

# Bentonite: Factor in State Since 1888

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(Staff Writer)

William Taylor of Rock Creek, Wyo. (Rock River) was the first man to make any money out of it, but since that day back in 1888, the bentonite industry has lodged itself firmly into the Wyoming economy until now it has become a \$5 million industry.

Before Taylor, Indians and Oregon Trail settlers used the substance for a variety of purposes. The Indians used bentonite for washing garments and blankets. Early settlers in Wyoming, therefore, called bentonite outcroppings "soap-holes."

The soap holes occurred where beds of bentonite had been exposed by crevices. Water seeping

from the surface caused the clay to swell remarkably and to fill the crevices with a soft, sticky jelly-like mass which never completely dried and had the appearance and feel of soap.

By observation of the peculiar qualities of the mineral early settlers learned to use it in emergencies, when a wagon axle went dry, bentonite substituted for grease; horses hooves, when inflamed, were packed with moist bentonite and the results were remarkable.

Then in 1888, Taylor began producing the material for sale. At first it was called Taylorite, but when it was found that another mineral had already been given the name, it was changed to

bentonite after its occurrence in the Fort Benton formation.

### USED IN DRILLING

Since then, with the advent of the oil industry, the mineral has gained considerable value as a drilling mud.

In the rotary system of drilling, the mud serves several purposes. Pumped through the center of the drilling bit, the mud carries off the drill cuttings from the bottom of the hole to the surface where the mixture is discharged into settling pits. When the flow of mud is interrupted for a change of bits, the gelling quality of bentonite causes the fluid to congeal, suspending the drilling particles so they won't settle to the bottom. When drilling is re-

sumed, the mud reverts again to a fluid state.

As the drilling mud circulates in the hole, a thin layer of clay is deposited on the walls of the hole, sealing off crevices and pore spaces in the formations penetrated, preventing loss of the drilling fluid. The lubricating quality of the bentonite also aids in reducing the frictional drag in drilling.

Approximately 85 per cent of the bentonite processed is used in oil field work.

Other important uses of the mineral are for binding molding sand—because of its glue-like action; filtering and decolorizing oils, wines, vinegars, ciders and honey; tannic pelleting; and a broad range of agricultural uses.

### MANY OTHER USES

It has hundreds of minor uses. It is added to cements, concretes, plasters and artificial stones to increase their mechanical strength and to quicken their setting. The paper industry uses bentonite as a filler in cardboard, paper, waterproof paper and plaster board; it is also utilized to remove carbon black in the reworking and de-inking of newspaper.

Bentonite is effective in purifying sewage and other turbid water for pollution control and is used as an ingredient for detergents, soaps and cleaning powders. Other uses are for ointments, face creams, beauty clays, facial clay packs, dusting and toilet powders, and tooth pastes.

And these are but a few of the applications of the "clay of a thousand uses."

What makes the mineral so use-

ful is the peculiar quality—unique in all mineraldom. Bentonite has the greatest efficiency for adsorption that nature has devised: it will swell in water to nine times its apparent volume.

Over 500 of the particles would be barely visible to the naked eye and 10 billion would barely fill a tablespoon.

### MOSTLY IN WYOMING

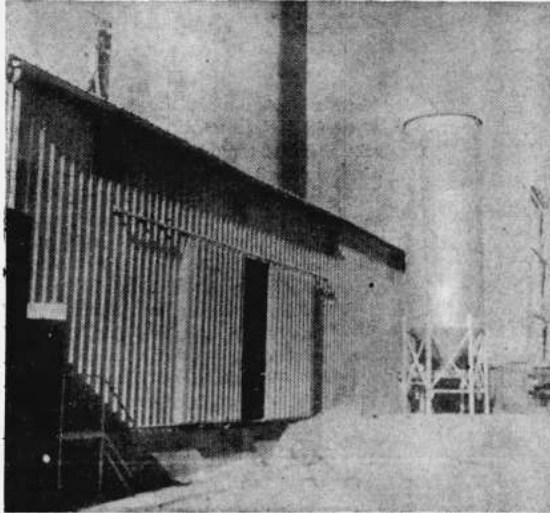
Of particular interest to Wyoming economics is that nearly all the deposits of true bentonite occur within the boundaries of the state. Currently the largest producing area is in the Northern Black Hills region in Wyoming with over 30 million tons of reserves there, but indications show that the Southwest Powder River region, centered in Natrona and southern Johnson counties, may have reserves even greater than that. Another heavily producing area is in the Northern Big Horn Basin.

Hope deposits are indicated around Lander, located on the east flanks of the Wind River Mountains.

Smaller deposits of true bentonite are found in sections of Montana, South Dakota and Canada.

Other states in the nation produce a clay termed as bentonite but differing from the Wyoming type in that they do not have the gelling qualities. No true commercial bentonite deposits have been found east of the Rocky Mountain area.

In some areas, bentonite beds are found on the surface, but more usually they are covered with overburden. Beds of the mineral may be brown, greenish-yellow, blank gray, or cream-colored.



The Benton Clay Co.'s huge bins standing above the plant west of Casper indicate the size of one of Wyoming's eight bentonite plants. The plant has a capacity of over 400 tons of processed bentonite per day.

**Southwestern  
Wyoming Is  
GROWING!**



In recent years the abundance of natural

## Bentonite History In Wyoming Goes Back to 1888

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