properties in Nevada and other western states of the United States, in Canada and elsewhere. All of the material Tenneco properties are located in North America. To fund the purchase, the Company sold 3 ⁷/₈ percent bonds with gold purchase warrants in the aggregate principal amount of 110 million Swiss francs, equivalent to \$65.7 million (note 9), and issued 3.6 million common shares for gross proceeds of \$75.2 million (note 11). The acquisition was accounted for by the purchase method. The results of operations have been included from October 1, 1986, being the approximate date that the Company took control of the acquired business.

Assets acquired and values assigned thereto are as follows:

thousands of US dollars

Working capital	\$ 6,314
Property, plant and equipment	22,156
Mining properties	76,743
Exploration and development properties	28,000
Royalty interest	8,000
Total purchase price	\$141,213
Cash	\$130,000
Forward sales contracts and other acquisition costs	11,213
Total consideration	\$141,213

The fair values assigned are estimates and are subject, pending further evaluations, to adjustment.

If the acquisition and related financings had been consummated on January 1, 1985 and January 1, 1986, the pro forma consolidated results of the Company would have been as follows:

thousands of US dollars	1986	1985
Revenue	\$151,513	\$111,393
Net earnings	\$ 26,609	\$ 17,716
Earnings per share	\$ 0.59	\$ 0.41

1985 acquisition – Round Mountain gold mine

Effective January 1, 1985, the Company purchased from The Louisiana Land and Exploration Company all of the outstanding common shares of Copper Range Company ("CRC") for \$55.0 million in cash plus additional acquisition costs of approximately \$10.6 million, consisting of refinery lease costs, employee severance costs, holding costs, taxes payable upon a corporate reorganization and certain royalties (note 17). CRC owned a 50 percent undivided interest in and was the operator of the Round Mountain gold mine in Nye County, Nevada, other exploration properties, and the inactive White Pine copper complex in the upper peninsula of Michigan. To fund the purchase, the Company issued 3.6 million common shares and borrowed 100,000 ounces of gold. The acquisition was accounted for by the purchase method and accordingly the results of operations have been included from the effective date of acquisition. The total purchase price has been assigned to identifiable assets acquired at fair values.

If the acquisition and related financing had been consummated on January 1, 1984, the pro forma consolidated revenue and net income from continuing operations of the Company would have been \$92.6 million, and \$22.0 million, respectively, for the year ended December 31, 1984. The pro forma earnings per share from continuing operations would have been \$0.55 in 1984.

In September 1985, the Company transferred CRC's 50 percent undivided interest in the Round Mountain gold mine and its other exploration properties to Round Mountain Gold Corporation, a newly formed, wholly owned subsidiary of the Company. The result of this reorganization was to leave the inactive White Pine copper complex as the remaining principal asset of CRC.

Effective October 1, 1985, the Company sold all the outstanding common shares of CRC to Northern Copper Corporation for proceeds of \$23.7 million consisting of \$3.7 million cash and a \$20.0 million silver note receivable that had an estimated net realizable value of \$7.0 million (note 5). Under the terms of sale the Company provided certain guarantees on behalf of the purchaser (note 19). No gain or loss was recorded on the sale.

1985 acquisition – Sunnyside mine and mill

On November 19, 1985, the Company purchased from Standard Metals Corporation ("SMC") substantially all of its assets in San Juan County, Southwest Colorado, including the inactive Sunnyside polymetallic mine and the related mill for \$20.0 million in cash and a 30 percent net profits interest (note 17). To finance the purchase, 30,000 ounces of gold were borrowed and working capital was used. The acquisition was accounted for using the purchase method and accordingly the accounts of Sunnyside have been included in these financial statements from the date of acquisition. The total purchase price has been assigned to identifiable assets acquired at fair value.

In March 1984, SMC became subject to Chapter 11 reorganization proceedings under the United States bankruptcy laws and suspended its Sunnyside operation in March 1985. Refurbishing of the complex began in late November 1985 and operations reached commercial production levels effective August 1, 1986.

If the acquisition and related financing had been consummated on January 1, 1984, the pro-forma consolidated revenue and net earnings from continuing operations of the Company would have been \$82.7 million and \$19.8 million for the year ended December 31, 1984. The pro forma earnings per share from continuing operations would have been \$0.53 in 1984. There would have been no material effect on the consolidated revenues, net earnings and earnings per share of the Company had the acquisition occurred on January 1, 1985.

3. Inventories

thousands of US dollars	1986	1985
Gold bullion – finished	\$ 3,712	\$ 3,366
– in-process	6,197	2,847
Materials and supplies	14,864	9,173
	\$24,773	\$ 15,386

4. Long-term investment

thousands of US dollars	1986	1985
	\$ 2,009	\$ –

The long-term investment consists of a 27 percent interest (1985 – 17 percent, included in marketable securities) in voting common shares of Nuinsco Resources Limited, a Canadian public company. Nuinsco Resources Limited has a number of precious metal properties in the exploration or development phase, including the Cameron Lake gold property. The investment has been accounted for by the equity method effective October 1, 1986.

The quoted market value of \$2.8 million does not necessarily reflect the realizable value of this holding which may be more or less than that indicated by the market quotation.

5. Notes receivable

Pursuant to the October 1985 sale of the White Pine copper complex (note 2), the Company accepted a note receivable ("the silver note") for 3,228,410 ounces of silver having a face value at the date of sale of \$20.0 million.

Because of the economic uncertainties facing the copper industry, the Company recorded the silver note in its accounts at \$7.0 million, representing the estimated net realizable value of the underlying security after deduction of certain contingent liabilities (note 19) and the prior rights of other creditors amounting to \$2.0 million to the underlying security. The first two payments, which were received during 1986, have been applied to reduce the balance sheet carrying value of the silver note. In light of the purchaser's rights to defer payments, the Company has recorded the amount as a non-current receivable, except for the payment of

\$989,000 received on January 1, 1987, which is included in accounts receivable. At December 31, 1986, the non-current receivable amounts to 3,021,000 ounces of silver with a carrying value of \$4,194,000.

