Turquoise

The White Horse turquoise deposit is about 3 miles westerly from Cortez. It has been known for many years and a small amount of gem material has been mined. The turquoise occurs in small seams in a decomposed igneous rock, probably rhyolite.

In 1929, J. A. Boitano of Cortez found turquoise in Cortez Canyon, several miles from the camp of Cortez. In 1930 and 1931, Boitano prospected the deposit by several open cuts and during the course of this work produced 600 pounds of crude turquoise that was sold for $5 per pound. Here the turquoise occurs as nodules and seams in thin-bedded limestone striking S. 40° E. and dipping about 20° to the southwest.

DIAMOND DISTRICT

The Diamond, also known as the Phillipsburg, district is on the west slope of the Diamond Range, 21 miles north of Eureka. The first mineral discovery was made here in June 1864, by a man known as Phillips. In 1866, a few tons of ore from the Mammoth claim were hauled to Austin for treatment, after which the district remained virtually abandoned until 1873, when a small smelting furnace was erected at the Champion mine by the Champion Silver Mining Co. This venture was unsuccessful, and later a second furnace was built at the Phillips property. There is no record of production, but from the size of the slag pile, the extent of the underground workings, and reported value of the ore, the district has not produced more than $50,000.

In 1922, the Eureka Silver Mines Co., a Utah corporation, attempted to concentrate, by gravity methods, the dump material at the Phillips property, but the results were discouraging. Subsequently, lessees worked the mine and the dumps with indifferent results. In 1937, the only activity in this area was on the Silver Bell group of claims situated about 1 mile west of the Phillips property.

Phillips Group

This property consists of a group of three patented and one unpatented lode claims owned by H. A. Culloden of Los Angeles, Calif. Development consists of an adit 300 feet long, about 1,000 feet of drifts, and other workings, totaling in all about 1,500 feet. There is no usable equipment on the property.

The prevailing formation is silicified limestone. The Phillips vein, on which most of the work has been done, strikes nearly north and south, has a dip of 35° to 55° to the west, and a width ranging from 1 to 6 feet and averaging 3 feet. Approximately 400 feet of the vein has been stoped above the adit level, but, since the vein outcrops on a gently sloping hill into which the adit has been driven, the stoping distance from the level to the surface is small. In several places the vein has been explored below the adit level.

Values are in lead and silver. The ore consists of argentiferous galena, cerrusite, and stibnite in a gangue composed chiefly of quartz, calcite, and country rock stained with iron and manganese oxides.

A short distance east of the Phillips vein is a parallel vein on which very little work has been done.

Wilcox and Frazer Claims

J. L. Wilcox and the Frazer brothers, Abe and William, of Eureka own 5 unpatented claims, two adjoining the Phillips group on the south and three on the north. These claims are said to be on the extensions of the Phillips vein. Total development on the foregoing claims is about 1,000 feet, most of which has been done on the north claim. There is no equipment on the property and to the writer's knowledge no production has been made.

Silver Bell Group

The Silver Bell group of 13 unpatented claims, owned by C. E. Vance, W. F. Ewald, and associates of Eureka, is in Phillipsburg Canyon 1-1/2 miles easterly from the Phillips property. In the latter part of 1937, the owners of the Silver Bell group had filed an application to incorporate under the name of Summit Mining Co. This group of claims was located in May 1934, although some desultory prospecting had been done in the area as far back as the '90s and several small shipments were made at that time. Development consists of a number of short adits and scattered surface workings totaling about 500 feet. The principal adit has a length of 100 feet. Equipment includes a Baldwin single-stage compressor driven by 4-cylinder Dodge automobile engine, jackhammer, ore bin, and camp accommodations for a crew of 5 men. In the fall of 1937, four men were employed in the production of shipping ore, and the production up to this time amounted to 75 tons averaging $40 per ton.

The prevailing formations are limestone and quartzite, the former trending north and south and dipping 60° to the west. The best showing of ore occurs in fissures and along the bedding planes of the limestone near its contact with the quartzite. Values are in silver, lead, zinc, associated with a little copper in a siliceous gangue. Smelter returns on a shipment of ore made July 10, 1937, to the American Smelting & Refining Co. furnished the following data:

Metal quotations:	Silver	$0.77 per ounce.	
	Lead	6 less 1.5 cents per pound.	
	Copper	13.65 less 6 cents per pound.	
Settlement assay:	Silver	47.0 ounces per ton.	
		Percent	
	Lead	33.6	
	Copper	.95	
	Insoluble	29.4	
	Zinc	9.0	
	Sulphur	1.3	
	Arsenic	.4	
	Iron	2.5	
	Antimony	.3	
	Lime	3.9	
		Pounds	
Wet weight		44,900	
Moisture 4.5 percent		2,020	
Dry weight		42,880	or 21.44 tons

Smelter charges:	Base treatment charge	$2.00	
	Payment for lead over 30 percent	.17	
		1.83	
	Insoluble (debit)	2.94	
	Zinc (debit)	.90	
	Labor increase 4/1/37	.81	
		6.48	
	Iron (credit)	.15	
	Treatment charge	6.33 per ton	
Metal payment:	Silver, 95 percent at $0.77 per oz.	$34.38	
	Lead, less 1.5 percent, 90 percent at $0.90 per unit (20 lbs.)	26.00	
	Copper, less .75 percent at $1.53 per unit (20 lbs.)	.31	
		60.69	
	Treatment charge	6.33	
	Net value per ton	54.36	
	21.44 tons at $54.36		$1,165.48
Deductions:	Hauling $12.50 per ton		280.63
	Net proceeds		884.85

The ore was hauled to the Murray smelter in Salt Lake Valley, a distance of 336 miles, in a Dodge truck having a capacity of 7 tons per load.