

BOREALIS—GOLD

Alternate names: Jamies Ridge,¹ East Ridge ProjectCommodities: Au, Ag, Hg
(byproduct mercury)

LOCATION-OWNERSHIP

County	Mineral.	General location	About 24 km southwest of Hawthorne.
Mining district	Aurora.	Meridian	Mount Diablo.
Elevation	2,195 m.	Tract	Sec. 17, T 6 N, R 29 E.
Topography	Hilly.	Latitude	38°22'57" N.
Domain	National forest.	Longitude	118°45'36" W.
Owner			
Operator	Houston International Minerals Corp. (HIMCO), Denver, CO (subsidiary of Tenneco, Inc.) (1983). W. E. Vining Co. (contractor), Carson City, NV (1983).		

GEOLOGY

Type of ore body	Breccia fill; stratiform; disseminated.	Host formation	Esmeralda, Volcanics.
Origin	Hydrothermal.	Geologic age	Miocene.
Shape of ore body	Lenticular (flattened football).	Rock relationships	Silicified andesite breccia, is ore. Sponge rock (altered tuff), is ore.
Ore controls	Faults; lithology; fractures; hot springs vents.		Andesite flows and breccia, lies under ore.
Strike and dip of mineralized zone.	N 55°E; relatively flat.	Alteration	Andesite and ash flow tuff, lies along ore.
Age of mineralization	5 to 12 million yr, possibly Pliocene.		Potassic, silicification, oxidation (ore zone), argillite, kaolin, propylitic (country rock).
Mineralized zone average dimensions, m:		Size	Small.
Length	370.		
Width	152.		
Thickness	60.		
Mineral names	Quartz, hematite, montmorillonite, chlorite, calcite, pyrite, barite, kaolinite, alunite.		

DEVELOPMENT

Current status	Active-producer.	Distance to water supply	5 km (wells to plant site tanks).
Type of operation	Surface.	Road requirement	0.5 km new plant access.
Mining method	Open-pit.	Distance to power supply	11 km.
Year of discovery	1977 (HIMCO began exploration).	Mill location	On-site.
Discovery method	Geochemical anomaly.	Mill status	Active.
Initial production	1981.	Milling method	Agglomeration, cyanide heap leaching, Merrill-Crowe zinc precipitation.
Last production	Ongoing.	Process rate	Crusher, 2,270 t/d.
Annual production rate	About 544,000 t ore planned, about 934 kg combined Au and Ag, about 870 kg (28,000 tr oz) Au.	Process type	34 kg dore buttons.
		Destination	By air to Reno, NV, then shipped to Handy & Harmon, Attleboro, MA.

PUBLISHED RESERVES-RESOURCES

Class	Quantity	Grade	Year	Reference
1. Identified	2,500,000 to 3,000,000 tons.	0.08 tr oz/ton Au; 0.62 tr oz/ton Ag	1981	383

REFERENCES

73, 196, 209, 228, 287, 356, 375, 380, 383, 485, 488, 512, 598, 651, 688, 696, 766.	USGS quad maps	Walker Lake, 1:250,000.
	USBM sequence number	Aurora 15'. 0320210463.
	Mid number	2601655.

¹Jamies Ridge is another discrete ore body discovered in 1982, 6 km northeast of Borealis deposit. This 250-m by 100-m by 30-m-thick deposit was placed in production in April 1983 for about 7 months of mining to depletion. Production: first exploited in 1906 and again in the late 1950's; no records available.

Information Circular 9035

Principal Deposits of Strategic and Critical Minerals in Nevada

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