Quarterly payments of 24 equal blended installments of principal and interest, calculated at 8 percent per annum, each in the amount of 177,585 ounces of silver, began on schedule on July 1, 1986. The purchaser has the right, in certain circumstances, to defer up to four payments. No more than two such deferrals may be consecutive. The payments are to be made in cash equal to the ounces of silver due, valued at the average price of silver over the quarter prior to the payment. Therefore, the payment received will fluctuate with the market price of silver.

Security for the note is a first charge on all the real property of the purchaser and a first charge on all of its personal property, except for copper-bearing inventories. Another creditor shares the first charge, on the personal property, up to \$2.0 million.

Also included in notes receivable is \$602,000 (1985 – \$438,000) for interest-bearing housing loans made to assist with employee relocation. These loans are repayable over five to 10 years.

6. Property, plant and equipment

thousands of US dollars	Cost	Accumulated depreciation	1986 Net	1985 Net
Land improvements	\$ 9,080	\$ 1,949	\$ 7,131	\$ 5,332
Buildings	39,896	9,036	30,860	29,827
Equipment	95,636	20,885	74,751	53,057
	144,612	31,870	112,742	88,216
Projects in progress	17,101	–	17,101	9,840
	\$161,713	\$31,870	\$129,843	\$98,056

The 1985 figures are net of accumulated depreciation of \$24,475,000. In 1986 \$208,000 (1985 – \$166,000) of capitalized interest was included in projects in progress.

7. Deferred expenditures

thousands of US dollars	Cost	Accumulated amortization	1986 Net	1985 Net
Deferred mine expenditures:				
Lupin	\$ 42,417	\$ 9,974	\$ 32,443	\$ 32,454
Round Mountain	51,409	1,936	49,473	44,716
Sunnyside	29,722	1,787	27,935	15,950
McCoy	61,559	1,779	59,780	–
Manhattan	10,017	933	9,084	–
Borealis	7,496	283	7,213	–
Exploration and development costs	38,444	–	38,444	6,084
Royalty interest	8,000	–	8,000	–
Bond and warrant issue costs	4,493	2,010	2,483	485
Other	1,358	20	1,338	960
	\$254,915	\$18,722	\$236,193	\$100,649

The 1985 figures are net of \$10,129,000 of accumulated amortization. In 1986, \$430,000 (1985 – \$1,092,000) of capitalized interest was included in deferred mine expenditures for Lupin.

The Company has reassessed the expected economic life of the Lupin mine in light of favorable results from the mine's lower-level development program. Accordingly, the 1986 amortization expense for Lupin's deferred mine expenditures has been determined using proven and probable ore reserves together with management's estimate of the ore reserves that will result from the lower-level development

program. Previously, amortization expense for the Lupin mine was determined using proven and probable ore reserves only. For the year ended December 31, 1986, this change in estimate has reduced amortization expense resulting in an increase in net earnings for the year of \$480,000 (\$0.01 per share).

During 1984, the Company purchased the two royalty interests relating to the Lupin property. Under the terms of the royalty interest agreements, royalties were payable upon Lupin reaching certain aggregate production levels, the first of which was reached in the current year. Accordingly, the royalty acquisition cost of \$11,928,000 began to be amortized on a unit-of-production basis during 1986. The Company anticipates that it will begin amortizing the remaining royalty acquisition cost of \$4,910,000 during 1987. These royalty purchase costs are included in deferred mine expenditures for Lupin.

8. Deferred revenue

As a means of financing the development and acquisition of precious metals mines, the Company has made use of gold-related financial instruments, including gold purchase warrants and gold loans.

Also included in deferred revenue are the forward sales contracts assumed in the Tenneco properties acquisition.

thousands of US dollars	1986	1985
Gold purchase warrants – 1981 issue	\$25,200	\$33,600
Gold purchase warrants – 1986 issue	10,203	–
Gold loans	29,889	37,362
Forward sales contracts	7,100	–
	72,392	70,962
Less: current portion of deferred revenue	21,364	15,873
	\$51,028	\$55,089

(a) Gold purchase warrants – 1981 issue

On February 5, 1981, the Company issued 6.4 million gold purchase warrants of which 4.8 million remain outstanding at December 31, 1986 (1985 – 6.4 million). The outstanding warrants are exercisable at the rate of 1.6 million on January 31 in each of 1987, 1988 and 1989. The exercise of a warrant will entitle the holder to purchase, from the Company, 0.01765 of an ounce of gold for \$10.50 (\$594.90 per ounce), plus a one percent delivery fee, of which \$5.25 was prepaid at the time of issue of the warrant. The holder is alternatively entitled on an exercise date to tender a warrant for cancellation against payment of \$5.25.

If a warrant is not exercised on an exercise date, the holder may tender the warrant for cancellation at any time during the following two years and:

- 1) if the market price of gold on the exercise date is equal to or greater than \$625.00 per ounce, the holder will receive the market price at the exercise date of the gold that could have been purchased under the warrant, less the unpaid purchase price, the one percent delivery fee and a \$0.25 service fee; or
- 2) if the market price of gold is less than \$625.00 per ounce on the exercise date, \$5.25 is payable (the original installment payment for purchase of the warrant).

On January 31, 1986, 1.6 million warrants were tendered for cancellation against payment of \$8.4 million in aggregate.

The warrants exercisable on January 31, 1987 will likely be tendered for cancellation at \$5.25 per warrant as current gold prices are substantially below the exercise price. The current portion of deferred revenue for the warrants exercisable on January 31, 1987 is included in current liabilities.

The prepaid amount relating to the warrant will be taken into revenue if and when the warrants are exercised.

(b) Gold purchase warrants – 1986 issue

On October 29, 1986, the Company issued 3⁷/₈ percent Swiss Franc (SFr) bonds (note 9) in the amount of SFr 110 million together with gold purchase warrants. A total of 22,000 gold purchase warrants were issued, each entitling the holder to purchase six ounces of gold from the Company at a price of \$560 per ounce until September 30, 1991. The warrants, which are unsecured and unsubordinated, contain certain restrictions upon secured borrowing and asset disposals by the Company and require the Company to maintain a specified ratio of assets to liabilities.

The gross proceeds of \$65.7 million have been allocated – \$55.5 million to the bonds and \$10.2 million to the warrants.

The value attributed to the warrants has been accounted for as deferred revenue and will be taken into revenue in such periods as the warrants are exercised or expire or such earlier time as the revenue is earned.

