0080 0005

Humboldt County Item 5

I.C. 6995
February 1938

INFORMATION CIRCULAR

UNITED STATES DEPARTMENT OF THE INTERIOR - BUREAU OF MINES

RECONNAISSANCE OF MINING DISTRICTS IN HUMBOLDT COUNTY, NEV.[1]

By William O. Vanderburg[2]

CONTENTS

1/ The Bureau of Mines will welcome reprinting of this paper, provided the following footnote acknowledgment is used: "Reprinted from Bureau of Mines Information Circular 6995."

2/ Mining engineer, Mining Division, Bureau of Mines.

CONTENTS (Cont'd)

FOREWORD

This is one of a series of circulars dealing with mining and milling operations in various mining districts in the Western States. Data on operating costs, grades of ore treated, wage scales, haulage rates, and other information on mining properties are obtained from the operators and other local sources during the course of field inspections. They are believed to be substantially correct as to conditions at the time the properties were visited, but may not be in accord with facts established by later developments.

CHAS. F. JACKSON,
Chief Engineer,
Mining Division.

INTRODUCTION

This paper gives the results of a reconnaissance of the mining districts in Humboldt County, Nev., made during the month of June, 1937[3]. During the field work, virtually all the mining districts in the county were visited and many data were obtained on a number of active and inactive properties. No attempt has been made to include in this report all the properties in the various mining districts, and it should be emphasized that whether or not a property is mentioned herein has no bearing on its merit. The report covers the location of the various mining districts, types of deposit, information on past operations and current activity, and general information likely to be useful to operators, investors, and others interested in mining. The geology of the deposits is discussed only briefly.

The names of the various mining districts mentioned in this report are those generally used when they were organized for purposes of record and regulation. As organized, the districts embraced large areas with no definite boundaries, and the names have little significance.

Mining began in Humboldt County in the early sixties as the result of prospecting stimulated by the discovery of the Comstock lode in 1859. In the sixties and seventies speculation in mining ventures was rife and much money was spent unwisely. A number of small mills were erected along the Humboldt River and other places, but most of them did not operate successfully either for lack of ore or because of the metallurgical difficulties encountered in the treatment of the base ores. The outstanding discovery in the area now included in Humboldt County, from the viewpoint of production, has been the National district, noted for its bonanza ore. The greatest activity took place from 1907 to 1915. Following the decline of the National district, mining was carried on for the next 20 years by lessees and small companies. In 1935 mining activity was stimulated by the discovery by G. C. Stagg and Clyde Taylor of the Jumbo mine in the Awakening district. Considerable publicity was given this discovery and many claims were located in the area. Other districts that had been idle for many years received attention, with the result that the mining industry in the county is brighter at the present time than it has been for many years.

3/ Manuscript completed August 7, 1937.

ACKNOWLEDGMENTS

The author wishes to thank the owners, lessees, and mine operators, too numerous to mention individually, who wholeheartedly provided information and assistance during the course of the field work.

Charles White Merrill, of the Mineral Production and Economics Division, Bureau of Mines, furnished data for the mineral-production tables; and the Mackay School of Mines, University of Nevada, at Reno, cooperated in making mineral determinations and assays and in permitting the use of its technical library.

HUMBOLDT COUNTY

General

Humboldt County, in northwestern Nevada, was one of the nine original counties created by an Act of the Territorial Legislature approved Nov. 25, 1861. Originally it comprised 23,490 square miles, but by an Act approved Dec. 19, 1862, about one-third of this area was ceded to Lander County, and by an Act approved March 17, 1873, another small portion of the southeast corner was also ceded to Lander County, leaving the boundary between the two counties as it is at present. Subsequently, two small triangular sections of territory were ceded to Churchill County, and by an Act of the State Legislature approved March 18, 1919, the southern part of Humboldt County, comprising an area of 6,113 square miles, was withdrawn to form Pershing County.

Figure 1 is a sketch map of the county. Its area is 9,304 square miles, approximately equal to either that of the State of New Hampshire (9,341 square miles) or the State of Vermont (9,564 square miles). The water area embraces two small lakes in the northwestern part of the county - High Rock Lake, 1.2 square miles, and Summit Lake, 1.2 square miles.

The county derives its name from the Humboldt River, which enters it near the southeast corner, runs northwest for 60 miles, and then turns to the southwest, emptying into Humboldt Sink in Pershing County.

