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be transferred from narrow-gage to standard-gage cars either at Mina, Nev., or Keeler, Calif.

On the Somerville ground, about 2 miles east of Basalt, is a deposit of pumicite. This deposit was shown to the writer and reported to be alunite. Microscopic examination of the material, however, shows that it is composed entirely of fine grains of silica. The deposit is 10 feet wide and dips 60 degrees; both walls are diatomaceous earth. It has been prospected by an open cut about 15 feet long and a maximum of 10 feet deep.

Diatom Company

A company called the Diatom Company, controlled by Langlois Brothers, 717 South San Pedro Street, Los Angeles, Calif., also owns 16 claims covering the diatomaceous earth. Most of the production of the diatomaceous earth has been made by this company.

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BELL DISTRICT

The Bell, also known as the Cedar Mountain District, is in the Cedar Mountain Range in eastern Mineral County near the Nye County border. It includes the camps of Omco, Simon, and Copper Contact. Simon is 22 miles by road northeast of Mina, and Omco lies 4 miles north of Simon. The principal properties in this area are the Simon and Omco mines.

Simon Silver-Lead Mines, Inc.

The Simon mine was discovered in 1879, at which time small quantities of lead ore mined from the gossan were shipped. Its importance was not discovered, however, until 1919, when silver-bearing lead-zinc ores were discovered in the sulphide zone below the gossan that had been prospected in 1879.

In 1921 the Simon Silver-Lead Mines Co. erected a 100-ton flotation mill at the mine. In 1923 this company was reorganized under its present name and the mill enlarged to handle 250 tons per day. Up to 1927 the mill, operating at four different periods, had treated 93,000 tons of ore and produced 6,258 tons of lead and 5,311 tons of zinc concentrates having a gross smelter value of \$741,378. The mill closed in January 1927.

Property consists of a contiguous group of patented and unpatented claims amounting to 600 acres. In the acquisition of this acreage the present company absorbed 7 smaller companies.

The Simon mine is opened by a 3-compartment vertical shaft 800 feet deep and a winze sunk to a depth of 200 feet from the 800-foot level. Total underground workings comprise in the neighborhood of 25,000 feet. The shaft and underground workings are reported to be in good shape, but, recently the mine has been allowed to fill with water to the 450-foot level.

Mining equipment includes a 150-horsepower hoist, a compressor, a drill sharpener, pumps, lighting plant, and camp buildings.

Mill equipment includes a No. 5 Allis Chalmers gyratory crusher, a No. 3 Kennedy gyratory crusher, a 6- by 10-foot Allis Chalmers tube mill, a 62 1/2-inch Marcy ball mill, 2 Dorr drag classifiers, 26 18-inch sub-A mineral separation flotation cells, 2 5- by 6-foot Oliver filters, and 4 Dorr thickeners.

Purchased power is available at the property.

The geology of the district has been described by Knopf^{5/}, who stated that the ore bodies are replacement deposits in limestone localized along an alaskite dike about 30 feet wide. The minerals in the sulphide zone are argentiferous galena and zinc blende associated with subordinate amounts of pyrite and chalcopyrite in a gangue of calcite and limestone.

Considerable development work was done after the mill closed in 1927, and, according to J. H. Simpson, manager of the property, about 100,000 tons of ore have been blocked out. The average value of this ore, as determined from development samples, was stated to be as follows:

Au.....	0.04 oz.
Ag.....	9.0 oz.
Pb.....	9 percent
Zn.....	8.5 percent
Cu.....	.2 to 3 percent

The intense faulting and other complicated geological features of the mine, together with the grade of the ore, has made it impossible to operate profitably under the conditions that prevailed in the base-metal market in recent years.

Omco Mine

The Omco mine is 25 miles northeast of Mina at the north end of the Cedar Range.

The Royal George group of nine claims was located in 1915 by James P. Nelson. The property was sold shortly after to San Francisco interests that organized the Olympic Mines Co. Omco is an abbreviation of the name of this company.

