

DATE OF LAST ENTRY: 6/28/2005

OPERATION NAME: Round Mountain

LOCATION

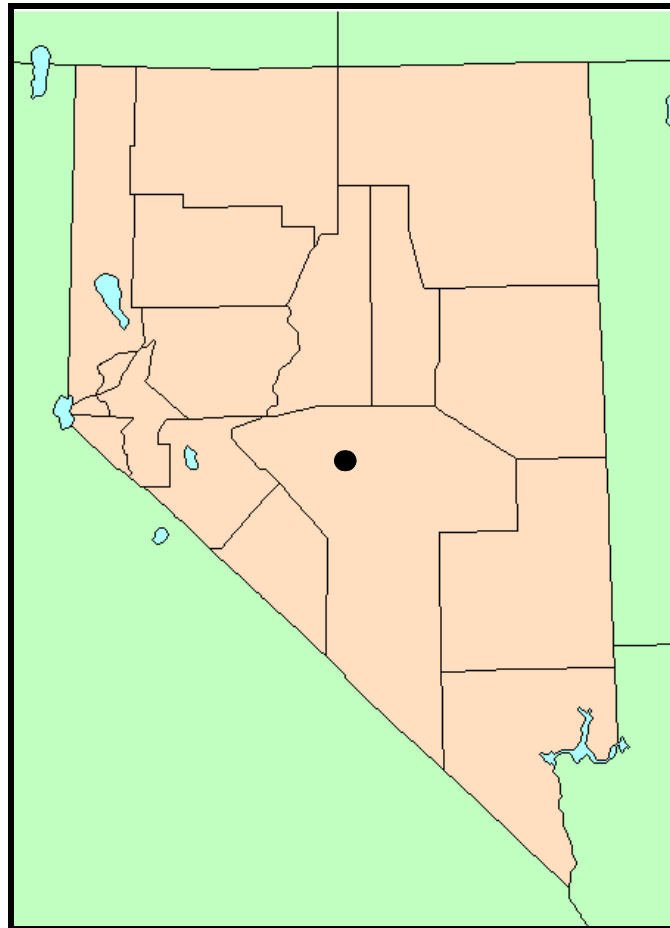
County: Nye State: Nevada Country: United States

250,000: 1 Scale Quad. : Tonopah, Nevada

24,000: 1 Scale Quad. : Round Mountain, Nevada
Carvers SE, Nevada

Elevation - Round Mountain - 5,800 to 6,800 feet

Round Mountain - Latitude: 38 deg. 42' 2" N. Longitude: 117 deg. 4' 37" W.



Nevada

Round Mountain - Sec. 19, 20, 29, 30
Gold Hill - Sec. 33

T. 10N.
T. 11N.

R. 44E.
R. 44E.

GEOLOGY

Regional Geological Setting

The Round Mountain mining district is located along the western flank of the central portion of the Toquima Range in south-central Nevada. Basement lithologies within this region are composed of deformed and metamorphosed Cambrian and Ordovician transitional facies quartzite, limestone and argillite. These units have been intruded by the Cretaceous Shoshone Mountain Granite (age - 95 Ma). The oldest Tertiary lithologies in the region are represented by an extensive, northeast trending rhyolitic, andesitic and monzonitic dike swarm (age - 34 to 37 Ma) and a small body of granodiorite, which cut the Shoshone Mountain Granite. This event was followed by a period of intense ash flow magmatism that resulted in the development of a number of calderas of early Oligocene to late Oligocene age (32 to 24 Ma). Within the south-central Toquima Range, the following calderas have been recognized: Dry Canyon Caldera (age - 32.2 Ma), Moores Creek Caldera (age - 27.0 Ma), Mount Jefferson Caldera (age - 26.7 Ma), Round Mountain Caldera (age - 26.5 Ma), Manhattan Caldera (age - 25.0 Ma) and Trail Canyon Caldera (age - 24.0 Ma). Basin and Range extensional faulting began 10 to 12 million years ago and has produced the present topography of north-northeast trending mountain ranges separated by basins filled of younger alluvial sediments.

Round Mountain

The Round Mountain gold mine is located above the northeast quadrant of the ring fracture that surrounds the Round Mountain Caldera. Much of the Round Mountain Caldera is concealed beneath younger alluvial sediments in Big Smokey Valley to the west. The southern margin of the Dry Canyon Caldera lies immediately north of Round Mountain. The late Oligocene stratigraphic section of the Round Mountain Caldera ($^{40}\text{Ar}/^{39}\text{Ar}$ age - 26.48 to 26.54 Ma) has been subdivided into lower and upper members. The lower member of the Round Mountain Tuff is characterized by a thick, densely welded rhyolitic tuff that wedges out northeastward against Paleozoic basement lithologies beneath Round Mountain and rapidly thickens to the west. It contains lenses of debris deposits and large blocks of pre-Cenozoic lithologies, which were derived from the walls of the caldera margin. This evidence suggests that the lower member fills the caldera, which collapsed during its eruption. After a brief period of inactivity, the upper member of the Round Mountain Tuff was deposited within the caldera. The principal host for the epithermal ores at Round Mountain, the upper member of the Round Mountain Tuff, represents a single cooling unit of rhyolitic tuff, which has been subdivided into three sub-members: a lower non-welded tuff, a middle densely welded tuff and a thin upper poorly welded tuff. At Round Mountain, the upper member is approximately 960 feet thick, but thickens gradually to the southwest to at least 1,280 feet. Coarse debris deposits of pre-Cenozoic rocks within the lower non-welded portion of the upper member, suggest that it was also deposited along an eroded caldera wall of considerable relief.

The upper member of the Round Mountain Tuff is overlain by the Stebbins Hill Sequence. Only preserved in the hanging wall of a northeast trending Basin and Range fault, this unit consists of up to 300 feet of tuffaceous sandstone,

conglomerate and fine-grained lacustrine sediments, which were deposited within an intracaldera lake. In the vicinity of Round Mountain, these units are argillized, locally silicified and are sufficiently cut by enough gold-bearing veins to constitute ore. Banded to nearly massive siliceous horizons within the upper portion of this unit may represent sinters formed around subaqueous hot springs. The youngest unit in the vicinity of Round Mountain is the Big Smokey Valley Tuff ($^{40}\text{Ar}/^{39}\text{Ar}$ age - 26.07 Ma). Although most of this unit has been removed by later erosion, the preserved section (thickness - 100 feet) of this rhyolite is characterized by an unaltered non-welded base overlain by a densely welded vitrophyre that passes upward into a densely welded devitrified lithology. Unaltered, the Big Smokey Valley Tuff, places a lower limit on the age of the hydrothermal system at Round Mountain.

Most of the epithermal quartz-gold-silver ores (age - 26.1 to 26.5 Ma) at Round Mountain are hosted by the upper member of the late Oligocene Round Mountain Tuff. Auriferous ores within the upper densely welded sub-member of this unit are fracture controlled, occurring within sheeted, northwest to west-northwest striking vein systems, localized within oblique-slip faults and related joints, stockworks of quartz-adularia veinlets and breccia zones. Most of the ore reserves at Round Mountain are hosted by the lower unwelded tuff of the upper member of the Round Mountain Tuff, where the gold is finely disseminated throughout this permeable host.

The unoxidized hypogene ore assemblage consists of pyrite and electrum with trace amounts of marcasite, galena, sphalerite, chalcopyrite, pyrrothite, tetrahedrite, arsenopyrite, pyrrargyrite and gold-silver tellurides. These sulfides have been oxidized to a depth of up to 1,000 feet. Oxidized ores are characterized by the assemblage: goethite, hematite, jarosite, manganese oxides, kaolinite, alunite, chalcedony and electrum. Observed alteration assemblages include propylitic alteration, potassic alteration, silicification and argillization.

Gold Hill

Located about five miles north of Round Mountain, the stratigraphic section at Gold Hill consists of a basal densely welded rhyolitic ash flow tuff (K-Ar age - 27.3 Ma), which is overlain by a poorly welded, pumice-bearing rhyolitic ash-flow tuff, thin to medium-bedded tuffaceous sandstone and conglomerate and an opalized tuffaceous breccia or conglomerate. Located approximately one mile west of the ring fracture of the Mount Jefferson Caldera, these units strike NNE and dip to the west at 15 to 25 degrees.

The epithermal quartz-gold-silver ores at Gold Hill (K-Ar age - 26.4 Ma) are localized within six, $\text{N}60^{\circ}\text{-}80^{\circ}\text{W}$ striking chalcidonic quartz veins, which cut all units of the mine stratigraphic sequence and dip steeply to the north or south. Their dips lessen with depth and the veins converge or trend toward convergence to the east. The principal area of mineralization measures 1,200 feet long by 200 to 600 feet wide. From north to south, the veins include the Philadelphia or North Vein, Volcano Vein, Gold Hill Vein, Silver Vein, No. 1 South Vein and No. 2 South Vein. Most of the historic production from Gold Hill was derived from the Gold Hill Vein, which ranged from two to eight feet in width.

The tilted stratigraphic section at Gold Hill, exposes a classic cross-section of an epithermal volcanic-hosted gold system. In deeper portions of the system, the ores are hosted by six veins that cut the densely welded ash flow tuff.

These veins flare outward as the paleodepth decreases to the west. The opalized tuffaceous breccia or conglomerate, outcropping to the west of the Gold Hill shaft, lies within the hanging wall of a N30°E trending Basin and Range fault. In this area, the presence of large float blocks of layered chalcedonic quartz is consistent with the uppermost levels of the hydrothermal system. Furthermore, exploration drilling of the alluvial-covered area to the west of these outcrops has encountered a gently dipping stratiform body of banded, chalcedonic quartz. Located at a depth of 400 feet, this siliceous horizon ranges from 100 to 200 feet thick. It appears to represent a siliceous sinter, which was deposited at the paleosurface at the time of the mineralization at Gold Hill and was subsequently preserved in the down thrown fault block west of the mine.

