

BUSINESS AND PROPERTIES

General

The Company is engaged in the exploration, mining and processing of gold ore on properties located near Carlin, Nevada. Based on its current gold production, estimates reflecting the production levels from the recently opened Gold Quarry mine and mill, published production data and estimates for other gold mining companies, the Company believes that it is the second largest producer of gold in North America. The Company has the right to acquire certain gold reserves if discovered hereafter by NMC (see "Business and Properties-Exploration"). The gold mined and processed at the Carlin facilities is found in submicroscopic form. Higher grade ores are processed at two mills adjacent to two of the Company's ore bodies. Lower grade ores are treated by leaching processes at two facilities.

The Gold Market

Gold has two main categories of use: product fabrication and bullion investment. Fabricated gold has a wide variety of end uses, including carat jewelry manufacture (the largest fabrication component), electronics, dentistry, industrial and decorative uses, medals, medalions and official coins, Purchasers of official coins and high-carat low-mark-up jewelry frequently are motivated by investment considerations, so that net private bullion purchases alone do not necessarily represent the total investment, activity in physical gold.

Impact of Gold Prices on Profitability

The profitability of the Company's current operations is significantly affected by the market price of gold. Gold prices fluctuate widely and are affected by numerous factors beyond the Company's control, including expectations with respect to the rate of inflation, the strength of the dollar and of other currencies, interest rates, global or regional political or economic crises and a number of other factors. The demand for and supply of gold affect gold prices but not necessarily in the same manner as supply and demand affect the prices of other commodities. The supply of gold consists of a combination of new mine production and existing stocks of bullion and fabricated gold held by governments, public and private financial institutions, industrial organizations and private individuals. As the amounts produced in any single year constitute a very small portion of the total available supply of gold, normal variations in current production do not have a significant impact on the supply of gold or on its price.

If the Company's revenue from gold sales (after giving effect to forward sale transactions) falls below its cash cost of production, and remains below its cash cost of production for any substantial period, the Company could determine that it is not economically feasible to continue commercial production. The Company's production costs per ounce of gold are shown below under "Mining and Processing-Production Costs". These costs reflect the Company's favorable ore grade and the openpit nature of its mining operations.

The volatility of gold prices is illustrated by the following table of the high and low gold prices per ounce on the London Bullion Market: London

		High	Low
		\$243	\$165
1978	and the second s	512	217
1979		850	482
1980		599	391
1981		481	297
1981		509	374
1983		406	308
1984		341	284
1985		363	326
1986	(through June 23)	202	220

Source of Data: Metals Week

On June 23, 1986, the afternoon fixing for gold on the London Bullion Market was \$341.05 and the spot market price of gold on the New York Commodity Exchange was \$341.00. Gold prices on both the London Bullion Market and the New York Commodity Exchange are regularly published in most major financial and many nationally recognized newspapers.

The gold deposits in the Company Area of Interest are typical examples of sediment-hosted, disseminated gold deposits, often called "invisible" or "submicron-gold" deposits because of the exceedingly fine, submicroscopic size of the gold particles. More than ten separate gold deposits have been identified on the Company Property along a northwesterly-trending, 36-mile-long alignment of deposits referred to as the Carlin Trend. All these deposits are initially exploitable by open-pit methods.

Host rocks for the deposits range in geologic age from Ordovician to Mississippian (about 500 to 350 million years old). During this time, Nevada is thought to have lain along the margin of the North American continent. Sedimentary rock units were deposited in a westward-thickening wedge in the ocean basin to the west. Tectonic activity associated with a mountain-building event in late Devonian time (about 360 million years ago) caused a telescoping of these sedimentary rock units. The deepocean 'assemblage of interbedded chert, shale and limestone units was thrust eastward along the Roberts Mountains thrust fault for as much as 90 miles over time-equivalent shallow-ocean limestone and related rocks. A highland developed along the western margin of North America, and coarse sediment was shed to both the east and west.

Faulting, folding, volcanism, intrusion of igneous rocks, and deposition of younger sedimentary rocks have further complicated the geologic setting of the area.