The first county seat was at Unionville (now in Pershing County), and on May 1, 1873, it was removed to Winnemucca, the present county seat and commercial center. Winnemucca is situated on the banks of the Humboldt River at the Great Bend, which name was given by the early emigrants to the place where the river turns from a northwest to a southwest course. The town was established in 1850 as a small trading station on the Overland route to the California goldfields, and it was then known as French Ford. Later the name was changed to Winnemucca in honor of a Pahute Indian chief.

According to the census of 1930, population of the county was 3,795, an average of one person to each 2.58 square miles. About one-half of the population reside in Winnemucca. The principal industries are stock-raising, agriculture, and mining.

The assessed value of real property in the county for the fiscal year 1935-36 was $14,026,890, and the tax rate for the same period was $1.96 per $100, which included a State tax of $0.68 but was exclusive of special taxes. The bonded indebtedness of the county for the same period was $120,000.4/

Topography

Topographically, Humboldt County comprises a series of nearly parallel mountain ranges extending approximately north and south and separated by troughlike valleys from 10 to 20 miles in width. The altitude of the valley floors ranges from 4,000 to 5,000 feet and the mountains from 5,000 to 9,500 feet above sea level. The principal ranges, from west to east, are the Black Rock Range, Pine Forest Range, Jackson Range (Antelope Range to the south), Silver State Range, Santa Rosa Range (Bloody Run Range to the south), and the Osgood Range (Table Mountain Range to the north). Some of the more prominent mountain peaks and their elevations above sea level are Division Peak (8,585 ft.), Pahute Peak (8,618 ft.) in the Black Rock Range, Duffer Peak (9,422 ft.) in the Pine Forest Range, King Lear Peak (about 8,900 ft.) in the Antelope Range, Trident Peak (8,407 ft.) in the Jackson Range, Granite Peak (about 9,600 ft.) in the Bloddy Run Range, Spring Peak (about 9,400 ft.), Rose Peak (about 9,600 ft.), and Capitol Peak (8,200 ft.) in the Santa Rosa Range. The mountain ranges are generally more rugged than those farther south.

The principal valleys in the county are Eden, Paradise (Little Humboldt River, Quinn River, Humboldt River, King's River, and the Black Rock Desert. The valleys constitute a series of basins without any surface outlets to the sea. Because of this interior drainage, the valleys in Humboldt County as well as those in other parts of the State have peculiar topographical features becoming, according to conditions, meadows, sinks or alkali flats. The Black Rock desert in the western part of the county is probably the most desolate area in the State. This desert is a vast playa formed by the evaporation of a former lake. In winter a portion of this playa is covered by a shallow lake formed by water furnished mainly by the Quinn River, which empties into it. During the summer months the surface of this playa becomes compact and hard, so that when an automobile is driven over it the imprint of tires is barely discernible.

Water Resources

The principal rivers in the county are the Humboldt, Quinn, and King's Rivers. The Humboldt, longest and largest river in Nevada, flows across the southeast corner of the county and normally empties into the Humboldt Sink in southwest Pershing County. Most of the water, however, is used for irrigation before it reaches Humboldt Sink. The Quinn River, which rises in the Santa Rosa Range near the Oregon boundary, flows southwesterly for nearly a hundred miles, meandering through Quinn River Valley. It finally dwindles

4/ Germain, J. L., Annual Report of the Auditor of the County of Humboldt, State of Nevada, Fiscal Year June 30, 1935, to July 1, 1936, pp. 15-16.

away and disappears in the Black Rock Desert. Its chief tributary, the King's River, is fed by mountain streams in the northern part of the county and in Oregon. The Little Humboldt River, which joins the Humboldt at Winnemucca, is also one of the more important streams in the county. The habit of designating many of the streams in Nevada as rivers gives them an importance on the map which they do not deserve as far as size is concerned. The Humboldt River, as well as the others, is generally fordable along its entire length during the summer.

In addition to the foregoing, there are numerous mountain streams, some of which carry enough water for irrigation. Unlike normal streams found elsewhere, the volume of water generally diminishes as they descend into the valleys, and in some cases during the summer months the channels are dry, as the water is lost by seepage and evaporation.

Agriculture is restricted to those areas that can be irrigated, since the rainfall is insufficient to meet the needs of growing crops. The principal agricultural areas are Paradise (Little Humboldt River), King's River, Quinn River, and Humboldt Valleys.

