2420 0026

79-A

ITEM 26

ENFIELD BELL—GOLD

Alternate names: Bell, Jerritt Canyon, Freeport Gold

Commodities: Au

Ore body names: Marlboro Canyon, Alchem, North Generator Hill, Lower Generator Hill, West Generator Hill

LOCATION-OWNERSHIP

County	Elko.	General location	About 80 km northwest of Elko.
Mining district	Jerritt Canyon.	Meridian	Mount Diablo.
Elevation	1,925 m.	Tract	Secs. 33, 34, 35, T 41 N, R 54 E; Sec. 3, T 40 N, R 54 E.
Topography	Rugged.		
Domain	National forest (mine); BLM administered (mill); private.	Latitude	41°23′44″ N.
		Longitude	115°59′39″ W.

Owner: Freeport Gold Co., New York, NY (70%) (subsidiary of Freeport-McMoran, Inc., New York, NY); FMC Gold, Inc., Chicago, IL (30%) (1985).

Operator: Freeport Gold Co. (1985).

GEOLOGY

Type of ore body: Disseminated, stratiform, replacement.

Origin: Hydrothermal, oxidation.

Shape of ore body: Tabular, elongate.

Ore controls: Faults, fractures, lithology.

Strike and dip of mineralized zone: Unknown.

Age of mineralization: Mid-Tertiary.

Ore body dimensions (approximate), m:

	Marlboro	Otherfour ore bodies
Length	1,220.	230 to 760.
Width	120.	60 to 120.
Thickness	110.	Unknown.

Mineral names: Gold (free), gold (tied to organics), pyrite, realgar, oripiment, arsenopyrite, cinnabar, stibnite, barite, calcite, quartz.

Host formations: Hansen Creek (primary); Roberts Mountains (basal 60 m).

Geologic age: Upper Ordovician. Lower Silurian.

Rock relationships: Hansen Creek:
- Chert carbonate, jasperoid, lies under ore, lies over ore.
- Dolomite, above ore.
- Carbonaceous banded limestone, is ore, lies along ore, gangue.
- Bioclastic limestone, under ore.

Roberts Mountains:
- Dolomite, lies above ore.
- Calcareous siltstone, encloses ore, is ore, gangue.

Alteration: Silicification (over ore zone), oxidation and argillic around jasperoid (minor), and carbonization.

Size: Medium.

DEVELOPMENT

Current status: Producer-active.

Type of operation: Surface.

Mining method: Open pit, multiple bench, about 4,400 t/d ore, 23,000 t/d waste; stripping ratio = 7.9:1.

Year of discovery: 1971 (anomaly), 1973 (Alchem ore body); 1976 (Marlboro Canyon).

Discovery method: Geochemical, geologic inference, drilling.

Initial production: July 1981.

Past production: 426 kg Au (13,700 tr oz) in sales, (1981) (*316*).
>6,100 kg (196,000 tr oz) Au (1982) (*435*).
8,150 kg (262,000 tr oz) Au forecast (1984) (*418*).

Annual production rate: 6,000 kg (200,000 tr oz) dore annual rated capacity (*435*).

Distance to water supply: 3 km to deep wells.

Road requirement: 10 km paved plant access.

Distance to power supply: 26 km, 120 kV.

Mill location: 13 km east of mine (truck).

Mill status: Active.

Milling method: Agitated cyanide leach (pretreatment of carbonaceous ore by preoxidation chlorination); carbon-in-pulp; zinc precipitation; electrolysis.

Process rate: 3,040 t/d (3,350 ton/d); original capacity was 2,490 t/d (50% of capacity oxide circuit, 50% carbonaceous circuit).

Product type: Dore bullion bars (about 34 kg each).

PUBLISHED RESERVES-RESOURCES

Class	*Quantity*	*Grade*	*Year*	*Reference*
1. Proven and probable	11,614,000 tons	0.233 tr oz/ton Au	1983	551
2. Do	13,700,000 tons	0.205 tr oz/ton Au	1984	313

REFERENCES

53, 61, 85, 90, 116, 173, 190, 224, 226, 253, 254, 278, 297, 299, 302, 306, 313, 316, 336, 344, 346, 348, 376, 378, 415, 418, 423, 430, 435, 479, 551, 599, 612, 616, 669, 688, 692, 730, 773, 839.

USGS quad maps: Wells, 1:250,000. California Mountain, 7.5′.

USBM sequence number: 0320070879.

Mid number: 2601620.

Comments: Mineral zone is in lower plate of Roberts Mountains Thrust Fault. Ore is carbonaceous (50%) and oxide (50%) requiring segregation during milling. Area of 5 ore bodies measures about 1,200 m by 3,300 m, and about 100 m thick.

Information Circular 9035

Principal Deposits of Strategic and Critical Minerals in Nevada

By N. T. Lowe, Russell G. Raney, and John R. Norberg

UNITED STATES DEPARTMENT OF THE INTERIOR
Donald Paul Hodel, Secretary

BUREAU OF MINES
Robert C. Horton, Director