Gold deposits of the Carlin Trend occur in both the lower-plate limestone (Carlin Mine) and the upper-plate chert and shale sequences (Gold Quarry), as well as in the coarser sedimentary rocks of the overiap assemblage shed from the emergent Mississippian-age highland (Rain).

Gold mineralization occurred when hot gold-bearing solutions came into contact with rock formations which were chemically and physically favorable for gold deposition. The flow of these solutions was directed by faults which provided conduits for the solutions to migrate upward. These faults also prepared the host rock formations for gold deposition by breaking and fracturing them enough to permit fluid movement. Mineralogical and geochemical studies indicate that the mineralization occurred at relatively shallow depths and low temperatures within the earth's crust, possibly beneath ancient hot springs systems. Erosion has subsequently exposed the deposits.

Ore Reserves

Proven/Probable Ore Reserves

The Company has engaged Pincock, Allen & Holt, Inc., an independent mining and geological engineering firm, to verify the Company's proven/probable ore reserves as of December 31, 1985. The report of that firm, dated May 8, 1986, has verified the Company's reserves as set forth in the table below and has further verified that the tabulated reserves are at a minimum 80% (tonnage and ounces) proven. The proven/probable reserves were determined by the use of mapping, drilling, sampling, assaying and other standard evaluation methods generally applied by the mining industry. Pincock. Allen & Holt, Inc. has confirmed that based on a \$350 gold price per ounce, the Company's calculations with respect to estimates of reserves as of December 31, 1985, are correct. The Company believes that, if the reserve estimates set forth above were to be recomputed based on gold prices as low as \$300 per ounce and current operating costs, there would not be a substantial decrease compared with the reserve estimates shown on the following table.

Ore Reserves on December 31, 1985 Verified by Pincock. Allen & Holt. Inc.

	Ore Type	Tons (In thousands)	Average Grade of Ore (oz./ton)	Gold Content
Proven/Probable Reserves* in Ground.	Milling	57,756	0.089	5.113,482
	Leach	97.029	0.034	3.298.570
Proven Stockpile Reserves*	Milling	2,437	0.127	309.122
	Leach	1,111	0.032	35.557
Totals	Milling	60.193	0.090	5.422.604
	Leach	98.140	0.034	3.334.127
	Combined	158.333	0.055	8.756.731

Reserves represent in-place grades and do not reflect losses in the recovery processes. The recovery rates from milling and from leaching processes are shown in the following table. See "Mining and Processing".

Cut-off grades used in computing the tabled reserves are 0.05 ounces per ton for oxide mill grade ore. 0.02 ounces per ton for oxide leach grade ore, and 0.07 ounces per ton for carbonaceous mill ore. "Cut-off Grade" means the lowest grade of mineralized rock that qualifies as ore grade in a given deposit, and is also used as the lowest grade below which the mineralized rock currently cannot be profitably exploited. Cut-off grades vary between deposits depending upon the amenability of ore to gold extraction and upon costs of production.

[&]quot;Reserve" means that part of a mineral deposit which could be economically and legally extracted or produced at the time of the reserve determination. A mine pian based on current prices and costs is used to establish the economic viability of the ore reserve. Reserves are customarily stated in terms of "ore" when dealing with metalliferous minerals. Reserves stated include 1.230.000 ounces of proven/probable gold content amounts deliverable or payable to others under royalty agreements.

[&]quot;Ore" means material that can be mined and processed at a profit.

[&]quot;Proven reserves" means reserves for which (a) quantity is computed from dimensions revealed in outcrops. trenches, workings or drill holes: grade and or quality are computed from the results of detailed sampling, and (b) the sites for inspection, sampling and measurement are spaced so closely and the geologic character is sufficiently defined that size, shape, depth and mineral content of reserves are well established.

[&]quot;Probable reserves" means reserves for which quantity and grade are computed from information similar to that used for proven reserves but the sites for sampling are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven reserves, is high enough to assume continuity between points of observation.

[&]quot;Proven/probable" is used if the difference in degree of assurance between proven and probable reserves cannot be reliably defined.