Numerous springs are distributed throughout the mountain ranges of the county, and frequently they are able to furnish enough water for milling and domestic use. The only artesian well in the county, to the writer's knowledge, is one drilled in 1936 at Winnemucca to supply the town with water. This well is 525 feet deep and the flow is about 550 gallons per minute. The log of the well is as follows:

Depth from surface, in feet.	Remarks
0-4	Sandy loam.
4-15	Quicksand, surface water at 10 feet.
15-19	Cemented gravel.
19-27	Loose gravel.
27-112	Slightly cemented gravel.
112-120	Large boulders.
120-135	Conglomerate.
136-150	Sandy clay.
150-233	Conglomerate cemented gravel.
233-397	Sandy clay; small amount of water, but did not rise in well.
397-403	Sandy gravel.
403-470	Clay.
470-475	Sand, small artisian flow approximately 5 G.P.M.
475-494	Clay mixed with gravel.
494-497	Cemented cap rock.
497-503	Lava gravel and lava boulders, artisian water flowing at approximately 140 G.P.M.
503-525	Fissured solid lava; flow, 550 gallons; temperature, 62.3°F.

Climate and Vegetation

The climate of Humboldt County varies according to the elevation, which ranges from about 4,000 feet in the valleys to nearly 10,000 feet in the highest mountains. For most of the area a temperate climate prevails; the summer days are comfortably warm, and the nights are invariably cool. During the winter the climate may be of Arctic severity for short periods, with a temperature of 40° below zero. In nearly all of the mining districts mentioned in this report, mining can be carried on the year round without difficulty. Some of the camps at altitudes greater than 7,000 feet may be snowed in for several months during severe winters.

Precipitation varies according to the altitude, being greater on the mountains than in the valleys. No data are available on annual precipitation, but probably it is between 12 and 20 inches per year. With the exception of the valley playas, which are filled with a mixture of silt and alkali salts injurious to vegetation, there is some kind of vegetation over the whole area. In the valleys it consists chiefly of sagebrush and greasewood, while on the mountain slopes above a general elevation of 7,000 feet there are scattered growths of juniper, mountain mahogany, and piñon pine. The forested parts contain no saw timber, and the growths are fit only for firewood and the construction of corrals and fences.

Power Facilities

Virtually all the mining districts in Humboldt County depend on internal-combustion engines for power. In June 1937 the Sierra Pacific Power Co. was extending its transmission line from a point near Mill City, Nev., to Winnemucca and Golconda, thence north to the Getchell mine. When this line is completed, public-utility power service will be available to those mining areas within convenient distances.

Transportation Facilities

The main line of the Western Pacific Railroad traverses the southern part of the county in an east and west direction, and the main line of the Southern Pacific Railroad cuts across the southeast corner following the course of the Humboldt River. Both railroads pass through Winnemucca. The northern part of the county is isolated as far as railroad transportation is concerned as there are no branch railroads in this region.

Victory Highway (U. S. Route 40), connecting Salt Lake City, Utah, and San Francisco, Calif., passes through the southeastern portion of the county. This highway is oiled. An oiled road also connects Winnemucca and McDermitt, Nev. Virtually all of the districts mentioned in this report can be reached by automobile over either gravel or dirt roads.

The Western Pacific Railroad freight rates on carload shipments of ore from Sulphur, Antelope, Jungo, Venado, Gaskell, Raglan, Winnemucca, and Golconda to Utah smelters are as follows:

Value of ore per ton	$10	$15	$20	$30	$40	$50	$60	$70
40-ton car	3.20	3.20	3.20	3.90	4.60	4.75	5.25	6.00
20-ton car	4.00	4.00	5.00	5.50	6.00	6.50	7.00	7.50

Value of ore per ton	$80	$90	$100	$110	$120	$130	$200	$300
40-ton car	6.75	7.50	8.25	-	-	-	-	-
20-ton car	8.00	8.50	8.85	9.10	9.35	9.50	10.00	10.00

The Southern Pacific Railroad freight rates on carload shipments of ore from Golconda, Winnemucca, Valmy, and Iron Point to Utah smelters are as follows:

Value of ore per ton	$20	$30	$40	$50	$60	$70	$80
40-ton car	3.20	3.90	4.60	4.75	5.25	6.00	6.75
20-ton car	5.00	5.50	6.00	6.50	7.00	7.50	8.00

Value of ore per ton	$90	$100	$110	$120	$130	$150	$200
40-ton car	7.50	8.25	-	-	-	-	-
20-ton car	8.50	8.85	9.10	9.35	9.50	9.50	10.00

History of Mining

The region comprising the State of Nevada was part of the territory acquired from Mexico by the treaty of Guadalupe-Hidalgo, signed Feb. 2, 1848. In September 1850 it was organized as part of the territory of Utah. By Act of Congress approved March 2, 1861, the Territory of Nevada was created, and on Oct. 31, 1864, it attained the rank of Statehood.