The Olympic Mines Co. erected a 70-ton cyanide mill in 1917. This mill burned down in 1919 and another of 80 tons capacity was built in 1920, which closed in 1921. The mine has been operated at various times by lessees, and in 1929 it was sold at a tax sale. On December 20, 1932, the

^{5/} Knopf, Adolph, Ore Deposits of Cedar Mountain, Mineral County, Nev.: U. S. Geol. Survey Bull. 725-H, 1933, 20 pp.

mine workings were caved by a severe earthquake that occurred in this vicinity. In 1936, the mine and mill were being rehabilitated by J. H. Simpson and associates of Simon.

Production, principally by the Olympic Mines Co., has been about \$700,000, principally in gold. About 35,000 tons of ore, at from \$15 to \$20 per ton, were treated in the two mills, and in addition considerable ore was shipped.

The Omco mine is developed by a shaft 225 feet deep, inclined 43 degrees. Total lateral workings comprise about 3,000 feet.

The Omco mill equipment includes a Hendy crusher, a 6- by 1 1/2-foot Hendy tube mill, a 5- by 6-foot Hendy ball mill, a Dorr duplex drag classifier, two 12- by 14-foot Oliver filters, two 12- by 18-foot Dorr agitation tanks, three 12- by 24-foot Dorr thickener tanks, pumps, refinery and other cyaniding equipment.

An extraction of 93 percent is reported to have been made in milling. The mill-tailings dump, which contains about 35,000 tons, has been sampled several times, but the sampling results are not available.

The mine and mill are served with power by a branch transmission line from Simon.

In 1936 a 2-inch-diameter pipe line 4 miles long was laid to carry water from the collar of the Simon shaft to Omco by gravity.

The Olympic vein occurs in rhyolite and trachyte covered in places with tuff. The vein averages 4 feet in width and consists of quartz and more or less silicified rhyolite. Values are chiefly in gold, which is invisible, and the best ore is chalky in appearance with no sign of mineralization. The vein has a dip of 43 degrees to the 100-foot level, from which point it becomes flatter to the 150-foot level. To the west the vein has been cut by a fault, and the displaced segment has been lost or eroded.

Golden Mile Group

The Golden Mile group of four unpatented claims owned by J. H. Walsh of Mina is at Copper Contact, 22 miles by road northeast of Mina and several miles south of Simon.

This property was discovered in 1902 by Jesse Workman. In 1935 it was worked under bond and lease to Henry Ott of Reno and associates, who shipped approximately 4,000 tons of ore and relinquished the option. Total production of shipping ore is reported to be about 10,000 tons.

Development consists of three tunnels and other workings, totaling about 1,000 feet. The ore mined has been taken from an open-cut several hundred feet long, 25 feet deep, and 30 feet wide.

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In 1936, J. H. Walsh mined several carloads of ore by hand methods. The smelter returns on a carload of ore shipped by Walsh to the American Smelting and Refining Co. smelter at Salt Lake City on May 12, 1936, furnished the following data:

Metal quotation:	Au	34.9125
	Ag77
	Cu	9.15 less 2.525 per pound.

Settlement assay:	Au345 oz.
	Ag	1.15 oz.
	Cu	1.66 percent
	Insol ..	14.3 percent
	S5 percent
	As3 percent
	Fe	16.4 percent
	CaO	19.3 percent

Metal payment:	Au at \$31.81825	\$10.98
	Ag 95% at .7784
	Cu less 0.4% at 1.325 ...	1.67
		<u>13.49</u>

Treatment charge:	Base rate	1.35
	Penalties and premiums.	1.56
		<u>2.91</u>
	Net value per ton	10.58

Wet weight	104,280 pounds	
Less 4% moisture	<u>4,172</u> pounds	
Dry weight	100,108 pounds equal 50.054 tons at \$10.58	\$529.57
	Freight	\$3.60 per ton 187.70
	Hauling	\$2.50 per ton 130.35
	Assaying	4.00
		<u>322.05</u>
	Net proceeds	<u>207.52</u>

