

MINERAL SPOTLIGHT IS ON THE NONMETALLICS

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Mineral production in Wyoming during 1948 centered around the nonmetallics and a greater variety of industrial rocks and minerals was produced than ever before. Some nonmetallics were produced in larger amounts than in the past and new nonmetallics were added to the list of Wyoming mineral products for the first time. Construction materials, such as sand, gravel and crushed rock, lack the glamour or romance of such ores as those of the precious metals or radioactive materials, yet are produced in amounts exceeding two million dollars in value each year. Metallic mineral production is limited, and only one iron mine and one gold mine operated in the state in 1948.

NONMETALLIC MINING AND PROCESSING

Bentonite—Bentonite mining and processing is one of the state's most important mineral industries and Wyoming ranks first among the states producing this peculiar clay. Bentonite beds in the Cynaboum rocks are mined by surface operations and the clay is then trucked to the mills for stockpiling and partial drying. The material is then dried, ground, pulverized and baled for marketing. Main uses are as an ingredient in drilling muds and as a binder for foundry sands, although considerable amounts are used in detergents, refractories, insulation and asphalt emulsions.

The Black Hills in Crook and Weston counties is the center of the Wyoming bentonite industry. Some companies in the region report that their output for the year decreased from 27% to 11% from 1948, as demand fell off, but market conditions were improved by the start of the year. The Wyosick Chemical Co. improved its mill at Upton during the year and in 1949 will start mining bentonite in the very northeastern corner of Wyoming, in the Colony area. The bentonite will be stockpiled at a plant site near Colony and a new plant is scheduled to be built there in 1951. The Black Hills Bentonite plant at Moorcroft operated through the year and their oil well type bentonite was used extensively in drilling operations in the Mash Creek and Fiddler Creek fields. The Eastern Clay Products mill at Moorcroft emptied an average of 42 runs throughout the year. The Barred Sales division of the National Lead Co. operated its plant at Upton as well as a new plant constructed last year near Absarokee, in the northeastern part of Crook county.

Early in 1949 Black Hills Bentonite, Inc. took over the bentonite plant at Casper and during most of the year continued operations under the old name of Powder River Bentonite Co. By the year's end the capacity of the plant had been increased and the plant operated under the name of Black Hills Bentonite, Inc. Mining was initiated in the Kayser area. The Casper operation of this company are expected to increase in 1950.

The Wyoming Mining Co. reported increased production from its 640-acre Parkman in Sheridan County. The processing plant at Aberdeen, Mont. The mill burned in 1948 but was rebuilt and went into expanded production in 1949. Some bentonite produced by this concern was exported to Arabia and to Alberta, Canada, for oil well drilling purposes.

During the year exploration was undertaken on bentonite deposits in the Crook area and it is possible that a bentonite mill will be constructed in that area.

Phosphate rock—The phosphate mine of the San Francisco Chemical Co., opened during 1948 at Ledge, about 25 miles west of Kemmerer, produced high grade phosphate rock throughout the year and about 100,000 tons of rock averaging 32 percent phosphoric pentoxide was produced. The phosphate rock occurs as a bed in the Permian formation of Permian age, and is 5 1/2 feet thick. The rock is mined through a large strip-pit operation and is crushed, dried and ground in a modern sizing plant which has a capacity of 100 tons per hour of rock crushed to minus one inch and of 25 tons per hour of rock dried to one percent moisture and pulverized to 32 percent minus 100 mesh. All rock is sold in the raw form.

Tests were carried on by the University of Wyoming Natural Resources Research Institute, under the direction of Dr. H. C. Fink, director, and Walter Duncan, chemical engineer, to determine the feasibility of treating Wyoming phosphate rock with urea, another Wyoming min-

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