Probably the first white men to see the northern part of Nevada were those in the Jedediah S. Smith expedition of 40 trappers in 1825-26. This expedition followed the course of the Humboldt River Valley, which is the most natural east-west route across the northern part of the State. Other exploration and emigration parties that followed in Smith's footsteps were the Peter S. Ogden expedition in 1831, Milton Sublette's in 1832, Captain B. L. E. Bonneville's in 1833 (whose adventures were immortalized by Washington Irving), the emigration party under Captain J. B. Bartelson in 1841, and General John Fremont's expedition in 1843-44. These expeditions culminated in the rush of '49 to the gold digging of California. The overland travel across Nevada in the early days followed the course of the Humboldt River to a place known as "Lassen Meadows", about 4 miles west of Humboldt House. Here the route divided, the main line of travel going across the river to the northwest, out through Cedar Springs Pass, across the Black Rock Desert, through Susanville, and over Beckwith Pass in the Sierras to the placer fields of California. The other route went to the southwest, to Fort Churchill, on to Carson City, and up the west Carson River, around the southern end of Lake Tahoe, to Placerville, Calif. The early pioneers hurried over the arid stretches of Nevada with a minimum of delay, and the northern part of what is now Humboldt County remained a "terra incognita" because of its isolation and the hostile disposition of the Bannock Indians, who roamed the northern part of the State.

Probably the first mineral found by a white man in what is now Humboldt County was found by Allen Hardin in 1849 on the edge of the Black Rock Desert while traveling with a party of emigrants to the west coast. This "discovery" is interesting, since it has been the subject of more speculation and the cause of more fruitless search and greater disappointments in the vicinity of the Black Rock Desert than discoveries in any other section of the State. It is a story of another "lost mine", and the facts gathered from various sources are substantially as follows:

In the summer of 1849, Allen Hardin, in company with other emigrants, arrived almost destitute on the edge of the Black Rock Desert. Hardin, with two companions, had left the main party in search of game for food. This region is one of the most barren and desolate sections in Nevada and the hunters found no game. However, on their return to camp they brought with them a piece of metal that weighed about 25 pounds, and they tried to get a member of the party to haul it to California for them. The party in question was short of oxen to haul his own property and he informed them that he would not pack it, even though it were pure gold. They were forced to leave the specimen beside the road, but before doing so they made a small button by melting a piece and molding it in the sand. Upon arriving in California the button was assayed and showed high values in silver. The rock that was left along side the road was found several months later by another party of emigrants and brought to Sacramento, where it was placed on exhibition in the leading bank at that time. In succeeding years numerous parties, numbering as high as 70 members in a single party, were organized by Hardin and others to search for this "lost mine", but these efforts were fruitless. Probably the metal found by Hardin was a specimen of hornsilver float from the Silver Camel mine near Sulphur.

The discovery of the Comstock Lode in western Nevada in 1859 was followed by an era of wild excitement and speculation, and prospectors turned their attention to other parts of the State. Humboldt County was not overlooked. Mining activity began here in 1860 with the organization of the Humboldt Mining District, followed by numerous other districts, many of which were short-lived. It was a period when anything new in mining had tremendous possibilities and the only fear was that the enormous quantity of silver believed to be present in the mountains of Nevada would destroy the value of that metal and upset the monetary stability of the world. The following extract from a letter[5/] written in Virginia City in April 1860 gives a vivid picture of the condition of society at that time.

5/ Browne, J. Ross, and Taylor, James W., Reports Upon the Mineral Resources of the United States: Washington, Government Printing Office, 1867, p. 28.

