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**Associated names:** Barbi Lake Copper Mines, North Buckhorn, South Buckhorn, North Aspen, South Aspen

**Commodities: Au, Ag**  
(Au-Ag ratio = 1:15)

County .....	Eureka.
Mining district .....	Buckhorn.
Elevation .....	2,100 m.
Topography .....	Hilly.
Domain .....	Private.

General location .....	About 90 km southwest of Carlin.
Meridian .....	Mount Diablo.
Tract .....	Secs. 30, 31, T 27 N, R 49 E.
Latitude .....	40°10'53" N.
Longitude .....	116°29'33" W.

Owner..... Cominco American, Inc., Spokane, WA (76%), and Pembina International Corp., Calgary, AB, Canada, combined will manage the operation. Pembina, as a minority partner, will put up a share of the development money for an identical profit sharing percentage (1984).

Type of ore body .....	Breccia (fault); vein.	
Origin .....	Hydrothermal; oxidation.	
Shape of ore body .....	Irregular; pods.	
Ore controls .....	Faulting; igneous; lithology (breccia).	
Age of mineralization ...	Pliocene (14.6 million yr).	
Pit average dimensions, m (estimated):	North Buckhorn	South Buckhorn
Length .....	400	360
Width .....	340	230
Mineral names .....	Native gold and silver, pyrite (argentiferous and auriferous), limonite, marcasite, adularia, kaolinite, montmorillonite.	

Host formation .....	Undifferentiated basaltic andesite flows.
Geologic age.....	Pliocene
Rock relationships.....	Shale and siltstone, encloses ore. Basaltic andesitic flows, lies above ore. Gravels and conglomerates, lies beneath ore (Tertiary). Breccia, silicified, in places is ore.
Alteration .....	Argillic, kaolinization.
Size .....	Small.

Current status .....	Active-producing.
Type of operation .....	Surface.
Mining method .....	Open pit; about 1,191,000 t/a ore (1,034,000 t waste and subgrade) over 4 yr.
Year of discovery .....	1908.
Discovery method .....	Surface prospecting.
Initial production .....	Early 1984 (for Cominco).
Past production .....	Operations through 1950 yielded about 1,200 kg Au and 10,000 kg Ag; mining and milling beginning in 1979 yielded about 470 kg/a Au (132).
Annual production rate .	Producing about 934 kg Au and 8,400 kg Ag.

Distance to water supply . . .	On-site, <1 km.
Road requirement . . . . .	None.
Distance to power supply . . .	Unavailable.
Mill location . . . . .	On-site.
Mill status . . . . .	Development.
Milling method . . . . .	Agglomeration, cyanide heap leach, Merrill-Crowe zinc precipitation, smelting.
Process rate . . . . .	680,000 t/a; crusher, 259 t/h (285 ton/h).
Product type . . . . .	Probably dore.

<i>Class</i>	<i>Quantity</i>	<i>Grade</i>	<i>Year</i>	<i>Reference</i>
1..Not reported in reference .....	5,000,000 tons .....	0.044 tr oz/ton Au; 0.583 tr oz/ton Ag .....	1983	769

132, 135, 452, 593, 594, 675, 769, 779, 780, 781, 782,  
784, 787, 833.

USGS quad maps .....	Winnemucca, 1:250,000. Horse Creek Valley, 15'
USBM sequence number .....	0320110167.
USGS MRDS number .....	W016362.
Mid number .....	2600785.

**Comments:** Buckhorn Mine consists of at least 2 ore bodies. Current plans are to operate 2 separate open pits, the North Buckhorn and the South Buckhorn. Ore occurs within 60 m of surface. Ore is within oxide and sulfide zones. Company projected mine life from 1984 is 4 yr; mill, 7 yr.



**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**