

Sodaville Tailings

About 1/2 mile east of Sodaville is a tailings dump owned by Arthur Nelson of Candelaria, which was derived from ore taken from the mines of the Candelaria district in the early days. The ore was treated by chloridized roasting and amalgamation. A number of unsuccessful attempts have been made to recover the values. The dump is reported to contain at least 20,000 tons and to average better than \$3.50 per ton at current metal prices. Values are in silver, gold, and quicksilver. The quicksilver in the tailings was derived from losses incurred in amalgamating the ores.

Bentonite

Two miles east of Mina on the west slope of the Pilot Mountains is a bentonite type of clay. The deposit is covered by two unpatented claims owned by the John McMillan estate. It has been prospected by several shallow shafts and open-cuts. No large tonnage is indicated.

Montezuma Mine

The Montezuma mine is in the east foothills of the Pilot Mountains, 20 miles by road east of Sodaville. Some years ago this property was worked by the German American Turquoise Co. In recent years the property has been inactive. Development consists of a number of irregular pits and short tunnels.

The turquoise is in decomposed trachyte as veinlets and nodules up to 1 inch thick. Most of the material is said to be of too poor quality for gem stones.

RAND DISTRICT

The Rand or Bovard district is on the northeast slope of the Gabbs Valley Range in northeast Mineral County, 27 miles by road northeast of Hawthorne via Ryan Canyon and Nugget Wash. It was discovered by Al Bovard and other prospectors from Rawhide in the spring of 1908. The nearest shipping point is Nolan on the Mina Hazen branch of the Southern Pacific R. R. 17 miles southwest of the district.

In 1919, a company called the Gold Pen Mines Co. acquired the Gold Pen property and erected a 20-ton amalgamation mill in 1920. This company ran into financial difficulties in 1921 and the property was sold to other interests.

Practically all the production has been ore shipped by lessees, except for small amounts treated at Rawhide or locally. Metal production from the district from 1910 to 1934 is shown in table 5.

Randall Property

R. J. Randall owns eight unpatented claims formerly owned by the Nevada-Rand Mining Co. Randall acquired the property in 1927 at a sheriff's sale to satisfy a judgment for \$2,500 and costs obtained by the company's creditors. Property has been worked intermittently by Randall since 1927. Production is reported to have been about \$50,000.

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TABLE 5. -- Gold, silver, copper, and lead production from Rand (Bovard) District, Nevada,
1910-35, in terms of recovered metals

(Compiled by Charles White Merrill, Mineral Production and Economics Division, U. S. Bureau of Mines)

Year	Lode											
	No. of mines	Ore, short tons	Gold		Silver		Copper		Lead		Total value	Average recoverable value of ore per ton ^{1/}
			Fine oz.	Value	Fine oz.	Value	Fine oz.	Value	Fine oz.	Value		
1910	4	12	74.85	\$1,547	317	\$171	—	—	—	—	\$1,718	\$143.17
1911	—	—	—	—	—	—	—	—	—	—	—	—
1912	—	—	—	—	—	—	—	—	—	—	—	—
1913	—	—	—	—	—	—	—	—	—	—	—	—
1914	3	227	398.76	8,243	18,230	10,081	—	—	—	—	18,324	80.72
1915	7	212	1,271.25	26,279	8,674	4,398	—	—	6,588	\$310	30,987	146.17
1916	9	812	566.85	11,718	4,746	3,123	100,709	\$24,774	5,845	403	40,618	49.28
1917	9	2,795	105.90	2,189	2,390	1,969	374,395	102,210	9,034	777	107,145	38.33
1918	6	265	70.87	1,465	2,927	2,927	47,572	11,750	20,744	1,473	17,615	66.47
1919	4	189	353.68	7,311	3,788	4,243	12,223	2,274	—	—	13,828	73.16
1920	3	95	743.84	15,376	1,793	1,954	—	—	—	—	17,330	182.42
1921	3	34	145.55	3,009	4,755	4,755	—	—	—	—	7,764	228.35
1922	4	41	121.02	2,502	1,191	1,191	—	—	—	—	3,693	90.07
1923	2	81	239.06	4,942	9,036	7,410	—	—	—	—	12,352	152.49
1924	4	370	759.28	15,696	33,678	22,564	—	—	—	—	38,260	103.41
1925	2	234	407.17	8,417	3,692	2,562	—	—	—	—	10,979	46.92
1926	4	477	250.18	5,172	4,650	2,902	26,141	3,660	—	—	11,734	24.60
1927	5	455	355.01	7,339	5,499	3,118	11,195	1,466	10,512	663	12,536	27.66
1928	6	243	182.12	3,765	2,465	1,442	11,242	1,619	—	—	6,826	28.09
1929	3	183	48.98	1,013	166	88	19,126	3,366	719	45	4,512	24.66
1930	—	—	—	—	—	—	—	—	—	—	—	—
1931	—	—	—	—	—	—	—	—	—	—	—	—
1932	—	—	—	—	—	—	—	—	—	—	—	—
1933	1	33	32.00	818	1,096	384	—	—	—	—	1,202	36.42
1934	1	22	27.30	954	813	526	—	—	—	—	1,480	67.27
1935	5	111	103.32	3,616	1,612	1,159	—	—	—	—	4,775	43.02
Total		6,891	6,256.99	\$131,371	111,518	\$76,967	602,603	\$151,119	53,442	\$3,671	\$363,128	\$ 52.70