***. Of a certainty, right here is Bedlam broke loose. One cannot help thinking, as he passes through the streets, that all the insane geologists extant have been corralled at this place. Most vehement is the excitement. I have never seen men act thus elsewhere. Not even in the earlier stages of the California gold movement were they so delirious about the business of metalliferous discovery. Hundreds and thousands are now here, who, feeling that they may never have another chance to make a speedy fortune, are resolved this shall not pass unimproved. They act with all the concentrated energy of those having the issues of life and death before them. They demean themselves not like rational beings any more. Even the common modes of salutation are changed. Men, on meeting, do not inquire after each other's health, but after their claims. They do not remark about the weather, bad as it is, but about out-croppings, assays, sulphurets, etc. They do not extend their hands in token of friendship on approaching but pluck from their well filled pockets a bit of rock and, presenting it, mutually inquire what they think of its looks. During the day they stand apart, talking in couples, pointing mysteriously hither and yon; and during the night mutter in their sleep of claims and dips and strikes, showing that their broken thoughts are still occupied with the all absorbing subject. I shall be able to convey to your readers some idea of the intensity of this mining mania when I assure them that this portion of the American people do not even ask after newspapers, nor engage in the discussion of politics. Little care they whom you choose President; conventions and elections, wars and rumors of wars, are nothing to them. They have their own world here. Here, bounded by the Sierras and the mountains of Utah, spread over the foothills and the deserts, is a theatre beyond which their thoughts are not permitted to roam; to this their aspirations and aims are all confined. Whatever of energy, ambition, and desire are elsewhere expended on love, war, politics, and religion are here all devoted to this single pursuit of finding, buying, selling, and trading in mines of silver and gold. Everybody makes haste to be rich; and so great is the mental tension in this direction that it may well be questioned whether, if a sweeping disappointment should overtake them, many will not be reduced to a condition of absolute lunacy.

Concerning the condition of affairs in Humboldt County in the sixties, Browne and Taylor6/ wrote as follows:

Owing to the careless manner in which many of the claims were located, the obscurity and imperfection of the laws, and the still more imperfect manner in which they were enforced, a majority of all the titles, more particularly those to what were considered the better class of mines, became involved in litigation, thereby retarding their development and destroying confidence

6/ Work cited, footnote 5.

in them generally. Millions of feet[7] of unprospected ledges were sold, sometimes fairly but oftener through misrepresentation and chicanery, and the proceeds, amounting in the aggregate to vast sums, were spent usually in every manner of extravagance and folly and rarely in any persistent and well-directed efforts at opening the mines. Towns were built, hotels and saloons of luxurious style were erected, real estate in these embryo cities went up to enormous prices, everybody seeking to get rich from speculating in city lots or "feet", as these mining properties were designated, but little being done meantime towards advancing the business that should have first been looked after - the opening up and proving of the mines. Mills were also procured and put up at heavy expense before it had been ascertained that enough ores could be had to keep them running, this latter mistake not having been committed to the same extent in Humboldt, as in Esmeralda and some parts of the Reese River regions, where more than two-thirds of the mills have remained constantly idle from the causes set forth. It is also true that an equal proportion of the entire number of mills put up in Humboldt have been doing nothing much of the time; the principal advantage being that only a small number of mills, and these mostly of an inexpensive kind, were erected.

In the sixties several smelters were erected along the Humboldt River and at least sixteen mills were built in the various districts of the county. Many of the mills operated only for a short time, either because of lack of ore or because of the metallurgical difficulties encountered in the treatment of base ores.

The Humboldt Canal scheme was designed to take water from the Humboldt River for use in generating power for mining and to irrigate land along the line of the canal. This scheme was projected in 1862 by an incorporated company with a central office in San Francisco. Mill City was started up with the intention of making it a milling and reduction center but the canal never was built to that place. About $100,000 was spent in constructing the canal to Winnemucca and, as originally designed, it was to have been 90 miles long, 15 feet wide, and 3 feet deep.

Most of these early mines reached the zenith of their production before the Central Pacific Railroad (now Southern Pacific Railroad) was completed across the State on May 10, 1869. Prior to that date, mining supplies and machinery were hauled by wagon team from Marysville or Sacramento, Calif. Railroad communication did not improve mining facilities sufficiently to offset the decrease in the grade of the ore, so that mining activity gradually declined.

7/ In the early days of the West the miners made their locations in feet, and the number of feet each miner could own was governed by the regulations in each district. According to the Statutes of the State of Nevada, approved Feb. 27, 1866, no person was entitled to hold more than 200 feet on any one vein, except the discoverer, who was entitled to 200 feet additional by virtue of the discovery.
The present law under which mining rights are acquired on the public mineral domain was passed by Congress on May 10, 1872.