HISTORY

Year of Discovery

Discovered By

Round Mountain - February 1906
Gold Hill - 1910

John Stebbins and Frank Dixon

Exploration Methods Leading to Discovery: Surface Prospecting

Summary: John Stebbins and Frank Dixon staked the first claims (Sunnyside #1-3) at Round Mountain in February 1906. Organized by Goldfield investors, the Round Mountain Mining Company purchased the original Sunnyside claims in April 1906 and was producing gold at a two-stamp mill by August 1906. Placer gold was discovered at Round Mountain by T. Wilson in September 1906. Additional discoveries at Gold Hill in 1910, resulted in a brief rush. Other early operations at Round Mountain included the Fairview Round Mountain Mining Company, Round Mountain Daisy Mining Company, Round Mountain Sphinx Company, Round Mountain Red Top Company and the Round Mountain Red Antelope Mining Company. Lode gold production at Round Mountain remained relatively high through 1919, but declined significantly during the 1920's. During this time, the Round Mountain Mining Company continued to absorb its competitors until 1929, when the remaining companies consolidated to form Nevada Porphyry Mines, Inc. This firm continued to operate Round Mountain's lode mines until July 1936, when the reserves were exhausted. The major period of production at Gold Hill began in 1930 with the sinking of a shaft and the erection of a mill by the Tonopah Mining Company and the Tonopah Belmont Development Company. Lode mining continued here until the beginning of World War II. The major producers after the war were the placer operations, which employed a 15,000-stpd dry land washing plant from 1950 until their closure in 1957. The Ordrich Gold Reserves Company purchased the Round Mountain property from Nevada Porphyry Gold Mines, Inc. in 1968.

The Copper Range Company initially became interested in the placer potential of the Round Mountain property in 1969. They acquired an option to purchase the property in June 1970, which allowed Ordrich an option to participate as a joint venture partner in its development. The resource potential of the placer deposits was the first to be tested. The Copper Range Company joint ventured the Round Mountain property with the Felmont Oil Company and Essex Royalty in the spring of 1972. The examination of the lode deposits began during the summer of 1972. A feasibility study was completed in October 1972. Although it concluded that production from the placer deposits was not warranted due to economic

considerations, it recommended further studies on the lode mineralization. The joint venture decided to exercise its option to acquire the property in November 1972. The decision to proceed with the development of the property was made in December 1973. Construction began in July 1975, pre-production mining commenced in January 1976 and the first ore was delivered to the crusher in August 1976. The first bullion was poured in February 1977.

The Louisiana Land and Exploration Company acquired an interest in the Round Mountain property in May 1977 through its merger with Copper Range. The Felmont Oil Company was purchased by Homestake in June 1984 and Louisiana Land's interest was acquired by Echo Bay Mines in January 1985. In January 1989, Echo Bay Mines and its joint venture partners at Round Mountain merged their independently held properties in the vicinity of the mine. Echo Bay's Manhattan mill began processing high-grade ores (0.16 oz. Au/ton) from Round Mountain in March 1989. Milling of Round Mountain's high-grade ores at the Manhattan facility was suspended in December 1990, when the capacity of the tailings pond was reached. A small gravity plant was commissioned at Round Mountain's processing facility in September 1992, to treat high-grade ore (2.0 oz. Au/ton) discovered in April 1992. Treatment of low-grade ores, using dedicated leach pads began in November 1992. The original north crusher and reusable leach facility were decommissioned in January 1993 to allow for the expansion of the open pit.

The decision to erect an 8,000-stpd gravity/cyanide mill, designed to process Round Mountain's unoxidized ores, was made in the fall of 1994. Metallurgical studies indicated that the proposed facility could recover 80 to 85% of the contained gold within these ores compared to less than 50% by heap leaching methods. Construction of this facility began in April 1996 and was completed in October 1997 at total cost of \$62.2 million. The Homestake Mining Company purchased Case Pomeroy's 25% interest in the Round Mountain project in July 2000. In December 2001, Barrick Gold Corporation acquired a 50% interest in the project through its merger with the Homestake Mining Company. Kinross Gold Corporation acquired a 50% interest in the project with its merger with Echo Bay Mines Ltd. in January 2003. Mining operations are expected to be completed at Round Mountain in 2006, assuming that no additional reserves are found. Processing of the ore stockpiles will continue until 2008.

Early Mines: Sunnyside-Los Gazabo, Blue Jacket, Fairview, Daisy, Sphinx, Red Top and Gold Hill

Early Production

ROUND MOUNTAIN MINING DISTRICT

Period	Ore Treated		Au Troy Oz.	Ag Troy Oz.
	Lode Ore Short Tons	Placer Ore Cubic Yds.		
1906-1969	936,962	-	346,376	362,355
1906-1969	-	4,000,000	208,200	75,000
1976-2004	711,689,500	-	9,474,653	7,431,705
1906-2004	712,626,462	4,000,000	10,029,229	7,869,060

Note: Most of the early production from the Round Mountain mining district was derived from mines located at Round Mountain. However, production from the Gold Hill operation, located approximately five miles north of Round Mountain, is also included within the Round Mountain mining district production statistics. The Gold Hill operation was active from 1930 through 1942. During this period, it is estimated to have produced approximately 117,460 tons of lode ore, yielding 41,244 ounces of gold and 247,960 ounces of silver.

SUMMARY OF RECENT MINING ACTIVITY

Deposits: Round Mountain and Gold Hill

Present Status: Round Mountain - Producing
Gold Hill - Exploration

Commodities

Major Products: Gold
By-products: Silver and Mercury

Operator

Name: Round Mountain Gold Corporation
Address: P. O. Box 480
Round Mountain, Nevada 89045

Phone: (775) 377-2366

Mine Manager: Mike Iannacchi one, General Manager

Owner(s)

Name(s): Kinross Gold Corporation (50%)
Barrick Gold Corporation (50%)

Important Dates

Property Acquired/Discovered: June 1970 (Copper Range acquisition)
Decision to Proceed with Development: December 1973
Mine Development Began: July 1975
First Bullion Poured: February 1977

Time from Acquisition/Discovery to Initial Production: 6.7 years
Initial Development Time: 19 months

Work Force

Number of Employees:	590 (1990)	508 (1994)	646 (1998)	613 (2002)
	559 (1991)	555 (1995)	670 (1999)	655 (2003)
	529 (1992)	599 (1996)	678 (2000)	640 (2004)
	487 (1993)	648 (1997)	648 (2001)	

Union/Nonunion: Non-union

Mining

Method(s): Open Pit - Round Mountain is conventional open pit mining operation, which employs electric shovels, front end loaders and 150, 190 and 240-ton haul trucks. The mine is excavated on 35-foot benches with a bench face angle of 62.4 degrees and safety benches set at minimum distance of 28 feet. Overall pit slopes are 45 degrees throughout the mine, except for the southwest sector, where they are maintained at 42.6 degrees. Permanent haul road widths of 100 to 140 feet (two lane traffic) are designed with maximum grades of 10 to 11 %. Blasthole drilling is done on a 16-foot by 16-foot pattern in ore and 18-foot by 18-foot pattern in waste. Footage per tricone bit averages 6,500 feet. Powder factors (Anfo) for ore and waste are 0.71 lbs./short ton and 0.37 lbs./short ton, respectively. As of 12/31/2002, the pit dimensions is 8,200 feet long (NW-SE) by 5,000 feet wide (NE-SW) and 1,295 feet from the top bench to the bottom bench.

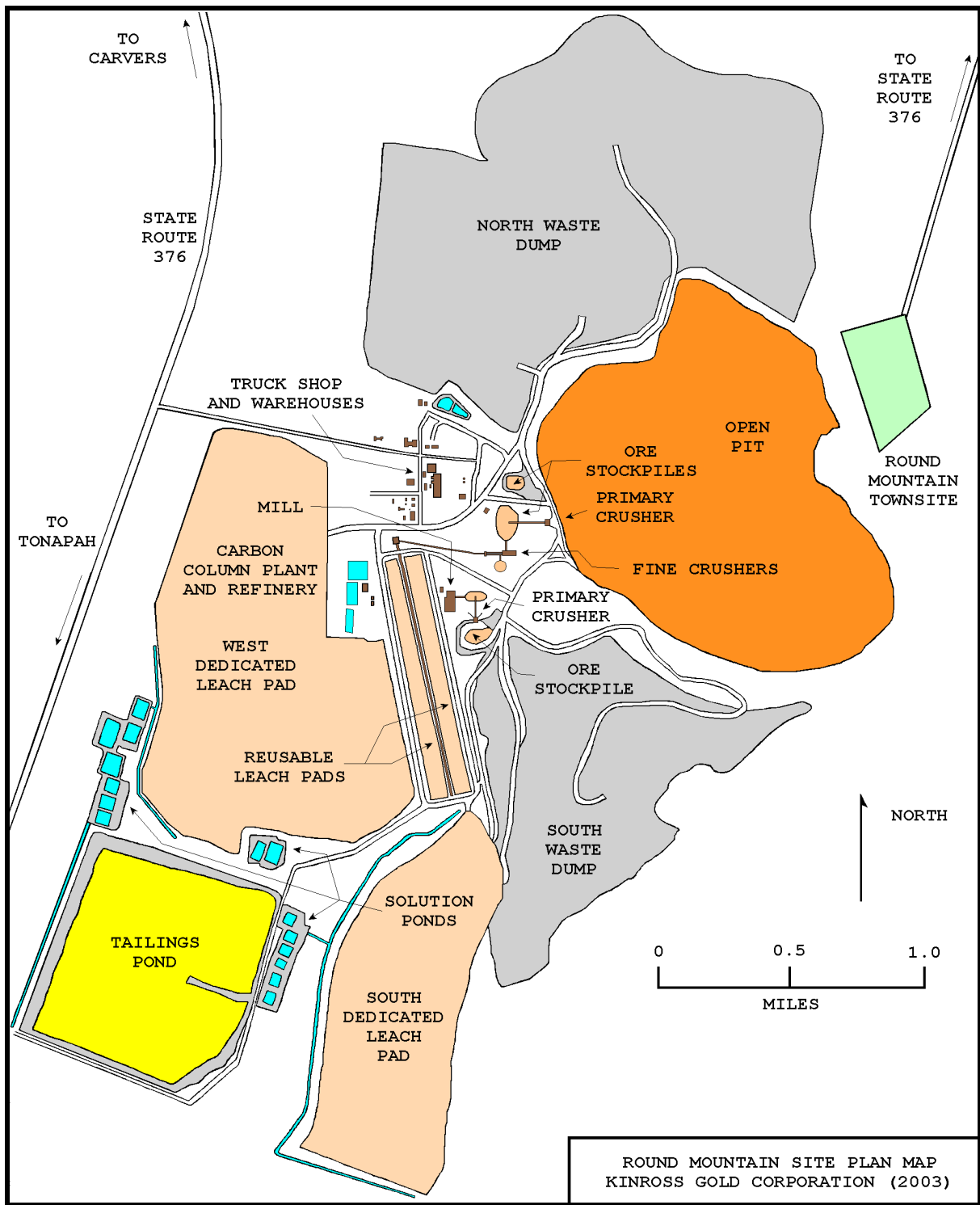
Major mining equipment include two Ingersoll-Rand DM50 rotary blasthole drills, two Ingersoll-Rand DM50E rotary blasthole drills, one Ingersoll-Rand DML rotary blasthole drill, three 28-cubic yd. P&H 2300 XPA shovels, one Cat 5230 shovel, one 26-cubic yd. Komatsu WA1200 front end loader, two Cat 992G front end loaders, three Cat 992C front end loaders, one Cat 992D front end loader, two 85-ton Cat 777B haul trucks, eleven 150-ton Cat 785 haul trucks, fourteen 190-ton Cat 789 haul trucks and twelve 240-ton Cat 793 haul trucks (2003). Support equipment include three Cat D10R tracked dozers, one Cat D10N tracked dozer, two Cat D11R tracked dozers, three Cat 16G graders, one Cat 16H grader and one Cat 245 excavator (2003).