The deposit is a flat-lying vein in magnesian limestone near a granitic intrusive. Values are chiefly in gold with minor amounts of silver and copper. The gangue consists mainly of iron oxide and calcite. An analysis of the ore made by the Union Assay office on 2 carloads shipped to the smelter was as follows:

Au	0.26	oz.
Ag	1.2	oz.
Pb	None	
Cu	2.06	percent
Insol	14.2	percent
Zn6	percent
S2	percent
Fe	33.1	percent
Lime	9.0	percent
Sb	None	
As	Trace	
MnCO ₃	Balance	

From the analysis, this is an unusual and complex type of gold ore. Metallurgical tests have not been made to determine whether or not this type of ore can be treated by flotation.

Clay Peters Group

The Clay Peters group of three unpatented claims owned by Mrs. Clay Peters of Los Angeles, Calif., is 12 miles northeast of Mina.

Property was last worked in 1935 by William Myers of Omco and two partners, who shipped 14 cars of ore that averaged \$18 per ton. Royalty paid by Myers was 15 percent of the net smelter returns. The trucking cost to Mina was \$2.25 per ton. Property was idle in 1936.

Development consists of a shaft 240 feet deep and some lateral workings. Equipment includes an Ingersoll Rand Imperial Type 12 compressor driven by a Waukesha gasoline engine. The hoist has been removed from the property.

The orebody is an irregular deposit in limestone. Values are chiefly in gold, with small amounts of lead and copper in a siliceous gangue.

Harvey-Taylor Group

The Harvey-Taylor group of five patented claims owned by J. A. Ashby of Hawthorne, Nev., is 20 miles by road northeast of Mina and 1 1/2 miles west of Simon. A small amount of shipping ore has been produced in the past by lessees. In 1936 the property was idle.

Development work consists of two tunnels, 100 and 165 feet in length, driven on the vein, and two winzes, one 100 feet and the other 150 feet deep. There is no equipment on the property.

Water for milling is available from Storey Springs in the vicinity. The estimated flow from these springs is 12 gallons per minute.

Formation is andesite. The vein has a width of 2 feet on the surface and 4 to 6 feet at the tunnel levels. Vein is said to be exposed for a length of 650 feet, and the dip averages 50°.

Values are in gold and silver. The gold is largely free-milling. According to Ashby, property has been sampled by several engineers and approximately 30,000 tons of ore averaging \$5 per ton, at current metal prices, are reasonably assured.

Finger Rock Quicksilver Mining Company, Inc.

The Finger Rock Quicksilver Mining Co., Inc., Kenneth D. Holland, president, is a small stock company recently formed by Los Angeles people. The company owns a group of three unpatented claims several miles northerly from Omco. The property is 26 miles northeast of Luning, Nev., by way of Santa Fe Pass.

This property has produced 5 flasks of quicksilver. In 1936, four men were employed in driving a tunnel to explore the deposit at depth.

Development work consists of a tunnel 250 feet long and a shaft 50 feet deep. Equipment includes one-drill compressor and a 25-ton capacity Cottrell furnace recently installed.

A shear zone contains cinnabar in rhyolite.

Diatomaceous Earth

About 4 miles easterly from Copper Contact, near the Mineral-Nye County boundary line, diatomaceous earth is to be found. The nearest shipping point is Mina, about 25 miles from the deposit.

About 1925, a company, called The Nature Products Co., held over 200 acres of diatomaceous-earth lands in this area and is reported to have shipped 3 carloads to Reno for the production of tooth powder and dental cream.

The deposit is exposed on the surface over a considerable area and the material is said to be of good quality.

Although this deposit could supply large quantities of diatomaceous earth for the building trades, the low price paid for such material and distant markets makes it difficult to compete with other sources of supply.

BROKEN HILLS DISTRICT

The Broken Hills district is in the northeastern corner of Mineral County in a group of low hills between the Fairview and Ellsworth Ranges. It is accessible from Fallon which is on the main line of the Southern Pacific R. R. and 70 miles to the northwest.