A revival in activity occurred from 1879 to 1890, when rich silver veins in the Paradise Valley district were exploited.

The most prominent discovery in the area now included in Humboldt County was the extraordinarily rich gold-silver deposits in the National district. The first discovery was made in 1907, and the deposits were worked intensively for a number of years.

In recent years Humboldt County has attracted considerable attention because of the discovery of the Jumbo mine in the Awakening district made by G. C. Stagg and Clyde Taylor in 1935. This discovery caused a revival of activity in many of the old districts in the county, some of which have been idle for many years.

Mineral Production

The annual production of gold and silver in Humboldt County from 1870 to 1903[8], as compiled from the quarterly rolls of the County assessors, is shown in table 1. From 1870 to 1889, inclusive, 158,537 tons of ore were mined, having a net value of $4,314,697.37, an average of $27.22 per ton. From 1872 to 1885, inclusive, 106,871 tons of tailings were treated, having a net value of $660,674.56, an average of $6.18 per ton. The annual production of the principal metals from 1903 to 1936, according to Bureau of Mines statistics, is shown in table 2. It should be mentioned that the major part of the tabulated production prior to 1918 was derived from mines in what is now Pershing County.

Other minerals that have been produced in the area now included in Humboldt County are arsenic ore (about 100 tons), antimony ore (about 100 tons), manganese ore (about 200 tons), and quicksilver (not more than 100 flasks). In the industrial mineral group, sulphur has been the principal product, but no accurate statistics are available as to the amount. Judging from the tailings and the extent of the underground workings at the sulphur mines near Sulphur, Nev., the total production is roughly estimated at 40,000 tons of sulphur. About 500 tons of crude alunite also have been shipped for use as fertilizer. Opals for gem purposes have been mined in the Virgin Valley opal fields in the northwestern part of the county.

The writer estimates that in June 1937, 170 men were employed directly in the mining industries of the county.

8/ Stuart, E. E., Nevada's Mineral Resources: State Printing Office, Carson City, Nev., 1909, pp. 125-126.

TABLE 1. - Annual production of gold and silver in Humboldt County, 1870 to 1903

[Compiled from quarterly assessment rolls of County assessors]

Year	Tons ore	Value gold and silver	Tons tailings	Value gold and silver	Total value
1870	7,934	$ 378,840.90	-	-	$ 378,840.90
1871	20,168	499,458.38	-	-	499,458.38
1872	6,233	254,618.07	9,150	$96,921.86	351,539.93
1873	8,356	280,548.02	14,096	111,283.40	391,831.42
1874	7,440	213,644.45	8,360	50,759.75	264,404.20
1875	6,832	267,879.64	3,910	22,044.41	289,924.05
1876	2,607	120,863.04	13,851	90,083.64	210,946.68
1877	6,184	212,260.50	14,730	79,395.21	291,655.71
1878	6,138	186,237.31	19,775	93,537.50	279,774.81
1879	7,872	245,798.86	5,790	27,422.00	273,220.86
1880	14,100	373,467.40	6,918	39,249.37	412,716.77
1881	5,448	74,920.05	5,833	20,170.15	95,090.20
1882	4,255	42,018.02	2,180	9,510.00	51,528.02
1883	5,813	59,501.17	258	1,290.00	60,791.17
1884	10,696	256,066.52	838	10,107.44	266,173.96
1885	11,624	226,146.32	1,182	8,899.83	235,046.15
1886	13,503	342,971.96	-	-	342,971.96
1887	7,159	191,760.14	-	-	191,760.14
1888	2,957	43,366.29	-	-	43,366.29
1889	3,218	44,330.33	-	-	44,330.33
Totals	158,537	4,314,697.37	105,871	660,674.56	
		Value of gold		Value of silver	
1890		10,000.00		$ 90,000.00	100,000.00
1891		3,000.00		37,000.00	40,000.00
1892		15,000.00		20,000.00	35,000.00
1893		13,000.00		12,000.00	25,000.00
1894 1/		1/		1/	1/
1895		41,220.00		122,420.00	163,640.00
1896		31,800.00		22,640.00	54,440.00
1897		142,583.00		4,280.00	146,863.00
1898		85,197.00		15,926.00	101,123.00
1899		33,000.00		18,000.00	51,000.00
1900		73,230.00		80,551.00	153,781.00
1901		74,930.00		77,118.00	152,048.00
1902		62,208.82		80,105.92	142,314.74
1903		70,695.43		82,105.83	152,801.26
Totals		655,869.25		662,146.75	6,293,387.93

1/ Production figures for the year 1894 are not given in the table by Stuart, work cited, pp. 125-126.