Mining Costs - Year	Mining Costs \$ US/Ton Ore and Waste Mined	Year	Mining Costs \$ US/Ton Ore and Waste Mined
1985	0.82	1995	0.61
1986	0.58	1996	0.69
1987	0.50	1997	0.65
1988	0.57	1998	0.66
1989	0.63	1999	0.73
1990	0.70	2000	0.83
1991	0.68	2001	0.83
1992	0.62	2002	0.66
1993	0.60	2003	0.83
1994	0.53	2004	0.45

Note: The components of the 2001 mining costs on a functional basis include hauling (\$0.31/ton), loading (\$0.12/ton), general mining (\$0.11/ton), drilling and blasting (\$0.16/ton) and pits, haul roads and dumps (\$0.13/ton). The components of the 2001 mining costs on a unit basis include labor (\$0.33/ton), other costs (\$0.11/ton), maintenance and materials (\$0.13/ton), diesel (\$0.12/ton) and operating materials (\$0.14/ton).

Mining Performed by: In house

Distance to Process Facilities: Round Mountain Mill - 1 mile
 Reusable Heap Leach - 0.7 to 1.4 miles
 Dedicated Heap Leach - 1.4 to 3.2 miles
 Manhattan Mill - 17 miles (1989-1990)



Mining Rates:

7,500 short tons/day (1977)
 8,400 short tons/day (1978)
 11,600 short tons/day (1979)
 19,700 short tons/day (1980)
 31,000 short tons/day (1981)
 24,500 short tons/day (1982)
 31,500 short tons/day (1983)
 48,000 short tons/day (1985)
 65,000 short tons/day (1986)
 104,000 short tons/day (1987)
 134,000 short tons/day (1988)
 135,000 short tons/day (1989)
 131,000 short tons/day (1990)
 137,000 short tons/day (1991)

Open Pit

144,000 short tons/day (1992)
 158,000 short tons/day (1993)
 161,000 short tons/day (1994)
 169,000 short tons/day (1995)
 164,000 short tons/day (1996)
 197,000 short tons/day (1997)
 193,500 short tons/day (1998)
 216,300 short tons/day (1999)
 191,700 short tons/day (2000)
 192,400 short tons/day (2001)
 173,000 short tons/day (2002)
 134,200 short tons/day (2003)
 108,800 short tons/day (2004)

Waste: Ore Ratio:

		Open Pit		
0.68: 1 (1977)	2.18: 1 (1982)	1.70: 1 (1990)	0.80: 1 (1995)	0.82: 1 (2000)
0.83: 1 (1978)	2.13: 1 (1983)	2.10: 1 (1991)	0.80: 1 (1996)	1.01: 1 (2001)
1.40: 1 (1979)	3.15: 1 (1984)	2.00: 1 (1992)	1.20: 1 (1997)	1.09: 1 (2002)
2.22: 1 (1980)	2.52: 1 (1985)	1.20: 1 (1993)	2.08: 1 (1998)	1.18: 1 (2003)
3.81: 1 (1981)	1.70: 1 (1989)	1.20: 1 (1994)	1.40: 1 (1999)	0.67: 1 (2004)

Estimated Waste: Ore Ratio for Remaining Life of Mine - 0.53: 1 (12/31/2002)

Cut-off Grade: Reusable Heap Leach - Oxide Ore - >0.012 Oz. Au/T (1988-1990)
 >0.018 Oz. Au/T (1997-2002)

Low Grade Stockpile - 0.008-0.012 Oz. Au/T (1988-1990)

Dedicated Heap Leach - Oxide Ore - 0.006-0.018 Oz. Au/T (1997-2002)
 Unoxidized Ore - 0.010-0.018 oz. Au/T (1997-2002)

Mill - Unoxidized Ore - >0.018 Oz. Au/T (1997-2003)

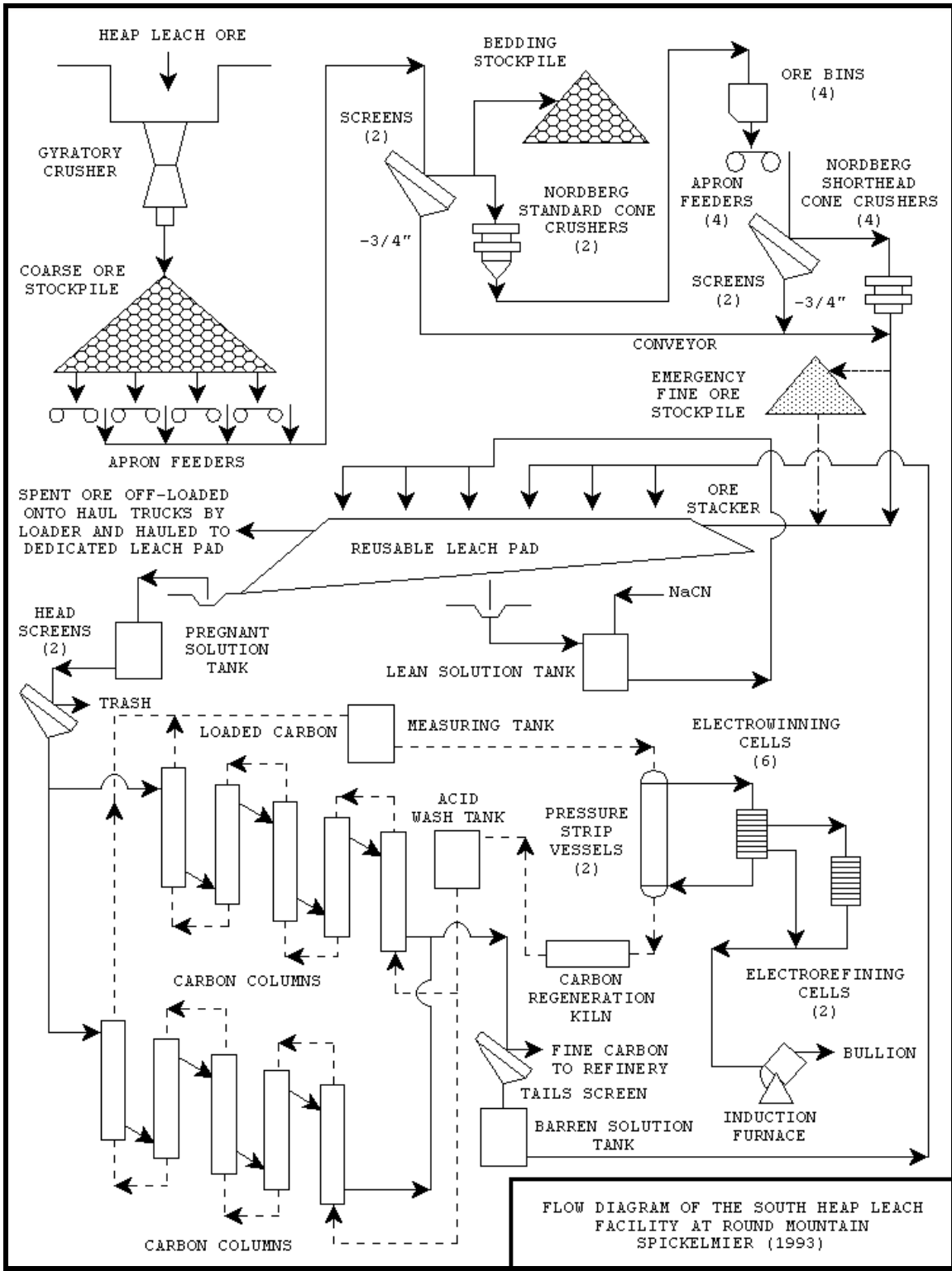
Waste - Oxide Ore - <0.008 Oz. Au/T (1988-1990)
 <0.006 Oz. Au/T (1991-2002)

Unoxidized Ore - <0.008 Oz. Au/T (1988-1990)
 <0.009 Oz. Au/T (1991)
 <0.010 Oz. Au/T (1992-2002)

Processing

Ore Type(s): Oxide, Unoxidized

Method(s): Reusable Heap Leach (1993) - The heap leach ores were initially treated at the north leach facility, which employed a single reusable leach pad (3,125 feet long and 280 feet wide). Crushed ore was loaded on this pad by haul trucks and stacked with dozers. After leaching was completed, the ores were washed and off-loaded into haul trucks for transport to the waste dumps. An oil fired, leach solution heating system was used during the winter months. The north leach facility was decommissioned in January 1993 to make way for the open pit expansion.



FLOW DIAGRAM OF THE SOUTH HEAP LEACH FACILITY AT ROUND MOUNTAIN
 SPICKELMIER (1993)

The 30,000 ton/day south leach facility was completed in February 1989 and is currently used to process the higher-grade, oxide leach material at Round Mountain. It consists of two parallel, reusable leach pads, each measuring 4,000 feet long by 375 feet wide. A geothermal field adjacent to the south pads is employed to heat the leach solution during the winter season. A description of this facility follows.