(c) Gold loans

On January 10, 1985 and on November 26, 1985, the Company borrowed 100,000 and 30,000 ounces of gold which realized \$30.6 million and \$9.7 million respectively. The proceeds of the gold loans were used to repay the interim financing for the Round Mountain gold mine and the Sunnyside mine and mill acquisitions (note 2). The gold loans are non-revolving, mature December 15, 1990 and are repayable in monthly installments of 1,500 and 500 ounces of gold respectively. The interest rate of the loans is approximately 1.66% per annum and varies with the bank's cost of funds and the pricing options selected.

(d) Forward sales contracts

In connection with the acquisition of the Tenneco properties (note 2), the Company agreed to assume Tenneco Inc.'s obligations to deliver approximately 150,000 troy ounces of gold from 1986 to 1988 at an average price of \$378 per troy ounce. These contracts were valued at their market price as at the acquisition date with the increment being recorded as deferred revenue. This amount will be recognized in revenue as gold is delivered against each contract.

9. Long-term debt

thousands of US dollars	1986	1985
Swiss franc bonds bearing interest at 3 ⁷ / ₈ %, maturing October 29, 1996	\$55,627	\$ –
Term loan from a Canadian bank for financing the purchase of the Lupin royalty interests; interest at prime, maturing January 31, 1988 with no fixed repayment terms.	–	6,429
	\$55,627	\$6,429

On October 29, 1986 the Company completed an offering of 3⁷/₈ percent bonds with detachable gold purchase warrants (note 8(b)) in the aggregate principal amount of 110 million Swiss francs (approximately \$65.7 million). The proceeds were used to partially fund the Tenneco properties acquisition (note 2). The difference between the maturity amount of the bonds and the value allocated upon issuance (the discount) will be amortized to earnings over the life of the bonds. The bonds, which are unsecured and unsubordinated, contain certain restrictions upon secured borrowing and asset disposals by the Company and require the Company to maintain a specified ratio of assets to liabilities.

The December 31, 1986 balance consists of:

thousands of US dollars	1986
Maturity amount	\$66,950
Less discount on bonds created by an allocation of the proceeds to the gold purchase warrants (note 8(b))	(10,203)
	56,747
Deferred unrealized foreign exchange loss	(1,242)
Accumulated amortization of bond discount	122
	\$55,627

The effective interest rate on the bonds including the 3⁷/₈ percent coupon payment and the amortization of the discount is approximately 6 percent.

The Company has term credit facilities of \$61.5 million with Canadian banks. Any loans drawn under these facilities bear interest at the banks' prime rate, have no fixed repayment terms and are unsecured.

The term credit facility has various drawing options, including bankers' acceptances and U.S. and Canadian dollar loans.

10. Redeemable preferred shares

The Company is authorized to issue in series an unlimited number of redeemable, cumulative, voting preferred shares. None are currently issued.

11. Common shares

The Company has an unlimited number of common shares of no par value authorized. A total of 45,495,603 common shares are issued and outstanding as of December 31, 1986.

Changes in the number of common shares outstanding during the three years ended December 31, 1986 were as follows:

thousands of US dollars except for share data	Shares	Amount
Balance, December 31, 1983	31,425,000	\$19,865
Public issue	4,000,000	34,236
Shares issued under flow-through offerings	286,000	2,429
Balance, December 31, 1984	35,711,000	56,530
Public issues	5,782,550	58,027
Shares issued under flow-through offerings	256,053	2,431
Exercise of share options	2,125	15
Balance, December 31, 1985	41,751,728	117,003
Public issue	3,600,000	75,213
Shares issued under flow-through offerings	135,000	2,374
Exercise of share options	8,875	82
Balance, December 31, 1986	45,495,603	\$194,672

The Company's policy is to declare and pay dividends to shareholders in Canadian funds. The Company has paid dividends of C\$5,680,000 (C\$0.13 per share), C\$4,868,000 (C\$0.12 per share) and C\$3,914,000 (C\$0.11 per share) in 1986, 1985, and 1984 respectively.

Public issue

On November 17, 1986, 3,600,000 shares were sold for gross proceeds of \$75,213,000. The net proceeds of \$70,845,000 were used to finance part of the Tenneco properties acquisition (note 2).

Flow-through offerings

As an instrument of public policy, the Canadian government allows corporations engaged in mineral exploration in Canada to issue flow-through securities. These securities allow purchasers to receive common shares of the issuer and to apply certain of the issuer's exploration costs against their own income for tax purposes. Accordingly, the Company issues the common shares at a premium to the market price.

On December 22, 1986, 55,000 common shares were issued pursuant to the rights of unitholders of flow-through securities issued on December 20, 1985 for gross proceeds of \$1,432,000. The proceeds were used to partially fund the Company's 1986 Canadian mineral exploration program.

On December 22, 1986, 80,000 common shares were issued pursuant to the rights of unitholders of flow-through securities issued on November 26, 1986 for gross proceeds of \$3,769,000. The proceeds of the offering will be used to partially fund the Company's Canadian mineral exploration program prior to February 29, 1988.

Employee share incentive and share purchase plans

The Company offers an Employee Share Incentive Plan to officers and key employees which provides for the granting of options to purchase common shares. Share options granted to December 31, 1986 are exercisable at prices equal to the market value at the date of grant. The earliest each option may be exercised (subject to the right of the Compensation Committee of the Board of Directors to vary the terms) is in four equal annual installments beginning one year after the grant, but the option holder may exercise each grant over a period of 10 years. Of the 1,056,400 (1985 – 784,275) options for common shares that were outstanding at December 31, 1986, 299,700 shares are currently exercisable and a further 266,850 shares will become exercisable in 1987. The Company grants options at a price denominated in Canadian funds. The options outstanding as at December 31, 1986 were granted at an average price of C\$18.20 (1985 – C\$13.95) per share and 186,600 shares are reserved for future grants. In United States funds, the options outstanding as at December 31, 1986 were granted at an average price of US \$13.20 (1985 – US \$9.96).

The Company offered an Employee Share Purchase Plan to all other permanent employees during 1986. The plan will allow eligible employees of the Company to purchase up to 56,000 common shares by December 31, 1987.

