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Mineral of Thousand and One Uses Is Good Friend

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Wyo., while the other five are located on the 16½-mile Bentonite Spur built by North Western in 1941 northwest of Belle Fourche and across the Wyoming state line to serve the bentonite fields and processing plants. Bentonite is a long-haul commodity, being used extensively in the east and south.

The best grade of bentonite (with high swelling and adsorbing properties) is found in the Black Hills of South Dakota and in northeastern and central Wyoming. It is used as a standard by which all other bentonites are compared. Most of it is taken by strip mining where the mineral is actually at the surface, or where there is very little overburden. Millions of tons are available with this method of mining, enough to provide an almost unlimited supply at the present rate of consumption. But if bentonite use increases sharply, producers will go deeper for the miracle mud drill and shaft mining. (Drill mining—loosely speaking—is digging into the side of a hill, while shaft mining is digging down.) Such workings can reach many more millions of tons.

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With its countless uses developed by science and industry, the chief uses of bentonites are for oil well drilling and foundry sand. These two account for about 86 per cent of the bentonite produced. In oil well drilling, a bentonite mud is pumped down the shaft. Water seepage or small streams encountered by the drill are quickly sealed off, preventing water from entering the shaft. The jelly-like mud also lubricates the drill and helps to keep rock and other debris dropped away in suspension (like fruit in a jello salad) thus protecting the drill.

Bentonite used in foundry sand helps hold it together, gives it strength and reduces the amount of water required in the sand molds. It is downright obstinate when it comes to heat, and refuses to fuse under high temperatures. It covers each sand grain so perfectly that it prolongs the useful "life" of the sand.

Other large uses of bentonite include the lining of irrigation ditches and the bottoms and sides of ponds and dams. By mixing the required percentage of dirt and bentonite—or by using it pure—then placing it in a layer and covering it with another layer of dirt, a waterproof blanket is formed. This blanket remains impervious to water as long as the earth under it remains intact. The army has experimented with these blankets to make temporary roads over muddy stretches of ground with good success.

New uses of bentonite are still being discovered. One such use is in paper where bentonite acts as a filler to build up the body of the paper. It also helps paper fibers retain dyes and clay (which gives the paper a shiny surface) and gives low grade paper a high quality feel.

Another recent application of the miracle mud came to light with the Atomic Age. Experiments have been conducted in the use of bentonite to decontaminate radioactive liquids. When spread over the surface of radioactive liquid, the bentonite sinks, adsorbing the radioactive particles. The liquid is drawn off and the contaminated bentonite is disposed of.

Still another great new horizon for bentonite in the years ahead is in the production of taconite concentrates. Taconite is the high-sounding name for low-grade iron ore. It contains about 30 per cent iron compared to 50 per cent in high-grade ore. To make taconite commercially useful it must be concentrated to 60 or 65 per cent iron. But in doing this the concentrated taconite turns into a fine powder, too fine for shipping or blast furnaces. So bentonite is added to the powder, rolled into small pellets, and baked. The bentonite burns off in the blast furnaces and does not affect the steel.

* * *

Aside from its varied industrial uses, as an ingredient of ointments, face creams, lotions, beauty clays, petal clay packs, dusting and toilet powders, lipstick, pancake face and leg makeup and tooth paste, bentonite probably has already replaced the dog as man's best friend—and women's as well.

Cement Shipments Out Of Wyoming Make Gain

As a result of the accelerated building activity in the Rocky Mountain West, the Wyoming shipments of cement again showed a significant increase over 1954 with all the production coming from the Laramie plant of the Monolith Portland Midwest Cement Co.

The quantity of stone produced in 1955 also showed a slight increase and consisted mainly of crushed limestone for use in sugar refining and other crushed stone used for railroad ballast and in aggregate for construction of highways and buildings.

Structural and paving sand and gravel maintained relatively the same level as reported in 1954.

Tribune-Star Photo

Bentonite is sacked for market in this operation at the Benton Clay Co. plant. One of the principal uses of the mineral is in oil well drilling, important in Wyoming and wherever the search for oil goes on. In the picture are Lewis Thomas, R. E. Goering, plant superintendent, and Ervin Shrader.

..."and points West!"

You're at the station and the loudspeaker blares your destination.

You gather up your briefcase, your coat.

But do you ever wonder about those other stops, those "points west" . . . or east, or north, or south?

Ever pause to appreciate the fact that all destinations are accessible by some means of modern transportation? Podunk or Paris, nearby beach or Riviera, you can go—by train, car, plane or bus.

On American roads alone, 37 million more vehicles travel today than thirty

Miracle Of The Mud: Bentonite Spotlighted (continued)

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