At the south leaching facility, the higher grade leach material is reduced to minus 3/4-inches by a primary Fuller-Taylor (60-inch by 89-inch) gyratory crusher, two secondary 7-foot Nordberg standard cone crushers and four tertiary 7-foot Nordberg shorthead cone crushers. Quicklime (3 lbs./ton of ore) is added to the ore within the crushing circuit to ensure a homogeneous mixture. The ore is transported from the crushing circuit to the reusable leach pads via a conveyor system and is stacked in a single 35-foot lift by a linear stacking system (traveling tripper and bridge system). A dilute sodium cyanide solution (0.5 lbs./ton of solution) is applied to the ore by a wobbler sprinkler system. After the leaching of the ore in a section of the pad has been completed (leached for 100 days in 1997-2002), the leach solution is drained. The spent ore is rinsed with fresh water, drained again and off-loaded onto 150-ton haul trucks by a front end loader for re-leaching on the low cost, dedicated leach pads.

Pregnant solutions from the leaching operation are directed to the south processing plant, where two sets of five carbon columns are employed to recover the precious metals from the pregnant solutions. Loaded carbon from the carbon columns is stripped by two pressure strip vessels, where the precious metals are desorbed by a sodium cyanide (3 lbs./ton of solution) and caustic soda (12 lbs./ton of solution) solution at a temperature of 280 degrees F. and a pressure of 60-psi. The stripped carbon is reactivated in a rotary kiln at 1,300 deg. F and washed with a 3% nitric acid solution, before being returned to the carbon adsorption circuit. The pregnant strip solution passes through a heat exchanger, which cools the pregnant strip solution and preheats the barren strip solution. The pregnant strip solution (10-15 oz. Au/ton of solution) is distributed to six electrowinning cells, each containing eight stainless steel wool cathodes and ten stainless steel anode plates. The loaded stainless steel wool cathodes are washed with a high pressure spray, removing approximately 80% of gold and silver. The steel wool cathodes are then deposited in a cathode basket, which is placed in an electro-refining cell, where the remaining gold and silver deposits as foil onto a stainless steel cathode plate. The electrowinning sludge and foil are combined and smelted in a bar furnace. The final bullion product is shipped to the Johnson Matthey refinery in Salt Lake City.

Dedicated Heap Leach - Treatment of uncrushed, low-grade ores (cutoff grade - 0.006 oz. Au/ton) began in November 1992 with the commissioning of the South Dedicated Leach Pad. Loading of the South Dedicated Leach Pad (capacity - 183 million tons) will be completed during 2003. Commissioning of the West Dedicated Leach pad (planned ultimate capacity - 350 million tons) began in 1997.

These ores are truck dumped onto a dedicated leach pad in 50-foot lifts, where they are leached by a weak cyanide solution. After a leach cycle of approximately 100 days, an additional lift is added and leaching resumed. These heaps will reach an ultimate height of 400 feet.

Manhattan Mill - During 1989-1990, high-grade ores were shipped to the Manhattan mill, which included grinding, gravity, flotation and agitation leach circuits. The precious metals were recovered by Merrill-Crowe precipitation.

Gravity Plant (2003) - Limited amounts of high-grade ore containing coarse gold were discovered in April 1992. Treatment of this material by a 500-stpd gravity plant began in late September 1992. These ores are initially passed through stationary and vibrating grizzlies, removing the plus 4-inch fraction. The undersize is fed through a trommel, which scalps off the plus 0.75-inch fraction, while the undersize reports to a sluice and is sized by a cluster of cyclones. The cyclone overflow reports to a screw classifier, while the cyclone underflow is cleaned by a series of jigs. Final recovery is performed by a table or gold wheel. Since the fall of 1997, the tails from the gravity plant have been directed through the sulfide mill for further cleaning and disposal.

Round Mountain Sulfide Mill (2003) - In the fall of 1994, a decision was made to erect an 8,000-stpd gravity/cyanide mill, which is designed to treat the unoxidized ores at Round Mountain. Construction of this facility was completed in October 1997 at a total cost of \$62.2 million. It achieved commercial production in November 1997.

Crushed ore is initially reduced to 80% minus 20-mesh by the grinding circuit and screened with the minus 28-mesh fraction reporting to a rougher spiral. Gold and auriferous pyrite are recovered by a gravity circuit, which consists of 144 rougher spirals, 42 cleaner spirals, eight recleaner spirals, one rougher table and one cleaner table. The rougher and cleaner spiral circuits remove approximately 96% of the mill feed (355 tons/hour), which reports to a 110-foot diameter tailings thickener prior to final disposal at the tailings impoundment. The cleaner spiral concentrates (4% of the mill feed) report to the recleaner spirals, which produce a concentrate that is upgraded by two stages of tabling to produce a final gold-silver concentrate product that reports to refinery. The recleaner spiral tails are reground and report to a carbon-in-leach circuit for final gold recovery.

Heap Leaching Costs - Year	Heap Leach Costs \$ US/Ton Leached	Year	Heap Leach Costs \$ US/Ton Leached
1985	1.13	1994	0.66
1986	1.18	1995	0.65
1987	1.60	1996	0.80
1988	1.75	1997	0.61
1989	1.54	1998	0.74
1990	1.74	1999	0.68
1991	1.66	2000	0.68
1992	1.54	2001	0.82
1993	0.91	2002	0.84

Milling Costs - Year	Milling Costs \$ US/Ton Milled	Year	Milling Costs \$ US/Ton Milled
1997	4.38	2000	2.80
1998	3.36	2001	3.07
1999	2.92	2002	3.18

Design Capacity:	Reusable Heap Leach Pads
7,000 short tons/day (1977-1982)	35,000 short tons/day (1987-1988)
14,000 short tons/day (1983-1985)	45,000 short tons/day (1989-1992)
18,000 short tons/day (1985-1987)	30,000 short tons/day (1993-2004)

Round Mountain Mill

8,000 short tons/day (1997-2000) 10,000 short tons/day (2000-2004)

Other Mills

Manhattan Mill Round Mountain Gravity Plant
 1,000 short tons/day (1989-1990) 500 short tons/day (1992-2004)

Actual Processing Rate: Reusable Heap Leach Pads

4,000 short tons/day (1977)	44,339 short tons/day (1991)
4,500 short tons/day (1978)	43,947 short tons/day (1992)
5,500 short tons/day (1979)	28,329 short tons/day (1993)
6,100 short tons/day (1980)	18,980 short tons/day (1994)
6,400 short tons/day (1981)	22,490 short tons/day (1995)
7,700 short tons/day (1982)	27,737 short tons/day (1996)
10,048 short tons/day (1983)	26,608 short tons/day (1997)
12,496 short tons/day (1984)	18,953 short tons/day (1998)
15,170 short tons/day (1985)	15,602 short tons/day (1999)
18,770 short tons/day (1986)	24,335 short tons/day (2000)
31,482 short tons/day (1987)	23,342 short tons/day (2001)
35,637 short tons/day (1988)	26,690 short tons/day (2002)
44,070 short tons/day (1989)	19,488 short tons/day (2003)
43,766 short tons/day (1990)	23,303 short tons/day (2004)

Dedicated Leach Pads

2,615 short tons/day (1992)	120,020 short tons/day (1999)
39,379 short tons/day (1993)	141,047 short tons/day (2000)
54,161 short tons/day (1994)	127,227 short tons/day (2001)
66,197 short tons/day (1995)	133,740 short tons/day (2002)
87,706 short tons/day (1996)	145,523 short tons/day (2003)
107,716 short tons/day (1997)	169,392 short tons/day (2004)
101,892 short tons/day (1998)	

Mill

480 short tons/day (1989)	9,304 short tons/day (2000)
616 short tons/day (1990)	10,143 short tons/day (2001)
4,349 short tons/day (1997)	10,038 short tons/day (2002)
7,993 short tons/day (1998)	7,425 short tons/day (2003)
8,083 short tons/day (1999)	9,753 short tons/day (2004)

Note: Average processing rates have been reported by Echo Bay Mines Ltd., Kinross Gold Corporation and Barrick Gold Corporation.

Metalurgical Recovery: Reusable Heap Leach Pads

64.5% Au (1980)	63.8% Au (1987)	78.7% Au (1994)	77.4% Au (2001)
62.0% Au (1981)	63.7% Au (1988)	70.9% Au (1995)	61.3% Au (2002)
64.0% Au (1982)	64.8% Au (1989)	66.1% Au (1996)	69.5% Au (2003)
64.0% Au (1983)	74.7% Au (1990)	74.9% Au (1997)	- % Au (2004)
66.7% Au (1984)	65.9% Au (1991)	70.6% Au (1998)	
72.9% Au (1985)	58.1% Au (1992)	73.4% Au (1999)	
69.0% Au (1986)	69.4% Au (1993)	61.6% Au (2000)	

Note: Reusable heap leach recovery factors are reported by Echo Bay Mines Ltd. and Kinross Gold Corporation. Silver recoveries are approximately 50% Ag (1987).

Cumulative Recoveries for Dedicated Leach Pads

- % Au (1992)	48.7% Au (1996)	52.4% Au (2000)	- % Au (2004)
28.4% Au (1993)	49.2% Au (1997)	55.4% Au (2001)	
48.3% Au (1994)	51.4% Au (1998)	56.7% Au (2002)	
48.7% Au (1995)	49.9% Au (1999)	58.7% Au (2003)	

Note: Estimated cumulative gold recoveries for the dedicated leach pads have been calculated from reported production data. Ultimate gold recoveries for the dedicated leach pads has been estimated to be approximately 65%.

Mill

92.0% Au (1989)	77.9% Au (1998)	83.7% Au (2001)	84.1% Au (2004)
93.2% Au (1990)	87.0% Au (1999)	84.6% Au (2002)	
60.0% Au (1997)	83.1% Au (2000)	85.7% Au (2003)	

Note: Mill recovery factors are reported by Echo Bay Mines Ltd., Kinross Gold Corporation and Barrick Gold Corporation.