12. Income taxes

The geographic components of earnings before income taxes and income tax expense are as follows:

thousands of US dollars	1986	1985	1984
Earnings before income taxes			
Canada	\$22,637	\$12,325	\$22,283
United States	9,719	6,235	–
	\$32,356	\$18,560	\$22,283
Current income tax expense			
Canada	\$929	\$ –	\$ –
United States	–	–	–
	929	–	–
Deferred income tax expense			
Canada	3,624	2,574	2,854
United States	1,923	804	–
	5,547	3,378	2,854
Income tax expense	\$6,476	\$3,378	\$2,854

The payment of income taxes is deferred due to certain timing differences and common share issue costs. The timing differences result from the recognition of revenue, expenses and other allowances in different periods for tax and accounting purposes.

thousands of US dollars	1986	1985	1984
Timing differences			
Depreciation, amortization, exploration and development	\$3,404	\$2,218	\$1,631
Reserve allowances for equipment repairs and other items	134	(811)	240
	3,538	1,407	1,871
Other items			
Common share issue costs	2,009	1,971	983
Deferred income tax expense	\$5,547	\$3,378	\$2,854

The effective tax rate on the Company's earnings varied from the combined Canadian Federal and Provincial corporate income tax rate of approximately 48 percent for the following reasons:

thousands of US dollars	1986	1985	1984
Earnings before taxes	\$32,356	\$18,560	\$22,283
Income tax effect of:			
Federal and provincial rates	\$15,499	\$ 8,723	\$10,295
Resource allowance and earned depletion	(6,276)	(3,704)	(4,980)
U.S. depletion	(1,980)	(813)	—
Investment tax credits	—	—	(1,915)
Mining taxes	701	—	—
Other items	(1,468)	(828)	(546)
Income tax expense	\$ 6,476	\$ 3,378	\$ 2,854
Effective tax rate	20.0%	18.2%	12.8%

13. Foreign currency translation account

thousands of US dollars	1986	1985
	\$(15,621)	\$ (17,620)

Subsequent to the development and construction of the Lupin mine in 1981 and 1982, the Canadian dollar has weakened considerably relative to the U.S. dollar. The decline in value when applied to the development and construction costs accounts for a significant portion of the foreign currency translation account.

14. Earnings per share

Earnings per share have been calculated based on the weighted average number of common shares outstanding during the year. Preferred dividend requirements have been deducted from net earnings for 1984 to arrive at earnings attributable to common shareholders.

The weighted average number of shares outstanding during each of the last three years were: 1986 – 42,616,200; 1985 – 39,673,393; and 1984 – 34,275,929.

15. Differences between Canadian and United States generally accepted accounting principles (GAAP)

Under Canadian GAAP, the unrealized foreign exchange gain or loss on translation of the Swiss franc-denominated bonds issued in 1986 (note 9) is deferred and amortized over the remaining life of the bonds. Under U.S. GAAP, such unrealized foreign exchange gain or loss is included in earnings in the current period.

thousands of US dollars	1986
Net earnings – Canadian GAAP, as reported	\$25,880
Unrealized foreign exchange loss on Swiss franc-denominated bonds not recognized in earnings under Canadian GAAP	(647)
Net earnings – U.S. GAAP	\$25,233
Earnings per share – Canadian GAAP, as reported	\$ 0.61
Earnings per share – U.S. GAAP	\$ 0.59

Prior to 1986, the consolidated financial statements conformed in all material respects with U.S. generally accepted accounting principles.

16. Consolidated statement of changes in cash resources

Cash reinvested in working capital related to operations comprises the following:

thousands of US dollars	1986	1985	1984
Accounts receivable	\$ 1,647	\$ (104)	\$(179)
Inventories	3,881	2,335	(247)
Prepays	1,564	555	199
Accounts payable	(6,737)	1,520	(104)
Accrued liabilities	(3,263)	198	(322)
Additional cash invested	\$(2,908)	\$4,504	\$(653)

17. Commitments

(a) Operating lease commitments

The Company's principal lease commitments are for a Boeing 727 aircraft, rental of hangar facilities at Edmonton and the rental of office premises. The Company's commitments under the remaining terms of the leases are approximately \$8,810,000 payable as follows:

1987	\$1,942,000
1988	\$1,318,000
1989	\$1,385,000
1990	\$1,118,000
1991	\$ 997,000
Thereafter	\$2,050,000

(b) Royalty agreements

Round Mountain

Production from the Round Mountain gold mine is subject to a net smelter return royalty in favor of Ordrich Gold Reserves, effective July 1, 1986. The royalty rate increases, on a straight line basis, from a minimum rate of 3.53 percent at gold prices of \$320 per ounce or less to a maximum of 6.35 percent at gold prices of \$440 per ounce or more.

Metal production from the Round Mountain gold mine and other Nevada properties is subject to a 3 percent royalty on gross revenue in favor of The Louisiana Land and Exploration Company. The royalty applies to production after January 1, 1989 and will be reduced to 1.5 percent after \$75 million has been paid. The Company is entitled to set off \$1.7 million of the Ordrich payment (note 18), plus interest at 10 percent per annum calculated from January 1, 1987 against this royalty.

Tenneco properties

A production payment is payable to Tenneco Inc. in an amount equal to 1.5 percent of net smelter revenues from all sales of gold, silver, platinum and palladium produced and recovered from the Tenneco properties after August 31, 1986 until the equivalent of 1.5 million ounces of gold in the aggregate has been produced and

recovered, after which the percentage of net smelter revenues will increase to 3 percent. The production payment will terminate after the equivalent of 3.0 million ounces of gold in the aggregate has been produced and recovered. The production payment obligation may also be acquired by the Company and terminated or transferred at any time before November 19, 1989 upon payment to Tenneco Inc. of \$12.5 million. Production from the McCoy, Manhattan, and Borealis mines is also subject to 2 percent, 2 percent, and 2 1/2 percent net smelter royalties respectively.

Sunnyside

The Sunnyside mine is subject to a lease agreement with Washington Mining Company that expires on February 27, 1999, which obliges the lessee to conduct development work and provides for a royalty payable to the lessor, calculated as a percentage of net smelter value. This percentage begins at 4 percent and escalates to 30 percent as a function of net smelter value.

