Clark County
Item 3



Vadis Gold Mining Co. In February 1937 a small company called the Boulder Canyon Gold Mining Co. was preparing to prospect the Quo Vadis property.

Quo Vadis Group

The Quo Vadis property comprises a group of five unpatented claims owned by E. W. Clark, of Las Vegas, Nev., and associates.

Development work consists of a 1 1/2-compartment vertical shaft 90 feet deep and an adit 300 feet long. Mining equipment includes a Gardner-Rix compressor (6 by 6 inches) driven by a Buick automobile engine, a 15-horsepower Fairbanks-Morse geared hoist, mining tools, and blacksmith shop.

Rich stringers of free-milling gold ore occur in biotite monzonite formation. The gangue is chiefly quartz and calcite stained with manganese. A small amount of silver is associated with the gold.

## ARDEN DISTRICT

(Gypsum, Silica Sand)

Gypsum deposits occur in the Spring Mountains 5 to 13 miles west of Arden, Nev., a station on the Union Pacific R.R. Gypsum was mined in this locality by the Arden Plaster Co. from about 1909 to 1919. In 1919 the holdings of the Arden Plaster Co. were purchased by the United States Gypsum Co., and the latter company operated until 1931, when the mine and mill closed because the deposit was exhausted. The plaster mill at Arden is still intact, but much of the equipment is either in poor condition or obsolete. In 1925 the Blue Diamond Corporation, Ltd., began mining a gypsum deposit 13 miles westerly from Arden. This company has operated steadily and in 1936 was the only active producer of gypsum in the district. Adjoining the Blue Diamond mine is the Mateucci gypsum deposit, which has never been exploited. This property is reported to contain large reserves of gypsum comparatively free from anhydrite and of excellent grade.

Statistics on the production of gypsum from the Arden deposits are not available, but judging from the extent of the workings production has probably exceeded 1,000,000 tons.

Unlimited reserves of silica sand suitable for molding purposes occur west of Arden. Molding sand has been produced on a small scale from this deposit by the Arden Silica Co. for several years.

Blue Diamond Corporation, Ltd.

The property of the Blue Diamond Corporation, Ltd., comprises about 1,000 acres, one-third of which is covered by a gypsum deposit. The company employs an average of 35 men in the production of about 300 tons of gypsum per day. The gypsum is crushed and screened at the mine and is shipped to southern California for use in cement and building industries.

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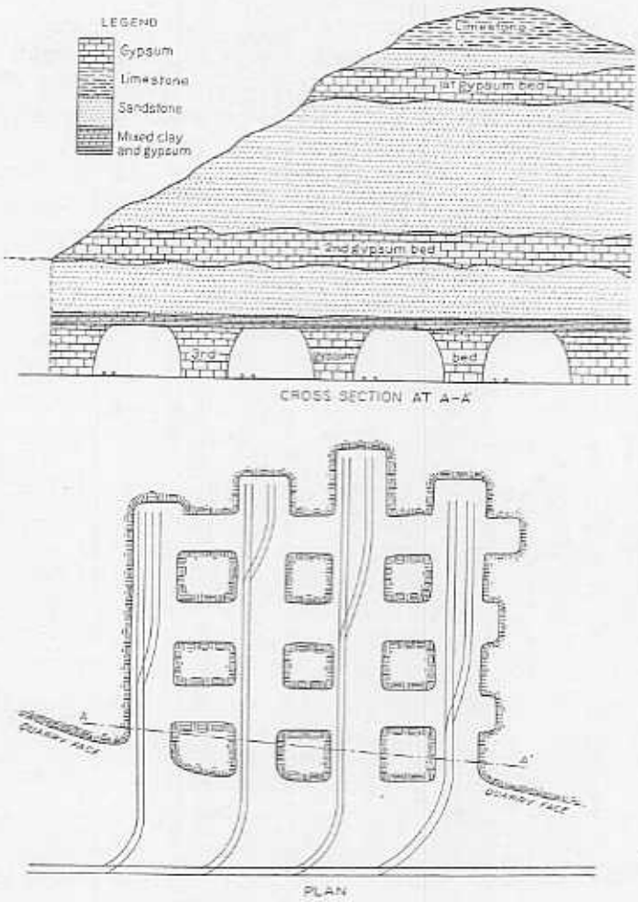


Figure 2.—Cross section and plan of room-and-pillar workings, Blue Diamond Corporation. Ltd., Arden, Nev.