Metals Production

Year	Round Mountain Sulfi de Mill Troy Oz.	Gravi ty Plant Troy Oz.	Manhattan Mill Troy Oz.	Reusabl e Heap Leach Troy Oz.	Dedi cated Heap Leach Troy Oz.	Total Producti on Troy Oz.
1989	-	-	18,660	286,226	-	304,886
1990	-	-	16,228	431,872	-	448,100
1991	-	-	-	321,396	-	321,396
1992	-	52,020	-	311,701	-	363,721
1993	-	53,376	-	256,784	62,368	372,528
1994	-	33,052	-	216,710	173,544	423,306
1995	-	12,244	-	192,052	138,700	342,996
1996	-	12,550	-	231,420	167,004	410,974
1997	6,410	7,194	-	268,518	195,558	477,680
1998	97,686	9,044	-	182,378	221,396	510,504
1999	157,901	27,094	-	140,988	215,825	541,808
2000	139,870	6,950	-	141,176	352,132	640,128
2001	156,854	642	-	219,704	369,750	746,950
2002	153,946	10,774	-	242,808	347,966	755,494
2003	124,341	8,966	-	230,773	421,218	785,298
2004	-	-	-	-	-	762,968

Note: Prior to 1989, all gold production was derived from the reusable heap leach pads.

Bullion Content: 50-68% Au 32-50% Ag (1977-2004)

Financial Data

Method of Acquisition

Year	Company	Method
1970	Copper Range	Copper Range acquired an option to purchase the Round Mountain property from the Ordriech Gold Reserves Company in June 1970.
1972	Essex/Felmont	Copper Range joint ventured the Round Mountain property with Essex Royalty and the Felmont Oil Company.
1977	LL & E	The Louisiana Land and Exploration Company acquired a 50% interest in Round Mountain through its merger with the Copper Range Company in May 1977.
1984	Homestake	The Homestake Mining Company acquired a 25% interest in the Round Mountain property through its merger with the Felmont Oil Company. This transaction involved the exchange of 12,058,000 shares of Homestake stock.
1985	Echo Bay	Echo Bay Mines Ltd. acquired a 50% interest in the Round Mountain project through its purchase of the Copper Range Company from the Louisiana Land and Exploration Company in January 1985.
1989	Round Mountain	In January 1989, Echo Bay Mines Ltd., Homestake Mining Company and Case, Pomeroy and Company, Inc. contributed their independently held properties (includes Manhattan and Gold Hill) in the vicinity of the Round Mountain project to the joint venture.
2000	Homestake	In July 2000, the Homestake Mining Company increased their interest in Round Mountain from 25% to 50% with the purchase of a 25% interest in the project from Case, Pomeroy and Company, Inc.
2001	Barrick	In December 2001, the Barrick Gold Corporation acquired a 50% joint venture interest in the Round Mountain operation through its merger with the Homestake Mining Company.
2003	Kinross Gold	In June 2002, Kinross Gold Corporation, Echo Bay Mines Ltd. and TVX Gold, Inc. entered into an agreement to merge their businesses. This merger was effected by way of a plan of arrangement under the Canada Business Corporations Act on January 31, 2003.

Acqui si ti on Expendi tures

Year	Costs \$ US	Comments
1977	51,200,000	The Louisiana Land and Exploration Company acquired a 50% interest in Round Mountain through its merger with the Copper Range Company. This transaction was accomplished by a stock exchange, valued at \$51.2 million. Other assets of the Copper Range Company included the White Pine Copper mine in Michigan.
1984	404,000,000	Estimated cost of the Homestake merger with the Felmont Oil Company, who held a 25% interest in the Round Mountain property.
1985	65,600,000	Echo Bay Mines Ltd. acquired the Copper Range Company from the Louisiana Land and Exploration Company. Copper Range's holdings included Round Mountain (valued at \$34.4 million at time of purchase) and the White Pine copper mine. Echo Bay sold the White Pine copper mine for \$23.7 million in October 1985.
1989	5,200,000	Echo Bay received a cash payment of \$5.2 million from the Round Mountain partners, based on the relative value of the properties contributed to the joint venture.
2000	42,600,000	In July 2000, the Homestake Mining Company increased its interest in the Round Mountain property from 25% to 50% with the purchase of a 25% interest in the joint venture from Case, Pomeroy and Company, Inc. The \$42.6 million purchase price included \$25.9 million in cash and 2.6 million newly issued common shares of Homestake, valued at \$16.7 million.
2001	-	In December 2001, the Barrick Gold Corporation acquired a 50% joint venture interest in the Round Mountain project through its merger with the Homestake Mining Company. According to the terms of this merger, Barrick Gold Corporation agreed to issue 0.53 shares of Barrick Gold common stock for each outstanding share of Homestake.

Expl orati on Expendi tures (Fi scal Years Ended 12/31)

Year	Costs \$ US	Comments
1970-1973	1,625,000	Estimated pre-development expenditures were between \$1.5 and \$1.75 million.
1988-1990	8,000,000	Estimated cost of an exploration program designed to test Round Mountain's deep ore reserves, which began in April 1988 and consisted of driving a decline, underground drifting and core drilling.

Year	Costs \$ US	Comments
1997	1,000,000	Exploration expenditures for 1997.
1998	1,226,000	Exploration expenditures for 1998 included drilling three of eleven identified exploration targets on the mine property. Located beneath shallow pediment cover north of the mine, two of these targets yielded low-grade gold values.
1999	862,000	Exploration expenditures for 1999 included the testing of six exploration targets with 96 reverse circulation drill holes, totaling 44,920 feet. Pediment targets were drilled north of the mine without success.
2000	1,058,000	Exploration expenditures for 2000 included testing four exploration targets with 27 reverse circulation drill holes, totaling 28,290 feet. Preliminary results of this program indicate that additional drilling is warranted on one of these targets.
2001	1,326,000	Exploration expenditures for 2001 included an ongoing exploration drilling program at Gold Hill, which included 29 drill holes, totaling 47,126 feet. In addition to the Gold Hill drilling project, exploration activities included an additional 164 reverse circulation drill holes, totaling 35,260 feet.
2002	2,018,000	Exploration expenditures for 2002 included 111 drill holes totaling 72,161 feet at Gold Hill, 19 dump evaluation holes (5,495 feet) and 77 reverse circulation drill holes totaling 33,475 feet at Round Mountain (Deep Northwest, Northwest Pit and South Pit Wall Targets).
1970-2002	-	As of 12/31/2002, exploration activities at Round Mountain have included 277 diamond drill holes (332,941 feet), 3,812 reverse circulation holes (1,849,144 feet) and 1,293 dump evaluation drill holes (148,755 feet).
2003	4,200,000	Exploration expenditures for 2003 were mainly focused on the Gold Hill area, where 50 drill holes (86,843 feet) were completed.
2004	-	Exploration expenditures for 2004 were mainly focused on the Gold Hill area, where 76 diamond and reverse circulation drill holes (68,000 feet) were completed. An additional 28 drill holes (34,000 feet) examined peripheral areas.

Capital Expenditures (Fiscal Years Ended 12/31)

Year	Costs \$ US	Comments
1975-1977	18,000,000	Capital costs to initially place the Round Mountain property in production were approximately \$18 million.
1979	-	Installed a leach solution heating system.
1980-1981	8,000,000	Expanded mining activities, which included the purchase of new mining equipment.
1985	6,800,000	Capital expenditures for 1985 (US \$6.8 million) included the purchase of additional mining equipment (\$4.5 million) and development projects (\$2.3 million), which were designed to improve gold recoveries and test Type II mineralization. The leach pads were also expanded by 25%.
1986	11,000,000	Capital expenditures for 1986 (US \$11.0 million) included additional test work to examine the feasibility of a major production expansion program. Work included driving a ramp down to the Type II ore in order to obtain a bulk sample for metallurgical testing.
1987	40,400,000	Capital expenditures for 1987 (US \$40.4 million). A major production expansion program began at Round Mountain during 1987.
1988	77,200,000	Capital expenditures for 1988 (US \$77.2 million) included an ongoing expansion program at Round Mountain.
1989	37,200,000	Capital expenditures for 1989 (US \$37.2 million) included the completion of an expansion program at Round Mountain. Between 1987-1989, a \$134 million expansion program increased the daily mining rate at Round Mountain from 66,000 to 135,000 tons. This project included new mining equipment, a 30,000 ton/day crushing plant, materials handling system and asphalt leach pads to process 30,000 tons of crushed ore per day, a processing plant, truck repair facilities, ancillary facilities (includes electrical substation, assay lab, administration office and water supply and storage) and the construction of a new site for employee housing and community development.
1990	10,800,000	Capital expenditures for 1990 (US \$10.8 million).
1991	7,800,000	Capital expenditures for 1991 (US \$7.8 million).
1992	24,800,000	Capital expenditures for 1992 (US \$24.8 million) included a 500-stpd gravity plant to treat high grade ore and the South Dedicated Leach Pad.

Year	Costs \$ US	Comments
1993	13,200,000	Capital expenditures for 1993 (US \$13.2 million).
1994	17,400,000	Capital expenditures for 1994 (US \$17.4 million).
1995	23,400,000	Capital expenditures for 1995 (US \$23.4 million) included the purchase of haul trucks, permitting and engineering work on an 8,000-stpd mill.
1996	35,000,000	Capital expenditures for 1996 (US \$35.0 million) were primarily related to the construction of an 8,000-stpd gravity/cyanide mill.
1997	61,400,000	Capital expenditures for 1997 (US \$61.4 million) were primarily related to the construction of an 8,000-stpd gravity/cyanide mill, which was completed in October 1997 at a total cost of \$62.2 million. Other costs included the construction of Phase I (capacity - 64 million tons) of the West Dedicated Leach Pad Facility and solution pumping system.
1998	25,200,000	Capital expenditures for 1998 (US \$25.2 million) included Phase I of the West Dedicated Leach Pad Facility and solution pumping system, which was completed in February 1998 at a total cost of \$13.5 million. The redesign of the open pit required the movement of a number of shops and other facilities. During 1998, the construction of the new shops and demolition of the old facilities was estimated to cost about \$15.5 million.
1999	15,338,000	Capital expenditures for 1999 (US \$15,338,000) included the commissioning of the Phase II expansion (capacity - 73 million tons) of the West Dedicated Leach Pad.
2000	9,240,000	Capital expenditures for 2000 (US \$9,240,000) included the optimization of the Round Mountain mill, increasing its capacity to about 10,000-stpd.
2001	30,066,000	Capital expenditures for 2001 (US \$30,066,000) included the purchase of eight new 240-ton Cat haul trucks (US \$18.0 million) to replace the older higher cost units. Other expenditures included commissioning Phase III expansion (capacity - 75 million tons) of the West Dedicated Leach Pad and a lift to the tailing dam. A 26-cubic yd. wheel loader was also leased during the year.
2002	17,178,000	Capital expenditures for 2002 (US \$17,178,000) included the purchase of three 240-ton Cat haul trucks, a wheel dozer, a production drill and a buyout of a wheel loader, previously on lease.