Standard Metals Corporation ("SMC"), upon sale of the Sunnyside mine and mill assets to the Company, retained a 30 percent net profits interest in the property. The net profits interest is to be calculated after deducting the following items:

- (1) the \$20.0 million cash component of the purchase price amortized over five years including interest expense calculated at a Canadian bank's prime rate plus 1 percent per annum;
- (2) all capital expenditures including exploration and development costs, and working capital;
- (3) cash operating costs;
- (4) all legal and accounting costs; and
- (5) corporate general and administrative expenses not to exceed \$500,000 per year.

For each calendar year from 1988 up to and including 1992, if the average price of gold as reported by the Comex for the immediately preceding year is not less than \$375 per ounce, the Company will be obligated to pay SMC a minimum royalty of \$300,000 for such year even if such royalty would otherwise be reduced below that amount as a result of capital and other expenditures made in such year. In addition, the Company has agreed to pay two advance royalty payments, the first of \$750,000 was made in June 1986; and the second of \$500,000 is to be made in June 1987. The advance payments, together with accumulated interest, will be deducted from the net profits interest beginning in 1991.

(c) Other commitments

The Company has a series of future contracts for the sale of gold. These contracts (aggregate amount of 154,000 ounces of gold at an average price of \$385 per ounce) come due in various months until July 1988. The Company also has a series of forward exchange contracts for the sale of U.S. dollars for Canadian dollars, which relate to the future contracts for gold sales. The forward exchange contracts (aggregate amount of \$10,220,000) mature in various months until June 1987. These contracts, translated at the exchange rate at December 31, 1986, are equivalent to Canadian \$14,145,000 as compared to Canadian \$14,573,000 translated at the contract rates.

18. Ordrich litigation

On April 22, 1983, Ordrich Gold Reserves Inc. ("Ordrich") asserted claims against the previous owners of the Round Mountain mine in the United States District Court for the District of Nevada. The complaint alleged that the defendants failed to calculate properly an 18 percent net profits interest payable to Ordrich pursuant to the terms of the agreement under which some properties constituting the Round Mountain project were acquired by such previous owners (the "Ordrich Agreement"). The Ordrich litigation has been settled and, in addition, the contractual arrangements with Ordrich, including the Ordrich Agreement, have been amended.

Under the terms of an agreement dated as of October 1, 1986 (the "Settlement Agreement"), the present owners of the Round Mountain mine are obligated to pay to Ordric Gold Reserves, the successor to Ordric, an aggregate of \$9 million in a series of payments from January 1, 1987 to January 1, 1992, of which the Company's share is one-half (the "Ordric Payment"). However, the Company is entitled to set off \$1.7 million of the Ordric Payment, plus interest at 10 percent per annum calculated from January 1, 1987, against its future production payment obligations in respect of the 3 percent royalty on gross revenue (note 17 (b)).

The Ordric payment, net of the \$1.7 million set off, has been added to deferred mine expenditures for Round Mountain.

The Settlement Agreement further provides that Ordric Gold Reserves will be entitled, as of July 1, 1986, to a net smelter return royalty on all minerals produced and sold from the property interests at Round Mountain that were affected by the Ordric Agreement. The royalty rate is increased, on a straight line basis, from a minimum rate of 3.53 percent at gold prices of \$320 per ounce or less to a maximum of 6.35 percent at gold prices of \$440 per ounce or more. The 18 percent net profits interest ceased June 30, 1986 as a result of the Settlement Agreement.

19. Contingencies

In January 1985 the Company agreed to lease the White Pine refinery pursuant to the purchase of Copper Range Company ("CRC"). Upon the sale of the CRC shares, which resulted in the disposition of the White Pine copper complex (note 2), the lease obligation was transferred to the purchaser. The Company has guaranteed the terms of the lease which include quarterly lease payments amounting to \$2.2 million per annum for a two-year period commencing January 1, 1987, together with proper maintenance of the refinery. In no case can the total obligation exceed \$15.0 million.

Pursuant to the October 1985 sale of the White Pine copper complex, the Company has guaranteed, on behalf of the purchaser, a loan amounting to \$0.9 million at December 31, 1986.

20. Segmented information

The Company's business is mining and processing of gold. This activity is carried out in the Northwest Territories of Canada and in Nevada and Colorado in the United States. Prior to 1985, the Company carried out its business only in Canada. Export sales made from Canada to customers in the United States totalled \$37,114,000 or 50 percent in 1986 (1985 – 67 percent; 1984 – 84 percent). Export sales made from the U.S. to Canadian customers totalled to \$31,464,000 or 63 percent (1985 – 50 percent). Financial information regarding geographic segments for 1986 and 1985 is set out below:

thousands of US dollars	1986	1985
Identifiable assets		
Operating assets		
Canada	\$148,790	\$150,824
United States	262,741	89,263
	411,531	240,087
Corporate assets	2,692	1,646
Total assets	\$414,223	\$241,733

thousands of US dollars	1986	1985
Gold revenue		
Canada	\$ 74,228	\$ 61,567
United States	50,064	21,476
	124,292	83,043
Cost of sales		
Canada	36,228	31,599
United States	29,976	15,266
	66,204	46,865
Depreciation and amortization		
Canada	10,045	9,489
United States	7,059	1,523
	17,104	11,012
Total operating costs		
Canada	46,273	41,088
United States	37,035	16,789
	83,308	57,877
Operating profit		
Canada	27,955	20,479
United States	13,029	4,687
	40,984	25,166
Other income and expenses	(8,628)	(6,606)
Earnings before income taxes	32,356	18,560
Income tax expense (note 12)	(6,476)	(3,378)
Net earnings	\$ 25,880	\$ 15,182

21. Round Mountain gold mine

The Company's 50 percent interest in the Round Mountain gold mine accounted for by the proportionate consolidation method is summarized as follows:

thousands of US dollars	1986	1985
Assets		
Current assets	\$ 3,309	\$ 3,765
Notes receivable	344	438
Property, plant and equipment (net)	11,201	7,949
Deferred expenditures (net)	49,838	44,940
	\$ 64,692	\$ 57,092
Liabilities and Equity		
Current liabilities	\$ 5,771	\$ 1,994
Equity in the Round Mountain gold mine	58,921	55,098
	\$ 64,692	\$ 57,092
Revenues and Earnings		
Revenues	\$ 31,029	\$ 21,476
Less: Cost of sales	(17,107)	(15,266)
Depreciation and amortization	(2,606)	(1,523)
Earnings before income taxes from the Round Mountain gold mine	\$ 11,316	\$ 4,687