The table set forth below shows the Company's proven/probable ore reserves and ounces per ton of such reserves at the end of each of the last four years as estimated by the Company. The reserves are divided into higher grade mill-treatable ore and lower grade leach-treatable ore. The grade at which mill-treatable and leach-treatable ore is divided depends on the gold price, pit location and other which mill-treatable and leach-treatable ore is divided depends on the gold price, pit location and other factors and is currently 0.05 ounces per ton. The table also shows mill and leach production for the same four-year period.

				At Decemb	oer 31.				
	1.041	1002			198	4	1985		
	198 Mill	Leach	Mill	Leach	Mill	Leach	Mill	Leach	
Proven/probable reserves (tons × 1000)	34.884*	157.003*	54,301	96.067	59.222	99.942	60.193	98.140	
Average grade (oz. gold/ton)	0.120	0.036	0.091	0.034	0.090	0.034	0.090	0.034	
Contained gold in reserves (oz. gold × 1000)	4.186	5.652	4.941	3.266	5.333	3.398	5.423	3.334	
Total contained gold in reserves (oz. gold × 1000)	9.8	38*	8.2	07	8.7	31	8.7	57	
Average recovery rate	85.6 120,900	** 24.200	85.6 127.836	63.0 37.023	85.8 127.633	63.0 29.982	84.1 190.284	65.0 28.329	
Gold production (oz.) Total gold production (oz.)	production (02.)		164.859		157	.615	218.613		

^{*} In 1982, the Gold Quarry ore reserve was calculated using geostatistical and mine plan evaluation methods that have since been modified. Thus, subsequent years represent more conservative estimates of the tonnage and the gold contained in the mineable reserves.

^{**} Not calculated.

Other Gold Deposits

In addition to its proven/probable ore reserves, the Company has identified significant gold deposits at its Post, North Star, Genesis (Deep), Bootstrap and Rain locations which have yet to be subjected to a mine pian evaluation to determine the portion that can be economically extracted and thus qualify as proven/probable ore reserves. Pincock, Allen & Holt, Inc. have verified the information shown in the following table. With respect to these gold deposits, none of such information is reflected in the table under the caption "Proven/Probable Ore Reserves".

Other Gold Deposits on December 31, 1985 Verified by Pincock, Allen & Holt, Inc.

	Tons in				
	Mill Gr (+.04 Oz. G		Leach ((.02039 Oz.	Total Contained	
<u>Deposit</u>	Tons	Grade	Tons	Grade	Ounces of Gold
Post	9.437	0.078	4.678	0.030	876.463
North Star	1,600	0.131	250	0.024	215.600
Genesis (Deep)	5,813	0.107	(Incl. in Mi	ll Grade)	619.908
Bootstrap	381	0.103	309	0.026	47.231
Rain			6,839	0.030	205.170
Total Other Gold Deposits	<u>17.231</u>	0.092	12.076	0.030	1.964.372

^{*} Includes 1.236.0 tons of refractory ore averaging .109 ounces per ton based on a ±.07 ounces gold/ton.

Exploration

Company Property

The Company conducts exploration on properties (the "Company Property") aggregating approximately twenty square miles as to which it owns or otherwise controls the mineral rights and which are described in more detail in the table under the caption "Property Interests" below. The Company Property contains all the operating mines, proven reserves and known gold deposits of NMC and its affiliates in the Company Area of Interest. See "Business and Properties—Company Area of Interest". NMC will continue to own the mineral rights to property within the property boundary of the Elko Land & Livestock Company ("ELLCO"), a wholly-owned subsidiary of NMC, to the extent such property is not Company Property.

Ongoing exploration on the Company Property will be conducted for the Company by exploration geologists employed by NEL (see "Relationship Between the Company and NMC—Contractual Arrangements") whose principal efforts are designed to determine through close-spaced stepout drilling whether additional mineable reserves lie within or adjacent to the limits of known mineralization. The Company's 1985 expenditures for this work totaled \$3,124,000 and its budget for this work in 1986 is, with respect to the Company Property, \$4,700,000.