Year	Costs \$ US	Comments
2003	11,600,000	Capital expenditures for 2003 (US \$11,600,000) included pit dewatering, phase 4 construction of the west dedicated leach pad, a new carbon column and the rebuilding of four haul trucks.
2004	9,900,000	Capital expenditures for 2004 (US \$9.9 million) included the continued construction of phase 4 of the west dedicated leach pad, mine dewatering and new mine equipment.

Deferred (Applied) Mining Expenditures (Fiscal Years Ended 12/31)

Year	Costs \$ US	Comments
1986	2,600,000	Deferred mining expenditures for 1986.
1987	9,800,000	Deferred mining expenditures for 1987.
1988	10,200,000	Deferred mining expenditures for 1988.
1989	6,600,000	Deferred mining expenditures for 1989.
1990	(9,400,000)	Applied mining expenditures for 1990.
1991	(400,000)	Applied mining expenditures for 1991.
1992	(1,800,000)	Applied mining expenditures for 1992.
1993	2,600,000	Deferred mining expenditures for 1993.
1994	(3,400,000)	Applied mining expenditures for 1994.
1995	8,000,000	Deferred mining expenditures for 1995.
1996	800,000	Deferred mining expenditures for 1996.
1997	(800,000)	Applied mining expenditures for 1997.
1998	3,400,000	Deferred mining expenditures for 1998.
1999	10,116,000	Deferred mining expenditures for 1999.
2000	822,000	Deferred mining expenditures for 2000.
2001	(10,646,000)	Applied mining expenditures for 2001.
2002	(6,838,000)	Applied mining expenditures for 2002.

Interest Expenses (Fiscal Years Ended 12/31)

Year	Costs \$ US	Comments
1985	1,200,000	Interest expenditures paid on development debt for 1985.
1986	1,400,000	Interest expenditures paid on development debt for 1986.
1987	800,000	Interest expenditures paid on development debt for 1987.
1988	3,200,000	Interest expenditures paid on development debt for 1988.
1989	4,800,000	Interest expenditures paid on development debt for 1989.
1990	1,400,000	Interest expenditures paid on development debt for 1990.

Royal ties: In the original royalty agreement, Ordrich Gold Resources received an 18% net profits interest on production from the Round Mountain property. However, due to litigation, the royalty to Ordrich was changed, effective July 1986, to a minimum of a 3.53% NSR at gold prices of \$320/ounce or less, which increases on a straight line basis to a maximum of a 6.35% NSR at gold prices of \$440/ounce or more on all production from Round Mountain.

On its share of production from Round Mountain, Echo Bay Mines (now Kinross) also pays the Louisiana Land and Exploration Company (Burlington Resources) a 3% royalty on its gross revenues after January 1, 1989, which is reduced to 1.5% after \$75 million has been paid. Cumulative royalties as of 12/31/2003 have been approximately US \$34.7 million.

**Round Mountain Operation
Royalty Payments
(Fiscal Years Ended 12/31)**

Year	Ordrich Gold Resources \$ US	Louisiana Land & Exploration \$ US	Year	Ordrich Gold Resources \$ US	Louisiana Land & Exploration \$ US	Burlington Resources \$ US
1980	-	-	1992	4,333,462	1,782,952	-
1981	277,346	-	1993	6,094,150	1,859,969	-
1982	84,709	-	1994	8,375,161	1,969,123	-
1983	1,062,095	-	1995	6,542,947	2,550,571	-
1984	1,764,794	-	1996	8,143,509	1,976,271	-
1985	814,278	-	1997	6,688,955	2,398,445	-
1986	1,484,463	-	1998	5,360,592	2,319,463	-
1987	4,828,349	-	1999	4,836,746	-	2,341,092
1988	6,542,148	-	2000	5,797,908	-	2,315,226
1989	5,289,825	1,675,856	2001	7,668,746	-	2,571,101
1990	7,867,141	1,675,856	2002	7,629,210	-	3,170,358
1991	6,914,123	2,603,734	2003	11,487,063	-	3,508,343

Property Description: The Round Mountain property (including the adjacent Manhattan property) consists of 84 patented and 1,453 unpatented mining claims, covering about 27,500 acres. The active project boundary covers approximately 7,263 acres (2003). Public lands in this area are

administered by the BLM and U. S. Forest Service. Patented mining claims cover all of the current reserves in the ultimate pit (2003).

Operation Costs and Revenues (Fiscal Years Ended 12/31)

Homestake Mining Company Data

Year	Cash Operating Costs Au \$ US/Oz.	Other Cash Costs Au \$ US/Oz.	Total Cash Costs Au \$ US/Oz.	Non Cash Costs Au \$ US/Oz.	Total Production Costs Au \$ US/Oz.	Average Selling Price Realized Au \$ US/Oz.
1984	-	-	259	37	296	361
1985	-	-	221	25	246	318
1986	-	-	203	31	234	364
1987	-	-	216	31	247	447
1988	-	-	248	28	276	437
1989	-	-	255	53	308	382
1990	-	-	207	43	250	383
1991	-	-	258	56	314	361
1992	-	-	233	50	283	348
1993	-	-	230	63	293	359
1994	153	29	182	61	243	384
1995	231	23	254	74	328	386
1996	230	26	256	61	317	389
1997	210	16	226	49	275	353
1998	207	13	220	56	276	312
1999	188	10	198	70	268	291
2000	195	11	206	65	271	288

Note: The 1989-1995 operating cost data are for the combined, Round Mountain-Manhattan unit. The Homestake Mining Company reports per ounce production costs in accordance with the Gold Institute Production Cost Standard.

Cash operating costs are costs directly related to the physical activities of producing gold, including mining, processing and other plant costs, deferred mining adjustments, third-party refining and smelting costs, marketing expenses, on-site general and administrative costs, in-mine exploration expenditures that are related to production and other direct costs. Cash operating costs exclude depreciation, depletion, amortization, corporate general and administrative expenses, mineral exploration expenses, royalties, federal and state income taxes and production taxes, Canadian mining taxes, financing costs and accruals for final reclamation.

Other cash costs include costs that are not related to but may result from gold production activities, including royalties and federal and state production taxes, but exclude Canadian mining taxes. Total cash costs include cash operating costs plus other cash costs.

Total production costs include total cash costs plus non-cash costs. Non-cash costs are typically accounted for ratably over the life of an operation. These costs include depreciation, depletion and amortization of capital assets, accruals for the costs of final reclamation and long-term monitoring and care that are usually incurred at the end of mine life and amortization of the economic cost of property acquisitions, but exclude amortization of deferred tax purchase adjustments relating to property acquisitions.

Barrick Gold Corporation Data

	1998 Au \$ US/Oz	1999 Au \$ US/Oz	2000 Au \$ US/Oz	2001 Au \$ US/Oz	2002 Au \$ US/Oz	2003 Au \$ US/Oz	2004 Au \$ US/Oz
Cash Operating Costs	207	182	191	176	172	150	187

	1998 Au \$ US/Oz	1999 Au \$ US/Oz	2000 Au \$ US/Oz	2001 Au \$ US/Oz	2002 Au \$ US/Oz	2003 Au \$ US/Oz	2004 Au \$ US/Oz
Royal ties & Prod. Taxes	13	10	11	11	15	23	34
Total Cash Costs	220	192	202	187	187	173	221
Amortization & Reclamation	55	69	70	62	69	54	46
Total Prod. Costs	275	261	272	249	256	227	267
Av. Selling Price Realized	-	-	-	317	339	366	391
	1998 \$US/Ton	1999 \$US/Ton	2000 \$US/Ton	2001 \$US/Ton	2002 \$US/Ton	2003 \$US/Ton	2004 \$US/Ton
Mining Costs	0.66	0.73	0.83	0.83	0.66	0.83	0.45
Processing Costs	0.90	0.80	0.80	0.96	0.98	0.96	1.04
Site Overhead Costs	0.45	0.41	0.35	0.36	0.38	0.37	0.38

Note: Barrick Gold Corporation has adapted the Gold Institute Production Cost Standard for reporting cost data.

Cash operating costs include site costs for all mining (including applied (deferred) stripping costs), processing and administration, but are exclusive of royalties, production taxes, depreciation, reclamation, financing costs, capital costs and exploration costs.

Echo Bay Mines Ltd. Data

Production Costs Au \$ US/Oz.	1985	1986	1987	1988	1989	1990	1991	1992	1993
Direct Mining Expense	-	161	240	252	244	177	233	204	205
Deferred Stripping Cost	-	16	(51)	(44)	(21)	19	1	5	(7)
Inventory Movements & Other	-	5	(4)	(4)	(1)	2	(6)	4	3
Cash Operating Cost	213	182	185	204	222	198	228	213	201
Royal ties	10	13	29	28	28	29	26	24	26
Production Taxes	-	4	3	8	6	7	5	3	5
Total Cash Cost	223	199	217	240	256	234	259	240	232
Depreciation	10	19	18	28	50	39	54	49	67
Amortization	13	12	11	12	18	19	19	19	20

Production Costs Au \$ US/Oz.	1985	1986	1987	1988	1989	1990	1991	1992	1993
Reclamation & Mine Closure	-	-	-	-	-	-	3	3	4
Total Production Cost	246	230	246	280	324	292	335	311	323
Average Selling Price Realized									
Gold \$ US/Oz. Au	324	367	439	440	400	404	392	357	360
Silver \$ US/Oz. Ag	-	-	6.52	6.53	6.11	6.06	5.27	4.81	4.48

Echo Bay Mines Ltd. Data

Production Costs Au \$ US/Oz.	1994	1995	1996	1997	1998	1999	2000	2001	2002
Direct Mining Expense	156	218	228	208	209	221	200	178	176
Deferred Stripping Cost	8	(23)	(2)	2	(7)	(19)	(1)	14	9
Inventory Movements & Other	12	-	(5)	(3)	(4)	(2)	(4)	(2)	(2)
Cash Operating Cost	176	195	221	207	198	200	195	190	183
Royal ties	32	31	32	22	20	19	17	18	20
Production Taxes	8	4	4	4	3	-	1	2	4
Total Cash Cost	216	230	257	233	221	219	213	210	207
Depreciation	51	62	51	39	46	48	43	40	44
Amortization	20	20	18	18	18	18	18	15	15
Reclamation & Mine Closure	4	5	5	7	7	9	9	9	9
Total Production Cost	291	317	331	297	292	294	283	274	275
Average Selling Price Realized									
Gold \$ US/Oz. Au	387	388	384	362	333	325	319	305	361
Silver \$ US/Oz. Ag	5.77	5.40	5.41	5.26	5.88	5.69	5.28	4.70	4.36

Note: Echo Bay Mines' production cost data conform with the standard definitions adopted by the Gold Institute Production Cost Standard. The production cost data for 1989-1995 are for the combined Round Mountain-Manhattan operations. The cash operating costs per ounce of gold for 1980-1984 were \$209, \$270, \$330, \$274 and \$251, respectively.