^{1/} Not to be confused with average assay value of ore.

Development comprises a 1 1/2-compartment vertical shaft 450 feet deep and approximately 1,500 feet of underground workings. Equipment includes a gasoline hoist, blacksmith shop, and several camp buildings. Mining is done by hand methods. A shipment of ore made by Randall to the International Smelting & Refining Co. at Salt Lake City on April 12, 1935, afforded the following data:

Metal quotation:	Ag	\$0.64125	per oz.
	Au	35.00	per oz.

Settlement assay:	Au	0.75	oz.
	Ag	22.25	oz.
	Zn	.5	percent
	Cu	nil	
	Pb	nil	
	Insol.	86.4	percent
	Fe	2.5	percent
	S	.2	percent
	CaO	3.0	percent

Metal payment:	Au	91 percent at	\$35 per oz.	\$23.888
	Ag	95 percent at	\$0.64125 per oz.	13.554
			Gross value	37.442

Treatment charge:	Base rate	\$4.00 per ton	
	10% charge metal payment		
	over \$25	1.244	
		5.244	
			5.244
	Pounds	Net value per ton	32.198

Wet weight	96,780	
Less 1.54 moisture	1,490	
Dry weight	95,290	equals 47.645 tons

47.645 tons at \$32.198 per ton	\$1,534.07
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Deductions:	Freight	\$4.90 per ton	\$237.11
	Demurrage		2.00
			239.11
	Net proceeds		239.11
			1,294.96

Ore occurs in veins in latite. Some of the silver is alloyed with gold and some occurs as cerargyrite and argentite. The rich ore occurs in lenses in a quartz gangue stained with iron and manganese oxides.

The ratio of gold to silver, by weight, averages 1 to 30.

Gold Pen Mine

The Gold Pen mine comprises a large group of claims owned by Richard Cowles of Reno. The property is developed by a shaft 250 feet deep, a tunnel,

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and several thousand feet of workings. Equipment includes an assay office, 25-ton mill, blacksmith shop, and camp building. In 1936, a portion of the property was under lease to W. B. Worlock, who had made two small shipments up to October.

At the Gold Pen mine the vein is said to be 3 to 8 feet wide and separated from the walls by sheets of alunite from 3 inches to 1 foot wide. Values are gold and silver in a quartz gangue. The enriched zone extends to a depth of 250 feet from the surface.

Lone Star Group

The Lone Star group of eight unpatented claims is owned by E. M. Mims, of Sacramento, Calif., and adjoins the Randall property. Development consists of a shaft 550 feet deep and about 1,000 feet of underground workings. Mining is done by hand.

Geological conditions on this property are essentially the same as on the Randall group. Production has been about \$25,000 in gold and silver.