BEOWAWE DISTRICT

Beowawe[12] is a small ranching settlement and station on the Southern Pacific and Western Pacific Railroads in northern Eureka County. Cinnabar was discovered in the low hills about 1 mile south of Beowawe in 1924 by R. S. Harris and C. M. Wilkinson. In 1928, the Red Devil group of claims located by the discoverers was acquired by the Nevada-Mexico Mining Corporation, a subsidiary of the Compania de Mineral de Jalisco of Mexico. This company erected a Diesel power plant, a 30-ton rotary furnace, and a condensing system, and did some development work. In September 1929, the property closed down, and later the equipment was dismantled and sold. The production has been about 132 flasks of mercury. In recent years the property has been idle.

Red Devil Group

The Red Devil group comprises three unpatented claims owned by R. S. Harris and Mrs. Clara Sullivan of Beowawe, Nev. Development consists of two adits, a shaft 42 feet deep, and subsidiary workings totaling about 1,400 feet.

The cinnabar occurs in fractures in rhyolite and rhyolite breccia. Near the surface, the rhyolite is flinty in character; at depth it is altered to a soft kaolinized material. The ore bodies are small and irregular and the ore mined has been taken from five small stopes, none of which are more than 60 feet from the surface.

BUCKHORN DISTRICT

The Buckhorn district is in the south end of the Cortez Range, 22 miles west from Mineral, a station on the Eureka-Nevada Railroad and the nearest shipping point. It is accessible by automobile over fair desert roads, either from Palisade, about 55 miles northeast, or Eureka, 75 miles southeast. The history of the district is largely the history of the Buckhorn mine, discovered in the winter of 1908-1909 by Joe Lynn, W. S. McCrea, William Ebbert, and John Swan. In 1910, the discoverers sold a group of 14 claims and several fractions for $90,000 to George Wingfield and associates, who organized the Buckhorn Mines Co. The company did considerable development work and blocked out a body of low-grade gold-silver ore and, in 1913, erected at the mine an all-slime cyanidation plant designed for a daily capacity of 300 tons. In the same year, a 700-horsepower steam power plant with electric generators was built at Beowawe with a 35-mile, 33,000-volt transmission line to the mine. The mill operated from January 1914 to the early part of 1916, following which the equipment was dismantled and sold. Operations were confined to the exploitation of the oxidized ores mined by the glory-hole method. Except for a small amount of leasing in 1931 and 1932, the district remained virtually inactive until 1936, when the Buckhorn Mining Co. installed an 80-ton-daily-capacity

---

12/ An Indian word meaning "gate", probably given because the opening in the nearby hills resembles a gateway to the canyon beyond.

flotation mill at the mine to work the known, though limited, bodies of sulphide ore that were not amenable to the cyanide process formerly employed. This plant operated from November 1936 to December 1937, when the mine closed down and the equipment was offered for sale.

Production from the district from 1910 to 1936, inclusive, is shown in table 3.

Buckhorn Mining Co.

The Buckhorn Mining Co., owned by the Pardners Mines Corporation, John Baragwanath, president, Chrysler Bldg., New York City, comprises a group of 10 patented and 4 unpatented claims. Development consists of a main haulage adit 1,750 feet long, an inclined shaft several hundred feet deep, and subsidiary workings totaling about 4 miles. The deepest working is 300 feet from the surface, but no ore was encountered below about 180 feet.

The Buckhorn Mining Co. employed the top-slicing system of mining, since the ground is very heavy. Each top-slicing cut was 10 feet high and 6 feet wide; round posts with square caps were used for support. Because of the softness of the ore, hand augers were used for drilling. For September 1937 the total mining cost was $5 per ton, which included $3.50 for stoping and $1.50 per ton for maintenance of workings.

The flotation flow sheet (fig. 2) employed is unusual in that no primary crushing was necessary. In the tube mill, the only grinding medium consisted of siliceous pebbles occurring in the ore. Concentration ratio was 4-1/2 to 1. Water for milling was pumped from a well sunk in the flat about 5 miles south of the mine by a Worthington duplex pump driven by a Caterpillar Deisel engine; the lift was 1,000 feet. Electric power for mining and milling was generated by two Caterpillar Deisel engines rated at 100 and 150 horsepower, respectively. Cost of milling for September 1937 was $1.66 per ton.

The Buckhorn ore body is a soft, kaolinized mass of brecciated material carrying gold-silver values. The best ore occurs along a regional fault striking N. 3° W. and dipping nearly vertical. The country rock consists of alternating layers of basalt and volcanic scoria dipping towards the fault. Away from the fault the values gradually diminish, until the material is too low in grade to constitute ore. The zone of oxidation extends to a depth of about 100 feet and the sulphide ore to a depth of 180 feet. The sulphide ore mined was confined to an area 300 feet long and a maximum width of 100 feet; it consisted of fine pyrite desseminated in talcy material.

Although the best ore has been mined, it is reported that there remains an appreciable tonnage of mixed oxide and sulphide ore, too low-grade to be treated economically by the methods previously employed; direct cyanidation is not applicable, and with flotation the ratio of concentration is low. The resulting concentrate can not be directly cyanided, and the expense involved in shipping the low-grade product to a distant smelter is prohibitive.