TABLE 2. - Metal production Humboldt County, 1903-36

Year	Gold				Silver (lode and placer)	
	Lode		Placer			
	Fine ounces	Value	Fine ounces	Value	Fine ounces	Value
1903.....	-----	$34,231	-----	$40,000	-----	$6,562
1904.....	-----	53,785	-----	12,388	-----	5,725
1905.....	1,897.07	39,216	-----	-----	5,864	3,542
1906.....	532.61	11,010	241.88	5,000	9,030	6,050
1907.....	2,983.00	61,664	-----	-----	31,488	20,782
1908.....	13,202.85	272,927	14.51	300	39,552	20,963
1909.....	18,404.95	380,464	16.69	345	80,639	41,932
1910.....	70,443.09	1,456,188	111.17	2,298	280,632	151,541
1911.....	58,941.75	1,218,434	255.42	5,280	255,367	135,345
1912.....	44,746.50	924,992	134.81	2,787	134,193	82,529
1913.....	14,785.62	305,646	623.94	12,898	757,505	457,533
1914.....	25,036.29	517,546	2,222.30	45,939	691,778	382,553
1915.....	38,724.53	800,507	427.44	8,836	740,560	375,464
1916.....	18,917.38	391,057	347.04	7,174	869,424	572,081
1917.....	11,873.11	245,439	58.34	1,206	859,837	708,506
1918 1/....	12,137.09	250,896	44.94	929	869,662	869,662
1919.....	734.48	15,183	43.34	896	10,142	11,359
1920.....	1,318.26	27,251	26.03	538	14,102	15,371
1921.....	1,069.81	22,115	24.09	498	21,476	21,476
1922.....	506.39	10,468	13.16	272	18,593	18,593
1923.....	592.79	12,254	-----	-----	24,200	19,844
1924.....	1,706.72	35,281	31.20	645	35,254	23,620
1925.....	423.23	8,749	3.53	73	9,945	6,902
1926.....	90.75	1,876	35.75	739	7,749	4,835
1927.....	170.81	3,531	16.30	337	10,806	6,127
1928.....	1,058.06	21,872	13.88	287	20,378	11,921
1929.....	1,297.69	26,826	-----	-----	40,194	21,423
1930.....	132.55	2,740	13.30	275	199	76
1931.....	699.79	14,466	16.69	345	1,023	297
1932.....	825.60	17,067	74.61	1,542	10,533	2,970
1933.....	1,132.08	23,402	84.66	1,750	6,137	2,148
1934.....	1,785.03	62,387	46.58	1,628	18,469	11,940
1935.....	6,009.16	210,321	121.74	4,261	88,996	63,966
1936.....	9,482.00	331,870	177.00	6,195	92,127	71,352
	361,661.04	7,881,661	5,240.34	165,661	6,055,854	4,154,990

1/ In 1918 Humboldt County was divided and Pershing County created.