Selected financial data

unaudited
millions of US dollars
except for per share and
gold price data
year ended December 31

	1986	1985	1984	1983	1982	1981
Earnings statement data						
Revenue:						
Gold operations	\$ 124.3	\$ 83.0	\$ 68.3	\$ 50.3	\$ 9.6	\$ -
Silver operations	-	-	-	-	0.1	7.5
Other income and gain on sale of assets	1.8	0.8	1.6	0.2	0.6	6.8
Average gold price realized (\$ per ounce)	367	324	380	421	432	-
Net earnings (loss) applicable to common shares	25.9	15.2	18.0	3.0	(4.1)	(3.1)
Earnings (loss) per common share ¹ (\$)	0.61	0.38	0.52	0.10	(0.15)	(0.12)
Weighted average common shares outstanding, in millions ¹	42.6	39.7	34.3	30.2	27.2	27.2

Balance sheet data

Working capital (deficiency)	\$ (6.3)	\$ 10.7	\$ 4.0	\$ 2.2	\$ 0.5	\$ 4.6
Total assets	414.2	241.7	139.5	129.1	128.6	112.7
Long-term debt	55.6	6.4	7.2	5.8	22.6	-
Deferred revenue	51.0	55.1	33.6	33.6	33.6	33.6
Deferred income taxes	17.0	11.6	9.3	8.6	8.5	9.0
C\$3.00 preferred shares	-	-	-	32.0	32.4	33.8
Common shareholders' equity	242.9	143.8	82.0	39.1	20.6	27.0
Common shares outstanding, in millions ¹	45.5	41.8	35.7	31.4	27.2	27.2

Other data

Cash dividends:						
Common shares						
- total	\$ 4.1	\$ 3.5	\$ 3.0	\$ 2.3	\$ -	\$ -
- per common share	0.10	0.09	0.08	0.07	-	-
C\$3.00 preferred shares	-	-	1.5	3.9	3.9	3.6
Working capital from operations	48.1	30.2	31.4	16.6	2.2	5.0
Capital and deferred expenditures	45.6	20.5	19.1	10.6	26.3	72.4

¹Adjusted to reflect the two-for-one split of common shares on February 23, 1983 and the six-for-five split of common shares on August 24, 1983.

Quarterly financial highlights

unaudited
millions of US dollars
except per share and dividend data

	Revenue	Cost of sales	Net earnings	Earnings per common share	Common dividends
1986					
1st quarter	\$ 24.1	\$ 12.0	\$ 5.7	\$ 0.14	\$ -
2nd quarter	25.2	13.5	4.9	0.12	0.045
3rd quarter	30.4	16.0	6.3	0.15	-
4th quarter	46.4	24.7	9.0	0.20	0.055
Total	\$126.1	\$66.2	\$25.9	\$0.61	\$0.10
1985					
1st quarter	\$ 18.4	\$ 11.1	\$ 2.4	\$ 0.06	\$ -
2nd quarter	21.5	11.8	4.3	0.11	0.045
3rd quarter	21.2	12.2	3.3	0.08	-
4th quarter	22.7	11.8	5.2	0.13	0.045
Total	\$ 83.8	\$ 46.9	\$ 15.2	\$ 0.38	\$ 0.09

Directors

Officers

- ^{1,3}**John N. Abell**, 55
Toronto, Ontario
Vice Chairman
Wood Gundy Inc.
(investment dealers)
- ^{1,4}**J. Allan Boyle**, 70
Toronto, Ontario
Director and former President
The Toronto-Dominion Bank
(bankers)
- ^{1,3}**Latham C. Burns**, 56
Toronto, Ontario
Chairman
Burns Fry Corporation
(investment dealers)
- ^{1,2}**Robert F. Calman**, 54
North Beach, New Jersey
Chairman
Echo Bay Mines Ltd.
- ^{1,4}**John Gilray Christy**, 54
Philadelphia, Pennsylvania
Chairman
IU International Corporation
(diversified services company)
- ^{2,4}**Egerton W. King**, 67
Edmonton, Alberta
Director and former President
Canadian Utilities Limited
(utilities holding company)
- ^{2,4}**Peter L. P. Macdonnell**, 67
Edmonton, Alberta
Partner
Milner & Steer
(barristers and solicitors)

- ^{3,4}**John M. Seabrook**, 69
Salem, New Jersey
Chairman
Gotaas-Larsen Shipping
Corporation
(ocean shipping company)
- ²**Robert W. Wolcott, Jr.**, 60
Wayne, Pennsylvania
Executive Vice President
IU International Corporation
(diversified services company)
- ^{2,3}**John Zigarlick, Jr.**, 50
Edmonton, Alberta
President and Chief
Executive Officer
Echo Bay Mines Ltd.

Committee members:
¹Audit
²Executive
³Finance
⁴Compensation

- Robert F. Calman**, 54
Chairman
- John Zigarlick, Jr.**, 50
President and Chief
Executive Officer
- Peter Clarke**, 56
Senior Vice President,
Operations
- Richard C. Kraus**, 40
Senior Vice President,
Finance and Administration,
and Chief Financial Officer
- John L. Azlant**, 40
Vice President,
Planning and Analysis
- Richard H. Bennett**, 47
Vice President,
Projects
- A. Paddy Broughton**, 44
Vice President,
Corporate Affairs
- Peter H. Cheesbrough**, 35
Controller

- Ray W. Jenner**, 35
Treasurer
- Robert N. Kernohan**, 46
Vice President,
Accounting and Business
Systems
- Leo D. Kirwan**, 55
Vice President,
Exploration
- Robert C. Phillips**, 63
Vice President,
Mining
- Ronald J. Simpson**, 46
Vice President,
Corporate Services
- Peggy A. Stratton**, 40
Vice President,
Human Resources
- Robert L. Leclerc**, 42
Secretary

The following technical terms are described to give the reader a better understanding of Echo Bay's annual report.