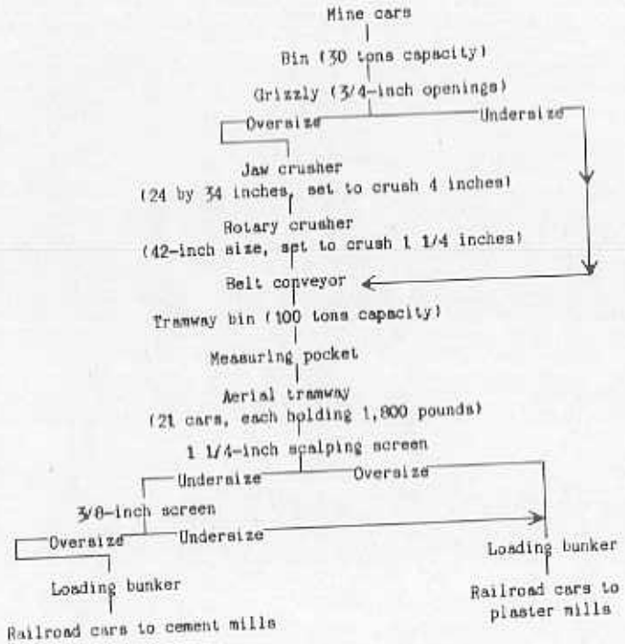


Figure 3.- Flow sheet of crushing and screening plant, Blue Diamond Corporation, Ltd., Arden, Nev.

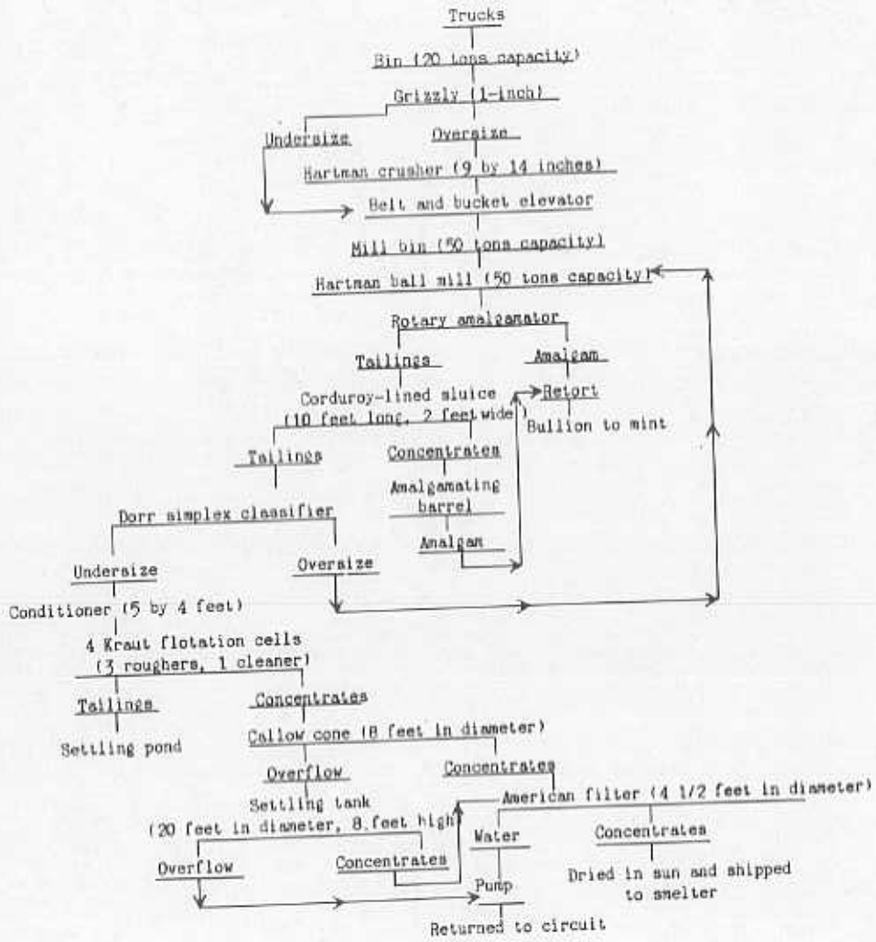


Figure 4.- Flow sheet of the Eldorado Canyon Development Co. mill, Eldorado district, Clark County, Nev.

locomotive. The mine is throoughly ventilated, so that the exhaust gases from the locomotive are not an underground hazard.

