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ITEM 34

## ALLIGATOR RIDGE—GOLD

Ore body names: Vantage 1, 2, and 3

Commodities: Au, Ag, Hg  
(Au-Ag ratio = 9:1)

## LOCATION-OWNERSHIP

County .....	White Pine.	General location .....	About 50 km northeast of Eureka.
Mining district .....	Buck Mountain (8 km north of mine).	Meridian .....	Mount Diablo.
Elevation .....	2,250 m.	Tract .....	Sec. 1, T 22 N, R 57 E.
Topography .....	Rugged.	Latitude .....	39°48'24" N.
Domain .....	Public, BLM-administered.	Longitude .....	115°31'12" W.
Owner .....	Amselco Minerals, Inc., Denver, CO (subsidiary of Selection Trust Ltd., London, England), 50%; NERCO Minerals Co., Fairbanks, AK (subsidiary of Pacific Power & Light Co., Portland, OR), 50% (1984).		
Operator .....	Amselco Minerals, Inc. (1984).		

GEOLOGY<sup>1</sup>

Type of ore body .....	Disseminated; stratabound.	Host formation .....	Pilot Shale.
Origin .....	Hydrothermal.	Geologic age .....	Mississippian.
Shape of ore body .....	Irregular.	Rock relationships .....	Siltstone, silicified-brecciated, contains ore.
Ore controls .....	Bedding; faulting.		Siltstone, unaltered carbonaceous calcareous, is unaltered, unmineralized Pilot Shale.
Strike and dip of mineralized zone.	N 20° E; nearly horizontal.		Limestone is above and below host rock.
Age of mineralization .....	Tertiary (5 to 30 million yr).	Alteration .....	Jasperoid silicification, oxidation, decarbonatization.
Mineralized zone average dimensions, m:		Size .....	Medium.
Length .....	915.		
Width .....	305.		
Thickness .....	75.		
Depth .....	120 (deepest ore body).		
Mineral names .....	Gold (coarse free and submicrometer free); oxide zone—specular hematite, jarosite, stibiconite, goethite, drusy quartz, barite, calcite, gypsum, alunite, kaolinite; carbonaceous ore—stibnite, pyrite, orpiment, realgar, calcite.		

## DEVELOPMENT

Current status .....	Active-producer.	Distance to water supply .....	On-site wells, 180 m deep.
Type of operation .....	Surface.	Road requirement .....	Amselco improved about 50 km of county road.
Mining method .....	Open pit: 680,000-t/a capacity.	Distance to power supply .....	50- to 60-km powerline constructed.
Year of discovery .....	June 1976.	Mill location .....	On-site.
Discovery method .....	Outcrop sampling.	Mill status .....	Active.
Initial production .....	May 1981.	Milling method .....	Agglomeration, heap cyanide leaching, carbon adsorption, electrolysis, smelting.
Past production .....	1,980.3 kg (63,668 tr oz) Au, 141.8 kg (4,558 tr oz) Ag (1981) (133).	Process rate .....	680,000 t/a (2,700 t/d).
	Total, 1.8 million t (2 million ton) ore with 3.91 g/t (0.114 tr oz/ton) leachable metal (1981-83) (15).	Product type .....	Dore bullion bars; 92% Au, 6% Ag.
Annual production rate .....	About 1,900 kg Au (60,000 tr oz), 440 kg Ag (14,000 tr oz).	Distance shipped .....	About 700 km.
		Destination .....	Anaheim, CA.

## PUBLISHED RESERVES-RESOURCES

Class	Quantity	Grade	Year	Reference
1..Not reported in reference .....	14,000,000 tons .....	0.12 tr oz/ton Au .....	1981	61
2..Demonstrated .....	5,000,000 tons .....	0.12 tr oz/ton Au (average stripping ratio of 3.08:1; tons waste:tons ore).	1981	835
3..Proven .....	3,900,000 tons .....	0.092-tr oz/ton Au (stripping ratio = 3.5:1).	1983	15

## REFERENCES

15, 61, 82, 83, 90, 111, 133, 163, 227, 284, 297, 298, 358, 378, 400, 412, 481, 565, 587, 681, 835.

USGS quad maps .....	Ely, 1:250,000.
USBM sequence number .....	Cold Creek, 15'.
Mid number .....	0320330470.
	2601624.

<sup>1</sup>The deposit, as presently defined, consists of 4 separate but adjacent mineralized areas. Ore bodies are irregular but roughly circular in plan with widths of 100 to 200 m, lengths of 200 m, and thicknesses estimated at 40 to 50 m. Pilot Shale host is approximately 60 to 90 m thick but thins and disappears to the west and south. 1984 projected mine life is mid-1988.



# Principal Deposits of Strategic and Critical Minerals in Nevada

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**Donald Paul Hodel, Secretary**

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