I.C. 6902

Total weight - lb.....	4,002	
Sacks (29) - - do.....	41	
	3,961	
Moisture 1.0 percent - lb.....	39	
	3,922	
tons....	1.961 at $52.59 per ton ...	$103.13
Freight	$18.47	
Freight surtax, 10 percent.....	1.85	
Assay charges and handling.....	7.50	
Sacks returned	.55	
	28.37	28.37
Net payment		74.76

When the writer visited the property a Sullivan 150-cubic foot portable compressor had been purchased, and preparations were under way to develop the property on a scale larger than was possible by hand methods.

Several other groups of claims above and below the Evening Star property are held by various owners, but these claims are still in the prospecting stage.

Unionville (Buena Vista) District

The Unionville or Buena Vista district is on the east slope of the Humboldt Range 20 miles south of Mill City, the nearest railroad point. The district was organized in 1861 and the town of Unionville founded. This town became the center of mining activity and was the county seat of Humboldt County up to 1883.

Silver-bearing lodes were discovered in this area shortly after the first developments on the Comstock. The most prominent mine was the Arizona, which was discovered in 1862. The mine was purchased by John C. Fall and company in 1866. The property was shut down in 1880 but was subsequently worked at various times. Other important mines that were worked in the early days are the Henning (Wheeler) and Pfluger (Manoa). In the early seventies three 10-stamp mills were treating the lower-grade ores in the district; the higher-grade ores were hauled by team to Sacramento and shipped in sailing vessels to Swansea, Wales. The stamp mills employed the Washoe pan-amalgamation process in which the ores were crushed wet and amalgamated in pans without roasting. The ores in this area were not so amenable to pan amalgamation as those in the Comstock, therefore the yield from the first treatment was little more than 50 percent of the assay value. The tailings were reworked by the same process after standing a while, to recover additional values. Table 4 presents interesting data on mining and milling costs at Unionville in 1869.[18/]

18/ Raymond, R. W., Mines and Mining West of the Rocky Mountains: 1869, p. 190.

TABLE 4. - Mining and milling costs at Unionville in 1869

Wages of first class miners	$4 a day or $3 and board.
Wages of second class miners.....	Not known here.
Wages of surface laborers	$3 to $3.50 per day.
Cost of lumber per thousand	$50 to $60.
Cost of mining timber	$.25 to $2 a piece.
Cost of common powder.....	$5 to $6.
Cost of giant power	None used.
Cost of quicksilver	$0.65 to $0.70 (per lb.)
Cost of freight from base of supplies	$60 per ton.
Cost of fuel	$10 to $12 per cord of cedar wood.
Average mining cost per ton	$12 to $15.
Average pulp assay of ore.....	$60 to $100.
Average yield of ore.....	$30 to $60.

Indian laborers, employed about the mine, get from $1.50 to $2.50. Very little lumber is used in the mines. Timber is used to support loose parts of the rock and mostly for support in stoping. The mines being yet in their infancy, much deadwork has been done, increasing the average cost of mining per ton.

Complete statistics of production from the district are not available. The total production doubtless exceeds $2,000,000, most of which was derived from the Arizona mine. According to Whitehill[19] the yield of bullion from the Arizona mine from 1871 to 1877 was as follows:

Year	Bullion production	Year	Bullion production
1871	$339,808	1875	$78,944
1872	326,531	1876	60,727
1873	246,621	1877	78,877
1874	172,731	Total	1,304,239

The Henning mine is reported to have produced ore worth $125,000. The last revival of activity in the district was from 1921 to 1924 when the Arizona, Henning, and other mines were worked. According to Mineral Resources the production for the period is as follows:

Year	Tons ore and tailings	Total value	Value per ton
1921	3,271	$69,273	$21.18
1922	2,274	23,393	10.29
1923	8,089	------	-----
1924	3,714	12,946	3.49

The ores were treated in several small flotation or cyanidation mills. In recent years there has been little lode mining activity near Unionville.

The Arizona deposit is a flat vein in limestone near the top of a hill under which it is practically continuous. The old stopes have an area of about 18 acres. The width of the vein ranges from 10 inches to 5 feet, averaging 2½ feet. The

19/ Whitehill, H.R., Biennial Report of the State Mineralogist of the State of Nevada for the years 1877-78, p.64.

gangue consists of banded quartz, and the ore minerals are pyrite, galena, sphalerite, tetahedrite, argentite, and sulphantimonite. Ransome[20] comments on the applicability of our mining laws to deposits of this form as follows:

> It is a fact of some interest that deposits of this character were known and worked in Nevada at the time when our mining laws of 1866 and 1872, apparently so little applicable to them, were passed. The statement made by Shamel[21] that it is probable that at the date of the passage of the statute of 1872 no instance was known of a vein which assumed a horizontal or even an approximately horizontal direction, is obviously incorrect.

The Henning mine 1 mile south of the Arizona mine is also a flat vein in limestone. The Pfluger mine is in Cottonwood Canyon 3 miles south of Unionville. The ore is a lead-silver ore which carries a little copper and gold. The property comprises 13 patented claims owned by the Pfluger Estate of San Francisco, Calif.

In Jackson Canyon an antimony vein has been worked in former years. During the World War the Magnolia Metals Co. produced some antimony by working the mine and dumps. The property is called the Jackson mine and comprises five unpatented claims owned by William Bradley of Imlay. Development work totals 1,000 feet of tunnels and drifts. The width of the vein ranges from 6 inches to 8 feet and averages 2½ feet, and it dips about 75°. Bunches of stibnite occur in quartz. The formation is rhyolite.

In March 1936 the only activity in the district was some small-scale placering done by Sidney Thornton in Congress Canyon, on the north fork of Buena Vista Canyon. Gravel is drift-mined and sluiced. The depth of the gravel averages 12 feet. Water for small-scale sluicing is available in Congress Canyon.

Velvet District

The Velvet district is on the west slope of the Trinity Range 24 miles by automobile road a little north of west from Lovelock. The last 4 miles of the road from Lowry Wells to the district are in very poor condition. Most of the prospecting was done from 1915 to 1919. It is said that a lens of rich ore that was produced was worth about $20,000. This ore which was shipped constituted the principal production from the district. When the district was visited there was no activity.

The ore minerals in the district are gold and a subordinate quantity of silver. The principal formation is altered rhyolite. The gold occurs mainly in the free state along iron-stained joints and crevices in the rhyolite. Very little vein quartz was observed on the dumps.

In 1935 the Houskin Bros., Charles and Archie, of Lovelock, installed a small amalgamation mill at Juniper Mountain 14 miles west of the district where water is available. The mill has a capacity of 8 tons of ore in 12 hours. In 1935 about 50 tons of ore were taken from a tunnel on the Houskin group of three unpatented claims and treated in this mill, and bullion worth about $900 was recovered. This

---

20/ Ransome, F. L., Notes on Some Mining Districts in Humboldt County, Nev.: U.S. Geol. Survey Bull. 414, 1909, p. 39.

21/ Shamel, --, Mining, Mineral, and Geological Law: New York, 1907, p. 233.