Operation Costs and Revenues (continued)

Kinross Gold Corporation Data

	2001 Au \$ US/Oz.	2002 Au \$ US/Oz.	2003 Au \$ US/Oz.
Direct Mining Costs	190	180	164
Royalties and Production Taxes	20	25	34
Total Cash Costs	210	205	198
Depreciation, Depletion and Amortization	55	57	92
Reclamation	9	9	6
Total Production Costs	274	271	296
Average Selling Price Realized	-	-	357

**Round Mountain Operation
Nevada Department of Taxation Data**

Year	Actual Gross Proceeds \$ US	Actual Net Proceeds \$ US	Operating Costs \$ US	State & County Taxes on Net Proceeds \$ US
1980	-	20,306,342	-	-
1981	-	4,017,096	-	-
1982	-	1,667,377	-	-
1983	-	14,234,972	-	-
1984	-	10,575,503	-	-
1985	-	11,433,886	-	-
1986	-	18,749,227	-	-
1987	-	19,540,102	-	-
1988	103,506,050	26,120,847	77,385,203	690,034
1989	117,476,872	22,196,245	95,280,627	1,109,812
1990	175,315,453	70,170,835	105,144,618	3,508,542
1991	119,450,621	25,423,224	94,027,397	1,271,161
1992	125,547,112	30,761,257	94,785,855	1,538,063
1993	140,227,100	42,399,488	97,827,612	2,119,974
1994	162,961,993	66,659,677	96,302,316	3,332,984
1995	135,776,743	32,198,293	103,578,450	1,609,915
1996	160,695,513	35,882,062	124,813,451	1,794,103
1997	161,212,627	38,356,094	122,856,533	1,917,805
1998	153,026,362	14,362,550	138,663,812	718,128
1999	152,710,392	4,929,385	147,781,007	246,469
2000	171,968,027	17,085,165	154,882,862	854,258
2001	203,950,298	39,604,306	164,345,992	1,980,215
2002	236,614,166	69,814,932	166,799,234	3,490,747
2003	288,179,712	115,740,347	172,439,365	5,787,017

Note: The actual gross proceeds represent actual receipts from the sales of commodities produced at the mining operation. Operating costs represent the costs of mining and processing the ores, refining costs, marketing costs, depreciation, royalties and insurance costs. The actual net proceeds are calculated by subtracting the operating costs from the actual gross proceeds. If the actual net proceeds are equal to or less than zero, it is reported as a "Loss".

Production (Fiscal Years Ended 12/31)

Year	Ore Processed			Reusable Heap Leach Au Oz. /T	Dedicated Heap Leach Au Oz. /T	Mill Au Oz. /T	Au Troy Oz.	Ag Troy Oz.
	Reusable Heap Leach Short Tons	Dedicated Heap Leach Short Tons	Mill Short Tons					
1976	120,000	0	0	-	-	-	0	0
1977	1,581,000	0	0	-	-	-	37,052	19,200
1978	1,626,000	0	0	-	-	-	48,842	28,002
1979	1,724,000	0	0	-	-	-	45,990	24,940
1980	2,174,000	0	0	0.035	-	-	57,590	29,530
1981	2,290,000	0	0	0.043	-	-	58,938	28,474
1982	2,738,000	0	0	0.042	-	-	72,562	33,738
1983	3,576,000	0	0	0.041	-	-	93,252	54,668
1984	4,574,000	0	0	0.040	-	-	121,014	71,459
1985	5,355,000	0	0	0.037	-	-	138,748	77,234
1986	6,663,000	0	0	0.033	-	-	167,650	113,258
1987	11,176,000	0	0	0.027	-	-	190,578	146,702
1988	12,902,000	0	0	0.029	-	-	233,700	181,864
1989	15,645,000	0	152,000	0.029	-	0.160	304,886	232,512
1990	15,537,000	0	133,500	0.037	-	0.130	448,100	260,664
1991	15,740,000	0	0	0.031	-	-	321,396	216,784
1992	15,601,000	928,000	35,000	0.036	0.022	2.000	363,721	316,820
1993	10,227,000	14,216,000	NA	0.033	0.014	-	372,528	303,744
1994	6,738,000	19,227,000	NA	0.040	0.014	-	423,306	267,992
1995	7,961,000	23,434,000	NA	0.034	0.012	-	342,996	250,529
1996	9,819,000	31,048,000	NA	0.036	0.011	-	410,974	345,258
1997	9,552,000	38,670,000	274,000	0.036	0.010	0.041	477,680	356,085
1998	6,842,000	36,783,000	2,885,000	0.036	0.010	0.045	510,504	511,320
1999	5,741,000	44,167,000	2,999,000	0.034	0.011	0.067	541,808	464,415
2000	8,785,000	50,918,000	3,387,000	0.028	0.011	0.045	640,128	424,530
2001	8,520,000	46,438,000	3,702,000	0.035	0.011	0.050	746,950	509,121
2002	9,742,000	48,815,000	3,664,000	0.043	0.011	0.050	755,494	627,579
2003	7,113,000	53,116,000	2,710,000	0.043	0.011	0.053	785,298	761,333
2004	8,529,000	61,828,000	3,569,000	0.042	0.009	0.054	762,968	773,950
Total	218,591,000	469,588,000	23,510,500	0.035	0.011	0.056	9,474,653	7,431,705

Note: The 1977 silver production data is estimated from reported data presented in Louisiana Land and Exploration annual reports and published literature.

Since 1989, Manhattan and Round Mountain operations have been combined to form a single production unit. However, this report separates production attributed to the separate deposits. The 1989-1995 production data (ore processed data, ore grades and gold production data), reported above, are solely derived from the Round Mountain deposit. The 1989-1995 silver production data, reported above, also include production from Manhattan derived ores. All mining and production at Manhattan ceased in 1995. Production statistics for the Manhattan portion of the unit are presented in the Manhattan report.

The 1989-1990 milled ore was processed at the Manhattan mill facility. The 1992-1996 milled ore represents high-grade ore processed by a gravity plant located at Round Mountain. The 1997-2004 milled ore represents milled ore from the new Round Mountain sulfide mill. Since late 1992, low grade ores placed on the dedicated leach pads have been derived from newly mined ores, off-loads from the reusable leach pads and from low grade stockpiles.

Reserves (Fiscal Years Ended 12/31)

Round Mountain
Proven and Probable Reserves

Year	Tonnage Short Tons	Troy Oz. Au/T	Contained Gold Troy Oz.	Troy Oz. Ag/T	Contained Silver Troy Oz.
1976	11,617,000	0.061	709,000	0.070	813,000
1977	9,838,000	0.061	600,000	0.032	315,000
1978	8,418,000	0.050	421,000	0.025	210,000
1979	6,900,000	0.050	345,000	0.025	172,000
1980	36,126,000	0.042	1,517,000	0.022	795,000
1981	195,400,000	0.043	8,402,000	0.023	4,494,000
1982	228,304,000	0.037	8,447,000	-	-
1983	224,726,000	0.037	8,315,000	-	-
1984	42,000,000	0.043	1,806,000	-	-
1985	175,630,000	0.039	6,906,000	-	-
1986	194,267,000	0.035	6,799,400	-	-
1987	207,900,000	0.034	7,068,000	-	-
1988	249,538,000	0.032	8,090,000	-	-
1989	270,886,000	0.032	8,749,700	-	-
1990	256,851,000	0.033	8,382,000	-	-
1991	290,414,000	0.026	7,661,000	-	-
1992	276,552,000	0.025	6,787,000	-	-
1993	302,426,000	0.024	7,123,000	-	-
1994	348,910,000	0.022	7,799,000	-	-
1995	508,820,000	0.020	10,000,000	-	-
1996	476,509,000	0.019	9,050,000	-	-
1997	401,325,000	0.018	7,037,000	-	-
1998	358,597,000	0.018	6,375,000	-	-
1999	320,062,000	0.018	5,875,000	-	-
2000	273,206,000	0.019	5,218,000	-	-
2001	236,979,000	0.019	4,488,000	-	-
2002	192,112,000	0.020	3,749,000	-	-
2003	179,704,000	0.018	3,166,000	-	-
2004	173,966,000	0.018	3,076,000	-	-

Other Mineralization (1989-1997)
Measured & Indicated Resource (1998-2004)

Inferred Resources

Year	Tonnage Short Tons	Troy Oz. Au/T	Contained Gold Troy Oz.	Tonnage Short Tons	Troy Oz. Au/T	Contained Gold Troy Oz.
1989	31,007,000	0.030	916,000	-	-	-
1990	10,281,000	0.023	237,000	-	-	-
1991	14,209,000	0.019	266,000	-	-	-
1992	29,428,000	0.023	690,000	-	-	-
1993	27,938,000	0.022	628,000	-	-	-
1994	38,437,000	0.022	850,000	-	-	-
1995	72,680,000	0.021	1,560,000	-	-	-
1996	105,915,000	0.015	1,564,000	-	-	-

Reserves (continued)

Year	Other Mineralization (1989-1997) Measured & Indicated Resource (1998-2004)			Inferred Resources		
	Tonnage Short Tons	Troy Oz. Au/T	Contained Gold Troy Oz.	Tonnage Short Tons	Troy Oz. Au/T	Contained Gold Troy Oz.
1997	142,264,000	0.016	2,276,000	-	-	-
1998	28,508,000	0.020	570,000	79,780,000	0.013	1,037,000
1999	31,364,000	0.020	627,000	94,880,000	0.015	1,423,000
2000	18,706,000	0.022	412,000	90,534,000	0.014	1,267,000
2001	7,828,000	0.024	188,000	59,998,000	0.014	840,000
2002	13,900,000	0.020	278,000	43,000,000	0.013	559,000
2003	75,540,000	0.017	1,290,000	19,580,000	0.018	360,000
2004	90,728,000	0.015	1,332,000	86,342,000	0.013	1,124,000

Note: Other mineralization, measured, indicated and inferred reserves exclude proven and probable reserves.