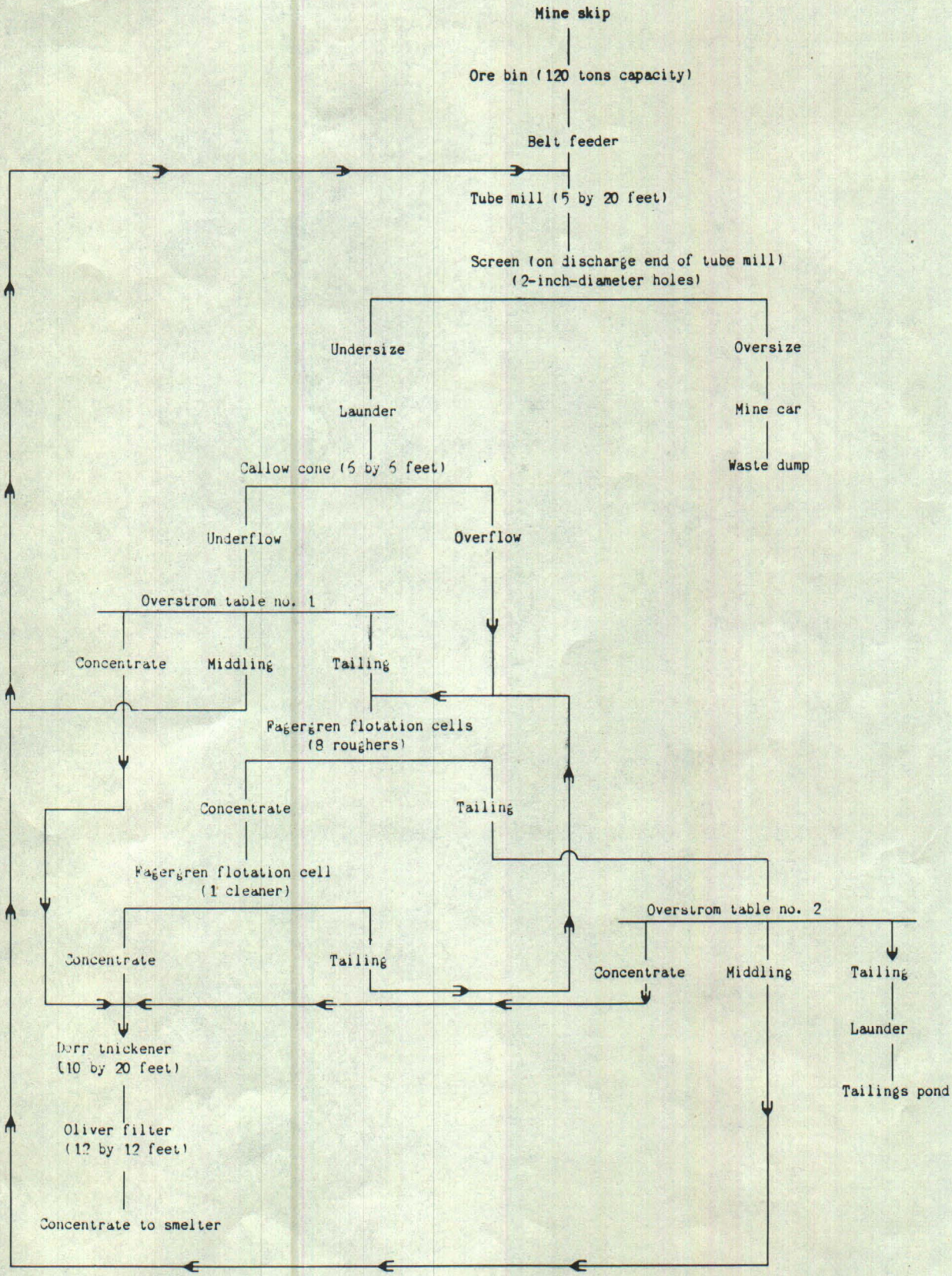

Figure 2.- Flow sheet of 80-ton-daily-capacity flotation mill, Buckhorn Mining Co., Buckhorn district, Eureka County, Nev.

TABLE 3. - Gold, silver, copper, and lead production from the Buckhorn district, Eureka County, Nevada, 1910 - 1936, in terms of recovered metal.
(Compiled by Charles White Merrill, Mineral Production and Economics Division, Bureau of Mines.)

Year	No. of mines	Lode							Total value	Average recoverable value of ore per ton 1/
		Ore, short tons	Gold		Silver		Copper			
			Fine ounces	Value	Fine ounces	Value	Pounds	Value		
1910	1	54	282.31	$5,836	2,660	$1,447	19	$2	$7,285	134.91
1911-13	-	-	-	-	-	-	-	-	-	-
1914	1	73,000	13,485.00	278,760	107,248	59,308	-	-	338,068	4.63
1915	1	103,528	14,026.00	289,943	106,081	53,783	-	-	343,726	3.32
1916	1	15,000	2,702.63	56,014	24,327	16,007	-	-	72,021	4.80
1917-30	-	-	-	-	-	-	-	-	-	-
1931	1	164	132.21	2,733	978	284	-	-	3,017	18.40
1932	1	2/	2/	2/	2/	2/	-	-	2/	2/
1933-35	-	-	-	-	-	-	-	-	-	-
1936	2	2/	2/	2/	2/	2/	-	-	2/	2/
Total	-	195,010	31,289.79	655,429	246,643	134,735	19	2	790,166	4.05

1/ Not to be confused with average assay value of ore.
2/ Bureau of Mines not at liberty to publish figures, but concealed figures included in totals.