With respect to specific areas of Company Property and on the basis of information presently available, the Company's opinion as to the potential for discovery of ore on Company Property, in addition to the reserves and gold deposits reported in the tables under the captions "Proven/Probable Ore Reserves" and "Other Gold Deposits" is set forth below:

—Genesis and Blue Star—The gold mineralization at Genesis was discovered by drilling in 1985. Development drilling is continuing at present. The boundaries of the mineralization are still not defined in two directions. Exploration in the vicinity of the Blue Star Mine has been limited; the potential for locating significant additional ore reserves within the Blue Star area is considered excellent.

- -Gold Quarry-The potential for additional deep mineralization in the Gold Quarry property. adding to the substantial reserves at that property, is considered excellent. Deep drilling conducted during the definition of the known orebody encountered substantial deep, high-grade mineralization known as the Deep West. This has not been completely explored; the completion of exploration has been deferred since the ore will not be exposed by mining for many years.
- -Maggie Creek-Exploration drilling conducted during the definition of the Gold Quarry orebody suggested the presence of a number of other smaller ore occurrences within the Maggie Creek/Gold Quarry area. These all appear to be of comparable grade and have a stripping ratio similar to the Gold Quarry orebody. Because ore reserves are substantial in this area little effort is currently being made to further define these smaller ore occurrences.
- -Carlin-The known mineralization at the Carlin mine has nearly been exhausted. The potential for locating significant additional reserves of oxide ore is low. The limits of carbonaceous ore in the vicinity of the East Pit have not been defined, and the potential for the addition of carbonaceous reserves is good.
- -Bootstrap-The tonnage of ore remaining within the current Bootstrap Mine is limited due to the mining costs associated with exploiting the narrow, deep remaining ore. Exploration drilling during 1985 revealed the existence of continuing mineralization to the north of the current mine. Although the ore is narrow, it is of high grade and may support underground mining. Additional expioration is planned during 1986. A second promising target at Bootstrap is deep. high-grade ore beneath the current mine. A core drilling program to test the intersection of the recognized ore-controlling structure with a favorable sedimentary rock unit. the Roberts Mountains formation, is planned for 1986.
- -Rain and Post-The potential for additional ore discoveries within these areas is not considered

There can be no assurances that the Company's estimates of the exploration potential of the properties discussed above will be confirmed.

Company Area of Interest

The Company Area of Interest comprises approximately 2,300 square miles within which the Company Property is roughly centered. NMC controls significant mineral interests on approximately 400 square miles of the Company Area of Interest. Under the NMC Exploration Agreement the Company has the right to acquire all gold reserves discovered by NMC within the Company Area of Interest prior to January 1, 1997, for a royalty equal to 10% of the Company's revenues from exploitation of any such discoveries after deducting from revenues any royalty payments by the Company to third parties. The Company has no rights to acquire property from NMC in respect of NMC's other activities.

Exploration work in the Company Area of Interest conducted for NMC is customarily performed by NEL. During 1985 such work was conducted by five exploration geologists but the number may vary in the future according to need, which again will depend on gold price, the number of active prospects and other factors. NMC has advised the Company that its budget for exploration in the Company Area of Interest (excluding expioration on Company Property) during the final seven months of 1986 is \$1.157.000. NMC's exploration budget for 1987 will not be established until late 1986.

Business Plan 1986-1990

During the period 1986 through 1990, the Company's plans for milling and leaching of ore, resulting gold production and related capital expenditures are as follows (1985 figures being presented for purposes of comparison):

	1985	1986	1987	1988	1989	1000
Ore milled (millions of tons)	2.0	3.7	4.5	6.1	6.6	6.6
Ore leached (millions of tons)	0.9	3.2	5.1	5.2	4.9	4.9
Gold produced (thousands of ounces)	219	408	451	678	703	704
Estimated capital expenditures (millions of dollars)	\$ 70	\$ 18	\$ 60	\$ 21	\$ 16	\$ 6

The Company anticipates that, at current gold prices, aggregate internally generated funds will exceed the above-projected capital expenditures.

Principal capital expenditures for the years 1986-1990, included in the table above, are expected for:

- * Development, construction and commissioning of a mine and metallurgical facilities, including a new mill, at the Rain deposit:
- * A leach plant north of Number 1 mill for the Post, Bootstrap, Genesis and North-Star deposits:
- * Crusning facilities for the treatment of Gold Quarry leach ore;
- * Elimination of points of constraint in the material flow through the Number 1 mill:
- * Addition of grinding capacity to the Number 2 mill.