The flow sheet of the crushing and screening plant is shown in figure 3. The cars are dumped into a 30-ton storage bin that has a grizzly bottom with 3/4-inch opening for by-passing the fines to the conveyor belt. The oversize passes to a Dodge crusher (24 by 34 inches) set to crush to 4-inch size. From the Dodge crusher the minus 4-inch material passes to a rotary crusher (42 inches) set to crush to 1 1/4-inch size. The minus 1 1/4-inch product and grizzly undersize are conveyed by belt conveyor to a tramway bin of 100 tons capacity. From the tramway bin the gypsum passes to a measuring pocket regulated by hand, and thence into the aerial tramway cars each holding 1,800 pounds. The tramway is operated by gravity, the loaded cars taking the top cableway track and the empties returning inverted on the lower one. The tramway discharges to a set of stationary scalping screens. The screen products are diverted to loading bunkers and thence to railroad cars.

Power for mining and the crushing plant is furnished by a 180-horse-power Fairbanks-Morse, 3-cylinder, Y-type, Diesel engine.

The direct cost of mining is about $1 per ton, including crushing, screening, and loading, but exclusive of depreciation and depletion.

Arden Silica Co.

A deposit of silica sand worked by the Arden Silica Co. of Los Angeles, Calif., Harry E. Blood, president, occurs 4.7 miles westerly from Arden, a station on the main line of the Union Pacific R.R. This company has worked the deposit under a lease agreement for the past 4 years, and has produced an average of 7 carloads of molding sand per month. No attempt has been made to utilize the sand for glass making purposes. An average of four men is employed.

The silica occurs as well rounded grains in a cross-bedded sandstone formation at least several hundred feet thick. The sandstone is coherent but it is easily broken down to individual grains by crushing and washing. In places the silica is either stained with iron or cemented with lime.

The sandstone is mined by the room-and-pillar method. Rooms 12 feet wide and 10 feet high are driven into the hill for about 100 feet. Drilling is done with jackhammers and 7/8-inch hollow hexagonal steel. Blasting is done with 40 percent gelatin dynamite, No. 6 detonators, and tape fuse. Compressed air is furnished by a 120-cubic-foot-capacity compressor driven by a 4-cylinder gasoline engine. The sandstone is shoveled into trucks by hand and hauled several hundred feet to the crushing plant.

Crushing-plant equipment consists of a Blake-type jaw crusher (18 by 12 inches), a set of rolls (18 by 30 inches), a belt and bucket elevator, and an Isbell vibrating screen equipped with 14-and 35-mesh screens. The minus

35-mesh screened product is discarded as waste, and the plus 35-minus 14-mesh product is loaded into a truck and hauled 4.7 miles to the washing plant at Arden. Power for the crushing plant is furnished by a 75-horsepower gasoline engine.

Washing-plant equipment consists of a belt and bucket elevator, two screw classifiers, conveyor belt, and storage bin. The classifiers are spiral steel screws, 14 inches in diameter and 12 feet long, that operate in a box launder inclined 19°. Power for the washing plant is furnished by a 75-horsepower gasoline engine.

## COPPER KING (KEY WEST) DISTRICT

(Copper-Nickel-Platinum, Gold-Silver-Lead, Mica, Beryl, Manganese)

The Copper King district is in the west foothills of the Virgin Range about 15 miles a little west of south from Bunkerville, Nev. It can be reached by automobile by turning south off Highway 91 at Riverside and driving 1.6 miles to the Darling ranch, from which point a winding road goes to the Key West mine, 10.3 miles distant. The former Arrowhead Trail route between Bunkerville and St. Thomas traverses the district, but this road is impassable by automobile.

Copper ore was discovered on the Key West property in the late nineties by Scott Allen, a Cherokee. From 1900 to 1903 the property was explored primarily for copper and nickel by a company called the Nevada Copper and Nickel Co. During the course of this exploratory work, platinum was discovered in the ore by S. W. Darling, who was superintendent of the operations. Although considerable development work was done, very little was produced because of the metallurgical difficulties involved in recovering the metals from the matte.

After the Nevada Copper & Nickel Co. ceased operations, at least three other attempts were made to work the Key West mine, the last being made in 1936 by the International Smelting & Refining Co. of Salt Lake City, Utah.

From other properties in this area small operators and lessees produced (from 1908 to 1932) 1,550 tons of ore that yielded 51.39 ounces of gold, 1,313 ounces of silver, 99,990 pounds of copper, and 26,597 pounds of lead, valued in all at $19,726, an average value of $12.73 per ton.

Mica, beryl, and manganese also occur in this district but virtually none has been produced.

### Key West Mine

The Key West group of seven patented claims is controlled by the R. E. Payne estate of Boston, Mass. The mine lies at an altitude of 3,665 feet. This property is unusually interesting because nickel and platinum are present in the ore, two metals that are comparatively rare in the United States.