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ITEM 124

BATTLE MOUNTAIN COPPER CANYON—GOLD

Alternate names: Copper Canyon Mine
Ore body names: Northeast, Tomboy, Minnie, Fortitude

Commodities: Au, Ag (Cu
formerly produced from
adjacent pit)

LOCATION-OWNERSHIP

County Lander.
Mining district Battle Mountain
Elevation 1,700 m.
Topography Rugged.
Domain Private; public-BLM administered.

General location About 20 km southwest of Battle Mountain.
Meridian Mount Diablo.
Tract Sec. 34, T 31 N, R 43 E.
Latitude 40°31'12" N.
Longitude 117°07'13" W.

Owner-operator Duval Corp., Tucson, AZ (subsidiary of Pennzoil Co., Houston, TX) (1984).

GEOLOGY

Type of ore body Stockwork (Fortitude ore body).
Origin Contact metasomatic, replacement.
Shape of ore body Tabular.
Ore controls Faults; fractures.
Strike and dip of mineralized zone. North: vertical.
Age of mineralization ... Middle Tertiary (37 million yr).
Mineralized zone average dimensions, m (estimated):
Length 520.
Width 340.
Thickness 120.
Depth 75.

Host formation Battle.
Geologic age Pennsylvanian.
Rock relationships Unavailable.
Alteration Silicification.
Size Medium.

Mineral names Free gold, silver, pyrrhotite, pyrite, "soluble" copper.

DEVELOPMENT

Current status Active-producer, development.
Type of operation Surface.
Mining method Open pit.

Distance to water supply ... <3 km, wells in Reese Valley.
Road requirement Existing.
Distance to power supply ... Existing, 5 km.
Mill location On-site.
Mill status Active-producing, expansion.
Milling method Gravity (20%)—tabled, amalgamated, retorted.
Cyanide agitated tank leach (80%)—carbon-in-pulp, electrolysis, smelting.
3,200 to 3,400 t/d (1982).
Process rate Dore bullion bars, 95% to 96% Au-Ag.
Product type Engelhard Industries, Union City and Anaheim, CA.
Destination

Year of discovery 1981 (announced—Fortitude).
Discovery method Geologic inference, geochemical sampling; drilling.
Initial production Dec. 1984 from Fortitude ore body.
Annual production rate . Reported 1983 mill expansion will enable company to produce 4.7 t Au and 46.7 t Ag during 1985, when production from the Fortitude ore body comes on-stream; currently about 36,000 t/d ore produced.

PUBLISHED RESERVES-RESOURCES

Class	Quantity	Grade	Year	Reference
Minnie and Tomboy:				
1..Not reported in reference	3,900,000 tons	0.09 tr oz/ton Au; 0.28 tr oz/ton Ag	1981	164
Fortitude:				
1..Proven and probable	16,000,000 tons	0.15 tr oz/ton Au; 0.57 tr oz/ton Ag	1981	164
2..Not reported in reference	14,500,000	4.8 g/t Au; 18 g/t Ag	1983	435
3.. Do	15,000,000 tons	2,400,000 tr oz Au; 9,200,000 tr oz Ag	1984	400

REFERENCES

13, 33, 34, 35, 54, 55, 56, 57, 88, 89, 90, 141, 142, 143, 144, 149, 151, 164, 224, 317, 328, 378, 381, 391, 412, 434, 435, 437, 438, 465, 484, 500, 558, 588, 590, 591, 605, 606, 608, 641, 693, 706, 707, 709, 711, 712, 742, 817, 818, 820, 825, 838.

USGS quad maps Winnemucca, 1:250,000.
Antler Peak, 15'.
USBM sequence number 0320150631.
Mid number 260550.

Comments: Production began in 1967 as a copper property. Operations shifted about 1978 to adjacent gold-silver ore bodies when copper prices declined and precious metal prices climbed. The existing flotation mill was converted to precious metal recovery. Of 4 separate gold ore bodies, the Minnie and Tomboy were mined initially and are essentially depleted. The Fortitude ore body, described above, is the largest with development completed in 1984. The mill expansion to handle Fortitude ore will enable Duval to produce 4.7 t (150,000 tr oz) Au and 46.7 t (1.5 million tr oz) Ag during 1985 (434).

Information Circular 9035

Principal Deposits of Strategic and Critical Minerals in Nevada

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