Although engineering studies have not yet been undertaken, it is estimated that these items will constitute approximately 80% of such capital expenditures for the five-year period.

Mining and Processing

Mines

At present, the Company is mining and processing ore from five open pits. The ore zones range in depth from near surface to a depth of 1.000 feet. The following table sets forth information regarding the Company's mine activity for each of the periods indicated:

	Year Ended December 31.			Three N Ended M		
	1982	1983	1984	1985	1985	1986
Overburden removed (thousands of tons)	8.761	8.024	15.643	21.704	6.428	4.571
	985	2.316	1.857	4.675	563	2.110
Stripping ratio	8.9:1	3.5:1	8.4:1	4.6:1	11.4:1	2.2:1

The stripping ratio will vary from year to year as different deposits are mined in accordance with the several mine development plans. Stripping ratios in recent years reflect pre-stripping of the Gold Quarry deposit. In the next five-year period, the Company estimates that the stripping ratios, with respect to both mill-treatable and leach-treatable ore combined, will vary from a high of 3.7:1 in 1987 to a low of 2.5:1 in 1986. The mining costs are significantly affected by the stripping ratio. Pre-production stripping costs are amortized over the life of the mines. The mining cost is the sum of the cost of the stripping of waste and the mining of ore. The greater the amount of stripping, and hence the higher the stripping ratio, to recover a ton of ore, the higher the mining cost. Lower stripping ratios in any given period will not necessarily result in lower production costs and vice versa because a portion of stripping costs allocated to a given period reflects the amortization of stripping costs capitalized in earlier periods.

Essentially, the mining process is carried out in four phases: drilling and classification: blasting: loading; and hauling. Following biasting, broken material is classified into several categories based on

such factors as the grade and, at the Carlin mine, the metallurgical nature of the ore. Following such classification, the waste rock and overburden having a gold content of less than .02 ounces per ton is transported to waste dumps which have been located on unmineralized ground. Leach grade ore currently containing between .02 and .05 ounces per ton is delivered to either dump or heap leaching facilities, and mill grade ore currently containing more than .05 ounces per ton of oxide ore (or .07 ounces per ton of carbon or refractory ore) is separately transported and stacked at the mill facility.

Mining at the currently active pits involves the use of the Company-owned fleet of heavy mine equipment which includes front end loaders, hydraulic shoveis and trucks. Since mining presently takes place during 3 shifts of 8 hours each per day only 5 days per week, the Company has the ability to increase annual production without the immediate purchase of additional equipment by hiring additional personnel to operate the mine 7 days per week.

Geostatistical Program

Ore control engineers, surveyors, geologists and other Company personnel utilize a computerbased system to optimize daily ore control and production reporting. In the Gold Quarry and Genesis open pit operations ore control is based on blast hole assays. Geostatistical models of the gold distribution are generated and plotted and then are used to segregate mill-grade, leach-grade and waste material. Computer generated maps are used by the surveyors to flag the ore in the pit and by the pit foreman and shovel operators to guide mining activities. After an area has been mined the pit progress is entered into a computer, the pit limits are automatically updated and production reports are generated. These computer generated production estimates are periodically compared with truck counts. mill feed and stockpile inventories. All applicable metallurgical, geological and mining constraints are taken into account by this fully integrated ore control system. The system has enabled the Company to mine various grades of ore in a selective manner and has resulted in significant improvements in ore grade control and, consequently, financial returns to the Company.

Mills

The Company owns and operates two mills. The Number 1 mill, which was built in 1965, treats ore being mined in the northern portion of the Company's property such as Cariin. Bive Star and the Genesis deposit. The Number 2 mill, commissioned in September, 1985, is located approximately 10 miles south of the Number 1 mill and approximately 6 miles north of the town of Cariin, and is adjacent to a Gold Quarry open-pit mine. It treats mill grade ore from the Gold Quarry and the Maggie Creek deposits.