REFERENCES

- American Bureau of Metal Statistics, Inc., 1989, Non-Ferrous Metal Data, 1988: p. 102.
- American Bureau of Metal Statistics, Inc., 1988, Non-Ferrous Metal Data, 1987: p. 102.
- American Bureau of Metal Statistics, Inc., 1987, Non-Ferrous Metal Data, 1986: p. 102.
- Anonymous, 1979, United States Tons of Ore Mined and Waste Stripped at Largest Open Pit Mines in 1975, 1976, 1977 and 1978: World Mining, v. 32, n. 8, p. 195.
- Anonymous, 1992, Echo Bay Mines Reports on Its Gold Mining Operations: The Mining Record, v. 103, n. 8, p. 20-21 and 23.
- Anonymous, 1994, Echo Bay to Build On-Site Mill at Round Mountain to Process Nonoxidized Ore: The Mining Record, v. 105, n. 48, p. 10-11.
- Argall, G. O., Jr., 1985, Heap Leaching Smoky Valley Gold: E&MJ, v. 186, n. 12, p. 18-23.
- Barrick Gold Corporation, Annual Reports, 2001-2004.
- Barrick Gold Corporation, Annual Information Forms, 2001-2004.
- Barrick Gold Corporation, Analyst Reports, 2001-2004.
- Boden, D., 1991, Field Stops Examining the Gold Hill Mine and the Volcanic Geology of the Toquima Caldera Complex; in Geology and Ore Deposits of the Great Basin: Field Trip Guidebook Compendium, R. H. Buffa and A. R. Coyner (eds.), Geological Society of Nevada, v. 2, p. 756-764.

Cavender, W. S., and Purdy, C. P., Jr., 1985, The Making of the Round Mountain Mine; in Case Histories of Mineral Discoveries Volume 1 Discoveries of Epithermal Precious Metal Deposits: V. F. Hollister (ed.), A. I. M. E., p. 101-104.

Copper Range Company, 10-K Report, 1976.

Division of Assessment Standards, 1981, 1980-81 Net Proceeds of Mines: Nevada Department of Taxation, 12 p.

Division of Assessment Standards, 1982, 1981-82 Net Proceeds of Mines: Nevada Department of Taxation, 12 p.

Division of Assessment Standards, 1983, 1982-83 Net Proceeds of Mines: Nevada Department of Taxation, 17 p.

Division of Assessment Standards, 1984, 1983-84 Net Proceeds of Mines: Nevada Department of Taxation, 18 p.

Division of Assessment Standards, 1985, 1984-85 Net Proceeds of Mines: Nevada Department of Taxation, 18 p.

Division of Assessment Standards, 1986, Net Proceeds of Mines 1985-86: Nevada Department of Taxation, 18 p.

Division of Assessment Standards, 1987, 1986-87 Net Proceeds of Mines: Nevada Department of Taxation, 17 p.

Division of Assessment Standards, 1988, 1987-88 Net Proceeds of Mines: Nevada Department of Taxation, 17 p.

Division of Assessment Standards, 1989, 1988-89 Net Proceeds of Minerals: Nevada Department of Taxation, 27 p.

Division of Assessment Standards, 1990, 1988-89 Net Proceeds of Minerals: Nevada Department of Taxation, 34 p.

Division of Assessment Standards, 1991, 1990-91 Net Proceeds of Minerals: Nevada Department of Taxation, 36 p.

Division of Assessment Standards, 1992, 1991-92 Net Proceeds of Minerals: Nevada Department of Taxation, 34 p.

Division of Assessment Standards, 1993, 1992-93 Net Proceeds of Minerals: Nevada Department of Taxation, 34 p.

Division of Assessment Standards, 1994, 1993-94 Net Proceeds of Minerals: Nevada Department of Taxation, 36 p.

Division of Assessment Standards, 1995, 1994-95 Net Proceeds of Minerals: Nevada Department of Taxation, 36 p.

Division of Assessment Standards, 1996, 1995-96 Net Proceeds of Minerals: Nevada Department of Taxation, 28 p.

Division of Assessment Standards, 1997, 1996-97 Net Proceeds of Minerals:
Nevada Department of Taxation, 27 p.

Division of Assessment Standards, 1998, 1997-98 Net Proceeds of Minerals:
Nevada Department of Taxation, 27 p.

Division of Assessment Standards, 1999, 1998-99 Net Proceeds of Minerals:
Nevada Department of Taxation, 27 p.

Division of Assessment Standards, 2000, 1999-00 Net Proceeds of Minerals:
Nevada Department of Taxation, 28 p.

Division of Assessment Standards, 2001, 2000-01 Net Proceeds of Minerals:
Nevada Department of Taxation, 29 p.

Division of Assessment Standards, 2002, 2001-02 Net Proceeds of Minerals:
Nevada Department of Taxation, 33 p.

Division of Assessment Standards, 2003, 2002-03 Net Proceeds of Minerals:
Nevada Department of Taxation, 33 p.

Division of Assessment Standards, 2004, 2003-04 Net Proceeds of Minerals:
Nevada Department of Taxation, 32 p.

Ducote, R., 1984, Homestake Expanding with Felmont Oil Purchase: Intermountain
Pay Dirt, April 1984, p. 3A-4A.

Echo Bay Mines Ltd., Annual Reports, 1984-2001.

Echo Bay Mines Ltd., 10-K Reports, 1984-2002.

Echo Bay Mines Ltd., Third Quarter, 1992 Results.

Felmont Oil Company, Annual Reports, 1978-1983.

Fenne, F. K., and Moore, D. B., 2003, Technical Report on the Round Mountain
Gold Mine, Nye County, Round Mountain, Nevada: In House Report Prepared by
the Round Mountain Gold Corporation, March 2003, 94 p.

Fifarek, R. H., and Gerike, G. N., 1991, Oxidation of Hydrothermal Sulphides at
Round Mountain, Nevada - Origin and Relation to Gold Mineralization; in
Geology and Ore Deposits of the Great Basin: Symposium Proceedings, G. L.
Raines, R. E. Lisle, R. W. Schafer, and W. H. Wilkinson (eds.), Geological
Society of Nevada, v. 2, p. 1111-1121.

Henry, C. D., Castor, S. B., and Elson, H. B., 1996, Geology and $^{40}\text{Ar}/^{39}\text{Ar}$
Geochronology of the Volcanism and Mineralization at Round Mountain,
Nevada; in Geology and Ore Deposits of the American Cordillera: Symposium
Proceedings, A. R. Coyner and P. L. Fahey (eds.), Geological Society of
Nevada, v. 1, p. 283-307.

Homestake Mining Company, Annual Reports, 1984-2000.

Homestake Mining Company, 10-K Reports, 1984-2000.

- Kinross Gold Corporation, Annual Report, 2003.
- Kinross Gold Corporation, Annual Information Form, 2003.
- Louisiana Land and Exploration Company, Annual Reports, 1977-1984.
- Louisiana Land and Exploration Company, 10-K Reports, 1977-1984.
- Lowe, N. T., Raney, R. G., and Norberg, J. R., 1985, Principal Deposits of Strategic and Critical Minerals in Nevada: U. S. Bureau of Mines Information Circular, n. 9035, p. 162.
- Mills, B. A., Boden, D. R., and Sander, M. V., 1988, Alteration and Precious Metal Mineralization Associated with the Toquima Caldera Complex, Nye County, Nevada; in Bulk Mineable Precious Metal Deposits of the Western United States: Symposium Proceedings, R. W. Schafer, J. J. Cooper, and P. G. Vikre, (eds.), Geological Society of Nevada, p. 303-331.
- Randol Mining Directory, 1990.
- Sander, M. V., 1988, Geologic Setting and the Relation of Epithermal Gold-Silver Mineralization to Wall Rock Alteration at the Round Mountain Mine, Nye County, Nevada; in Bulk Mineable Precious Metal Deposits of the Western United States: Symposium Proceedings, R. W. Schafer, J. J. Cooper, and P. G. Vikre, (eds.), Geological Society of Nevada, p. 375-416.
- Sander, M. V., 1991, The Round Mountain Gold-Silver Deposit, Nye County, Nevada; in Geology and Ore Deposits of the Great Basin: Field Trip Guidebook Compendium, R. H. Buffa and A. R. Coyner (eds.), Geological Society of Nevada, v. 2, p. 745-755.
- Shawe, D. R., 1988, Complex History of Precious Metal Deposits, Southern Toquima Range, Nevada; in Bulk Mineable Precious Metal Deposits of the Western United States: Symposium Proceedings, R. W. Schafer, J. J. Cooper, and P. G. Vikre, (eds.), Geological Society of Nevada, p. 333-373.
- Skilling, Jr., D. N., 1979, Smoky Valley Operations at Its Round Mountain Mine in Nevada: Skilling's Mining Review, v. 68, n. 9, p. 8-9 and 16-17.
- Spickelmeier, 1993, Round Mountain Halves Its Cutoff Grade: Mining Engineering, v. 45, n. 1, p. 41-48.
- Tingley, J. V., and Berger, B. R., 1985, Lode Gold Deposits of Round Mountain, Nevada: Nevada Bureau of Mines and Geology Bulletin, n. 100, p. 62.
- U. S. Bureau of Mines Minerals Yearbook, 1980.