Adit

A tunnel driven horizontally into the side of a mountain or hill to gain access to a mineral deposit.

Airborne survey

A survey made from an aircraft to identify anomalies in the ground that may reflect the presence of mineralization. Airborne surveys include photographic, geophysical and geological surveys.

Anomaly (geophysical)

Data from a geophysical survey that differs from the rest of the data and which may indicate the presence of mineralization in the underlying bedrock.

Assay

A chemical test performed on a sample of ore, mineral or rock to determine the mineralized content.

Concentrate

A metal-rich product from a mineral separation process such as flotation. The metals are "concentrated" from ore. The remaining minerals are discarded as tailings. Concentrates are then refined or smeltered to produce the pure metals.

Carbon adsorption

A process in which soluble complexes of gold and silver physically adhere without chemical reaction to the molecular surfaces of activated carbon particles. The process is used at Round Mountain to collect gold and silver from the leach solution. The mine uses activated carbon made from coconut shells. This contains an amazing five to six million square feet of molecular surface area per pound of carbon.

Dilution

The inclusion of waste or low-grade rock during mining which lowers the grade of the mined ore.

Doré

An unrefined bullion product which is an alloy of gold and silver.

Drift

An underground horizontal passage which provides access to a mineralized vein.

Drilling**Blasthole drilling**

Drilling holes for an explosive charge to break the surrounding rock.

Diamond drilling

Drilling using a hollow diamond-studded bit that cuts out a rock core. A column of rock is extracted from inside the drill rod for geological examination and assay.

Infill drilling

More closely spaced diamond drilling, usually between other holes.

Rotary drilling

Drilling with a bit that breaks the rock into chips. The chips are continually flushed from the hole and are collected in sequence for geological examination and assay.

Electrowinning

The recovery of metal by electrolysis. An electric current is passed through a solution containing dissolved metals, resulting in the metals being deposited on a cathode.

Flotation

A process of mineral concentration based on the selective adhesion of minerals to air bubbles in a water and ground ore mixture. Air and specific chemicals are introduced into the mixture. The finely ground minerals float to the surface forming a metal-rich concentrate which is skimmed off the surface.

Flux

Chemical compounds added during a refining or smelting process to separate impurities (see Slag).

Grade

The metal content of ore and drill samples. With precious metals, grade is expressed as troy weight per unit weight of rock.

Cutoff grade

The minimum economic grade of ore that can be mined and processed.

Leaching

The extraction of a soluble metallic compound from an ore by dissolving the metals in a solvent.

Heap leaching

A low-cost leaching process where the ore is placed in a large heap on an impermeable pad. The solvent, a weak cyanide solution, is sprinkled over the heap and is collected at the bottom after percolating through the ore and dissolving the metals.

Leach cycle

The average amount of time that ore is leached.

Leach pad

A large, impermeable foundation or pad used as a base for ore during heap leaching. The pad prevents the leach solution from escaping out of the circuit.

Reusable pad

A leach pad where ore is loaded and then unloaded at the end of each leach cycle. The pad can be reused for many cycles. It is made of durable materials such as layers of asphalt with rubber membranes.

Dedicated pad

A pad which is constructed to accommodate one ore heap. The pad forms the tailings dump when economic recovery has been reached.

Lean ore

Material that is below the ore cutoff grade. At Round Mountain, lean ore is stockpiled for future processing. Its grade currently varies between 8 and 15 milliounces per ton.

Mill

A plant where ore is ground, usually to fine powder, and the metals are extracted by physical and/or chemical processes.

Mineralization

Mineral- or metal-bearing rock.

Ore body

A mineral deposit that can be mined at a profit under existing economic conditions.

Ore reserves

The calculated economically extractable tonnage, grade and metals content of an ore body. Security regulations in both Canada and the United States specify the requirements for calculating the proven and probable ore reserve categories.

Proven ore reserves

Reserves that can be accurately estimated by establishing the size, shape and mineral content of an ore body by inspection and measurement of closely spaced samples.

Probable ore reserves

Reserves that cannot be considered proven because inspection and measurement locations are not sufficiently closely spaced to estimate accurately the size, shape and mineral content of the ore body.

Placer deposit

A deposit formed by the erosion of rocks and veins that contain particles of gold or other precious metals.

Prospecting

The initial search for a mineral deposit, often through the visual examination of the surface for indications of mineralization.

Ramp

An inclined underground tunnel which provides access for exploration or the movement of materials and equipment between mine levels.

Recovery rate

A numerical relation used to describe the effectiveness of a mineral separation process. The rate is the percentage of metals recovered in the process. Recovery rates vary considerably depending on physical, metallurgical and economic circumstances.

Refining

A process of removing impurities from metals by introducing air and flux into the molten metal. The impurities are removed as gases or slag.

Shaft

A vertical or steeply inclined access-way to a mine. The shaft is used for the movement of personnel and materials, and the hoisting of ore and waste rock.

Shaft sinking

The process of excavating a shaft.

Slag

Impurities that have combined with fluxes during a smelting or refining process.

Smelting

A process using heat and fluxes in which metals are separated from impurities with which they are physically or chemically associated.

Stope

An underground working area where ore is mined.

Stripping ratio

The ratio between mined waste and mined ore in an open pit mine.

Tailings

The material discarded after the economically recoverable metals have been extracted from the ore by a milling or heap leaching process.

Ton

The short ton is used throughout this report. It is a unit of weight equal to 2,000 pounds and 907.2 kilograms.

Trenching

The digging of shallow trenches on the surface to expose a vein for inspection and sampling.

Troy ounce

A measure of weight within the troy weight system. The troy ounce has probably been used exclusively as a precious metals measurement since the sixteenth century.

1 troy ounce

= 1.097 avoirdupois ounces

= 31.103 grams

1 troy milliounce = 0.001 troy ounce.

The terms ounce and troy ounce have been used interchangeably in this report.

Shareholder information

Shareholders

Echo Bay is a widely held company with over 60,000 registered and nominee-held shareholders. No shareholder has a controlling interest in the Company.