The Number i mill utilizes, for oxide ore, a process designed for the Company by NMC's Danbury, Connecticut Research Center. This process involves the reduction in size of gold bearing rock (ore) to a fine grain sand. The gold in the ore is then leached into a solution with cyanide. A solid/liquid separation system is then employed to separate the gold solution from the solid material (tailings). After injection of zinc dust a gold-zinc mixture is then precipitated from the solution. The resulting solid contains the gold originally contained in the gold bearing rock. This material is then melted to separate the gold metal out of the gold-zinc precipitate and is further refined to meet production specifications. This mill also employs, as another circuit, a chlorination treatment process (developed by the Company with help from the U.S. Bureau of Mines) to treat the more difficult carbonaceous ore found at the Cariin mine. The cost of treating carbon ore is more than double that of oxide ore, principally due to the cost of chlorine. To some extent this cost is offset by reason of the higher grade of the carbonaceous ore that is treated. The percentage of gold production from carbonaceous ore varies from time to time but presently is approximately 8.7% of total gold production.

The Number 2 mill employs state-of-the-art carbon-in-pulp technology to treat oxide ores. This process is a system of separating gold from an ore-water slurry by employing the adsorbative property of activated carbon. Gold in solution adheres to particles of activated carbon that has been exposed to the siurry. Carbon particles are separated from the slurry by screening and gold recovered from the carbon.

The Number 1 and 2 mills are currently processing approximately 3.000 and 8.000 tons of ore per day, respectively.

Leaching

The Company has two leaching operations. The process calls for placing ore on a prepared, impermeable base and spraying a sodium cyanide solution over the pile. The solution, applied through a surface sprinkler system, percolates through the pile of ore, dissolves the gold and runs to a collection trough whence it is pumped to carbon columns. The gold is absorbed on to the carbon from the solution and the solution is returned to the sprinklers after adjustment of the cyanide content.

Gold is stripped from the loaded carbon, recovered by electrodeposition, melted and recast as dore bullion and is then delivered to non-affiliated refiners.

Production Costs

Costs of production per ounce of gold include mining, processing and maintenance expenses and local overheads. Royalty owners have the option of taking royalties in equivalent ounces of gold. Production costs will fluctuate depending upon the grade and volume of ore processed and the recovery rate. See "Summary Operating and Financial Data."

The following table sets forth information on the Company's total costs per ounce of gold from mill and leach operations for the periods indicated:

Costs per Ounce of Gold Sold

	Year Ended December 31.				Ended March 31.		
	1983	1984	1985	1985	- 1986		
Cost of production	\$141	\$159	\$175	\$188	\$160		
Royalties	24	12	21	1.1	3.1		
Interest and other income	(5)	(5)	(3)	(3)	\sim (1)		
Interest expense, net of capitalized interest	5	2	16		23		
Exploration	5	8	1.5	5	Ó		
Depreciation, depletion and amortization	24	31	34	<u> 41</u>	32		
Total costs	<u>\$194</u>	<u>\$207</u>	<u>\$258</u>	<u>\$242</u>	\$251		

Waste Disposal

Waste tailings from each mill are pumped into tailings ponds located less than one mile from each mill. As of December 31, 1985, the Company estimated that at the then current production rate one tailings pond would be filled to capacity by 2005 and the other by 1990. The former pond has a zero discharge permit from the State of Nevada. Construction of the latter pond pre-dated present requirements to obtain permits and thus such pond does not require such a permit.

Under the requirement of its permit the Company has installed monitoring wells immediately adjacent to the newer tailings pond in order to obtain early warning of any leakage of contaminants from the pond. No indications of contaminants have been recorded to date.

Maintenance

The operations of the mines and mills require significant maintenance work because of the continuous and vigorous nature of such operations. Routine maintenance of mine operating equipment includes, for example, oil, hydraulic fluid and tire changes and inspection, repair and replacement of dozer blade cutting edges, ripper points and shovel dipper teeth. Equipment in the mill, on the other hand, requires specialized technicians and sophisticated maintenance equipment because the mill is highly mechanized and computerized. The Company's operations require approximately one maintenance worker to support every 1.5 mine and mill workers.