TABLE 2. - Metal production Humboldt County, 1903-36 - Continued I.C. 6995

Year	Copper		Lead		Zinc		Total value
	Pounds	Value	Pounds	Value	Pounds	Value	
1903.....	-----	-----	-----	-----	-----	-----	$80,793
1904.....	-----	-----	-----	-----	-----	-----	71,898
1905.....	-----	-----	-----	-----	-----	-----	42,758
1906.....	518	$100	16,250	$926	-----	-----	23,086
1907.....	118,793	23,759	58,880	3,121	19,046	$1,124	110,450
1908.....	54,598	7,207	38,024	1,597	-----	-----	302,994
1909.....	5,477	712	60,488	2,601	-----	-----	426,054
1910.....	7,182	912	107,063	4,711	-----	-----	1,615,650
1911.....	11,979	1,497	71,850	3,233	-----	-----	1,363,789
1912.....	40,731	6,721	67,590	3,042	-----	-----	1,020,071
1913.....	17,065	2,645	61,072	2,687	-----	-----	781,409
1914.....	32,952	4,383	32,495	1,267	-----	-----	951,688
1915.....	51,362	8,988	101,088	4,751	-----	-----	1,198,546
1916.....	135,180	33,254	75,734	5,226	-----	-----	1,008,792
1917.....	567,610	154,958	511,221	43,965	-----	-----	1,154,074
1918 1/....	249,271	61,570	255,186	18,118	-----	-----	1,201,175
1919.....	7,223	1,344	35,455	1,879	-----	-----	30,661
1920.....	8,801	1,619	28,034	2,243	1,700	137	47,159
1921.....	457	59	3,245	146	-----	-----	44,294
1922.....	725	98	26,363	1,450	-----	-----	30,881
1923.....	1,403	206	12,815	897	-----	-----	33,201
1924.....	354	46	4,696	376	-----	-----	59,968
1925.....	36	5	2,560	223	-----	-----	15,952
1926.....	30	4	24,445	1,956	-----	-----	9,410
1927.....	595	78	5,854	369	-----	-----	10,442
1928.....	989	142	6,785	394	1,248	76	34,692
1929.....	23,539	4,143	7,076	446	-----	-----	52,838
1930.....	5,855	761	1,900	95	-----	-----	3,947
1931.....	8,105	738	-----	-----	-----	-----	15,846
1932.....	1,205	76	2,564	77	-----	-----	21,732
1933.....	125	8	6,020	223	-----	-----	27,531
1934.....	3,366	269	14,883	551	-----	-----	76,775
1935.....	1,440	120	17,486	699	-----	-----	279,367
1936.....	2,000	184	48,000	2,208	-----	-----	411,809
	1,358,966	316,606	1,705,122	109,477	21,994	1,337	12,559,732

1/ In 1918 Humboldt County was divided and Pershing County created.

AWAKENING DISTRICT

The Awakening, also known as the Amos, district is in the Slumbering Hills about 45 miles by road northwest of Winnemucca, Nev. It is also accessible from Jungo, Nev., a station on the Western Pacific Railroad 35 miles to the southwest. The road via Jungo is in poor condition and at certain times of the year almost impassable by automobile. Mining activity began in this area about 1910 with the discovery of the Alabama mine by Murray Scott. An intermittent production of gold-silver ore has been made by H. C. Davey and others from the Mayday, Alabama, and other properties on the east side of the Slumbering Hills. A 5-stamp amalgamation mill erected at Daveytown some years ago treated about 10,000 tons of ore, judging from the tailings pond near the millsite. The discovery of the Jumbo mine by G. C. Staggs and Clyde Taylor on the western side of the Slumbering Hills on Feb. 5, 1935 caused considerable excitement, and a large number of claims were located. In 1936 and 1937 a number of small companies were organized to prospect in this area, but, with the exception of the Jumbo mine, no outstanding discoveries had been made up to the time of the writer's visit in June 1937.

In the past two years the bulk of the production from the district has been derived from the Jumbo mine.

Jumbo Mine

The Jumbo mine comprises four unpatented claims on the east side and near the crest of the Slumbering Hills. It was sold in 1935, the year it was discovered, to George Austin and associates, of Jungo, Nev., for $10,000. It is interesting to note that the property was equipped and paid for out of proceeds derived from the mine. In 1935 Austin and associates equipped the property with a small amalgamation mill, in which a small tonnage of high-grade ore obtained by screening was treated. In 1936 a 30-ton amalgamation-concentration mill was erected. During the first five months of 1937, 1,086 tons of ore were treated, having a gross value of $21,735. In May 1937 the property was sold to J. K. Wadley, Sherman Hunt, and H. L. Hunt, oil operators from Texas, under a bond and lease agreement with a reported cash payment of $250,000. When the writer visited the property in June 1937, the mill was treating 38 tons of ore per day averaging $30 per ton and was employing an average of 15 men.

The formation consists of metamorphosed sediments, principally shale, dipping from 55° to 70° to the east. Gold alloyed with silver occurs in the free milling state in numerous stringers in the shale. The stringers are in part filled with the vein-forming feldspar and adularia, and a notable feature of the deposit is the small amount of silicification.

Development consists of 6 adits with an aggregate length of about 1,000 feet. Mine equipment includes a portable Gardner-Denver compressor, tractor, and scraper and mining tools. The mill is on the edge of the Black Rock Desert 3 1/2 miles from the mine. It was designed for a