It is difficult to estimate the geographical distribution of the Company's common shares due to the large number of nominee holdings. Information on registered shareholders indicates that 85 percent are resident in the United States (holding 66 percent of the shares), 14 percent in Canada (holding 32 percent) and the balance in Europe and other parts of the world.

European holdings are substantially understated due to the practice of registering these shares in the names of North American banks and brokers.

Stock exchange listings

Canada: Toronto, Montreal and Alberta – 1983

United States: American – 1983

France: Paris – 1985

Belgium: Brussels – 1985

Switzerland: Zurich, Geneva and Basel – 1987

Applications have been made for listing on the Frankfurt and Berlin exchanges later in 1987.

Principal markets

In 1986, a total of 64.0 million Echo Bay shares traded – 36.1 million on the American Stock Exchange, 15.6 million on the Toronto Stock Exchange and 12.3 million on the other exchanges.

This high volume is created by the active trading of institutions which professionally manage investments for pension plans, insurance companies and mutual funds.

On March 30, 1987, the Echo Bay common shares closed on the American and Toronto stock exchanges at US\$39.38 and C\$51.68, respectively. The 1986 and 1985 quarterly high and low daily closing prices on these exchanges were:

	Quarter	American		Toronto	
		High	Low	High	Low
1986	4th	US\$24.00	US\$20.50	C\$33.25	C\$28.50
	3rd	22.75	14.63	31.63	20.13
	2nd	16.25	13.38	22.63	18.25
	1st	16.38	13.00	23.25	18.50
1985	4th	US\$14.25	US\$12.13	C\$19.63	C\$16.63
	3rd	15.25	11.00	20.75	15.00
	2nd	12.63	10.50	17.38	14.38
	1st	11.88	7.75	16.38	10.38

Dividends

Common share dividends of C\$0.13 were paid in 1986, C\$0.06 on June 30 and C\$0.07 on December 31. Dividends payable to United States residents were converted and paid in US dollars. Non-residents of Canada are subject to a dividend withholding tax, currently 15 percent for United States residents.

Annual general meeting

The annual general meeting of shareholders is scheduled to be held on Tuesday, June 9, 1987 at the Four Seasons Hotel, Edmonton, Alberta.

Version française

Echo Bay Mines Ltd. publie son rapport annuel en français et en anglais. Pour obtenir un exemplaire de la version française, veuillez écrire à la société.

Form 10-K

A copy of the annual report on Form 10-K to the United States Securities and Exchange Commission is available on request from the Company.

Transfer agents and registrars

Principal:

The Canada Trust Company
110 Yonge Street
Toronto, Ontario
Canada M5C 1T4

United States:

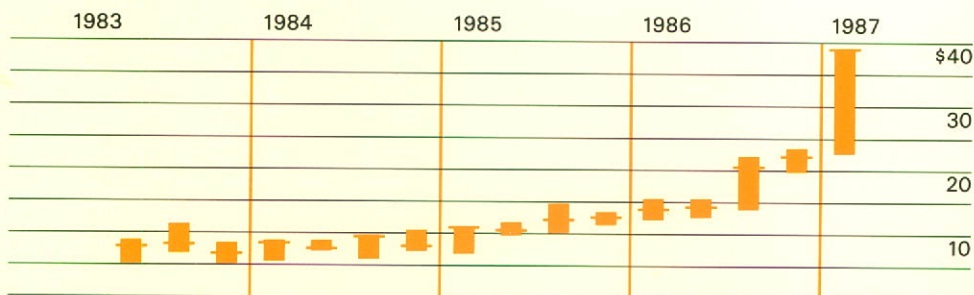
Morgan Shareholder
Services Trust Company
New York, NY

United Kingdom:

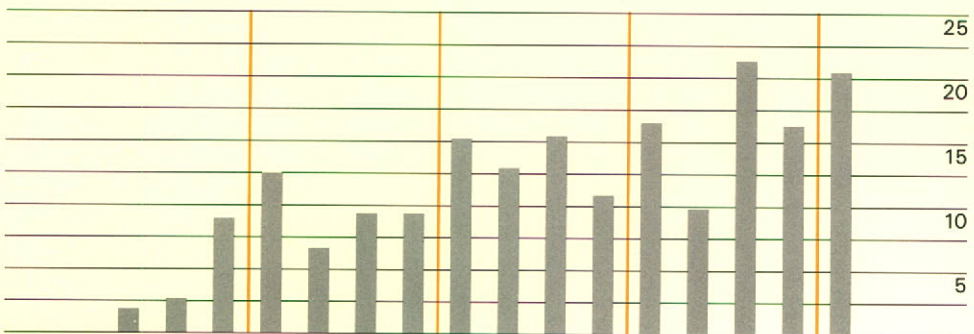
Orion Royal
Bank Limited
London, U.K.

Head office

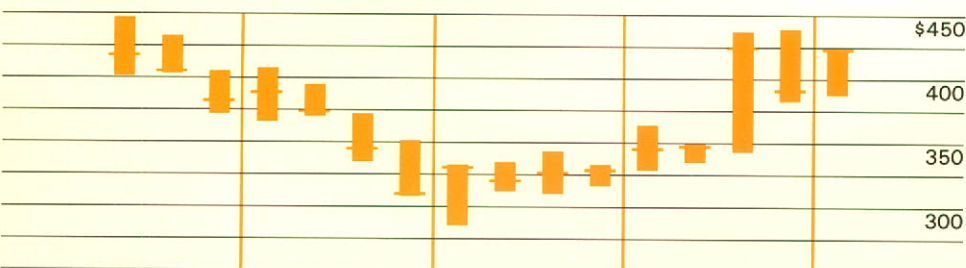
Echo Bay Mines Ltd.
3300 ManuLife Place
10180 101st Street
Edmonton, Alberta
Canada T5J 3S4
(403) 429 5811



Share price quarterly high, low and close
US \$



Share volume—quarterly through to March 30, 1987
millions of shares



Gold price history—quarterly high, low and close
\$ per ounce



For information on buying the
Canadian Maple Leaf and the
American Eagle bullion coins
please contact:

Royal Canadian Mint
Gold Maple Leaf
320 Sussex Drive
Ottawa, Ontario
Canada K1A 0G8

United States Mint
Bullion Coin Operation
P.O. Box 2854
Washington, DC 20013-2854



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