4770 0001

Mineral County
West of 195
item 6

The ore occurs in veins in rhyolite. Values are chiefly in gold.

Bentonite

A deposit of bentonite type of clay was discovered about 1928 on the east slope of Excelsior Mountains about 1 mile west of Sodaville.

Production of bentonite has been in the neighborhood of 15,000 tons from two claims owned by Cooper Shapley, formerly of Bishop, Calif. The bentonite was mined by power shovel and hauled by truck to Sodaville at a cost of 90 cents per ton. The bentonite was shipped to the Pacific coast markets for use as oil-well drilling mud. The deposit has been prospected by a number of trenches and shallow shafts.

Individuals living at Mina, Nev., who own bentonite claims are J. R. Towner, three; William Ray and William Gash, two, jointly; and George F. Thompson, several.

The bentonite occurs as a bedded deposit underlying surface detritus. It is said to be free from grit and in places is iron-stained and traversed by seams of gypsum. The overburden ranges in depth from 6 to 10 feet. Large reserves are indicated.

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TEEL'S MARSH DISTRICT

Teel's Marsh is 2 miles south of the old mining camp of Marietta in southern Mineral County. It is reached by automobile road from Mina, a town on the Southern Pacific R. R. 26 miles to the northeast by way of Belleville.

This marsh, which in reality is a dry lake, was first worked for sodium chloride in the late sixties. The salt supplied the chlorination mills at Aurora, Comstock, and Candelaria. It is interesting to note that this marsh was the site of the first discovery of borax in Nevada by F. M. Smith, better known as "borax" Smith, and J. P. Smith, his brother. According to S. T. Kelso of Hawthorne, Nev., who was at one time superintendent for the Smith Brothers, borax was found in Teel's Marsh about 1872. Shortly after, several plants for the extraction of borax were erected in the southeast portion of the marsh. These plants maintained a steady production up to 1892, when they were abandoned because of the discovery of richer deposits of the borax mineral, colemanite, in the vicinity of Death Valley, Calif. Although Teel's Marsh is not important economically at present, it produced a considerable quantity of borates and played an important part in the development of the borax industry in the United States.

Teel's Marsh is 5 miles long, 1 to 2 miles wide, and covers an area of about 8 square miles. The elevation of the surface of the marsh is 4,900 feet above sea level. The common salts in the playa deposits in the great basin region of which Teel's Marsh ia an example are the chlorides, sulphates, carbonates, bicarbonates, and borates of sodium and potassium. Magnesia and lime are present as minor constituents. In nearly all of the deposits the

sodium salts predominate. Due to the fact that the borates are more soluble than the other salts, they remain in solution longer, and if the lake has alternate periods of desiccation and flooding the borates will crystallize out at or near the surface.

The deposition of borates in the playa type of deposits depends upon a combination of favorable conditions that is not widespread, and in consequence this type of deposit is restricted as to locality. The essential conditions required for the accumulation of borates are:

1. A source of boron, namely, solfataric springs in a region of former volcanic activity.

2. Suitable drainage basins, without any outlet, for the accumulation of the salts.

3. The climate must be sufficiently arid to concentrate the salts by evaporation and to prevent the removal of the borates, which are relatively soluble compounds.

At Teel's Marsh the boron-bearing mineral was principally borax, the natural sodium tetraborate intimately mixed with other salts forming a crust on the surface of the playa. The upper stratum of the deposits was the purest worked, but when this crust was removed other strata were found below at shallow depths associated with greater quantities of carbonate of soda or sodium chloride. The presence of sodium carbonate in the salts prevented the formation of the mineral ulexite nodules, the characteristic boron mineral in some dry-lake deposits.

The refining of the product was simple, as the natural borate of soda only required boiling to get the mineral in solution. On cooling, the borax was precipitated on wires or rods suspended in vats, leaving the other forms of soda, sand, and clayey matter at the bottom of the vat to be run off in the waste solution. The solution pans were semicircular, about 8 feet in diameter and 30 feet in length. These were fired from beneath with sagebrush, greasewood, or pinon pine from the foothills.

The crude borax obtained by crystallization was first hauled with wagon teams to Wadsworth, Nev., 130 miles distant, for shipment by rail to the San Francisco Bay region, where refineries were located. In 1882 a narrow-gage railroad was completed to Mina, and long haul with a team was eliminated.

WHISKEY FLAT DISTRICT

The Whiskey Flat district is at the south end of Whiskey Flat, on the north slope of the Excelsior Mountains, about 20 miles southeast of Hawthorne. Mining was first done in this area in 1882, when copper ore carrying silver and a little gold was treated locally in a 400-pound-capacity furnace.