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MINERAL RESOURCE SURVEY
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The information contained in this circular was gathered by a unit of the WPA Mineralogical Survey of Texas, a project sponsored by The University of Texas, Bureau of Economic Geology. The purpose of this survey is to assemble information concerning mineral products and to gather other geologic data and make it available to the public. With this information in the hands of the public it is reasonable to suppose that industries of value to the State may be developed. The following report is based on work done in Houston County by Work Project No. 17743, from April 7, 1941, to date. The project is still in operation and a complete report will be published when the work in this county is completed.

A PRELIMINARY REPORT ON AN OCCURRENCE OF BENTONITE IN HOUSTON COUNTY, TEXAS*

by Grayson E. Meade, Supervisor

Bentonite is a clay produced from the alteration of volcanic ash. It is characterized by very fine grain size or texture, soapy feel, waxy lustre, bright color, and semi-transparency. Bentonite is used in many different ways. Most of it is used to clarify oils, and for cleaning cloth and other substances. Some bentonites are used for drilling mud, as a filler in soap, oilcloth, linoleum and rope.

Bentonite was discovered in Houston County in 1940. (See H. B. Stenzel, Bull. Amer. Assoc. Pet. Geol., Vol. 24, No. 9, Sept., 1940, pp. 1663-1675.) At that time bentonite was found to be exposed in the following two localities:

Alabama Ferry, Houston County, Texas. Left bank of Trinity River about 0.2-0.5 mile downstream from the abandoned Alabama Ferry, about 7.5 miles west-southwest of Porter Springs; Bureau of Economic Geology locality No. 113-T-9.

Hurricane Bayou, Houston County, Texas. Bed of creek 0.2-0.5 mile up creek from bridge on Crockett-Rusk County road (mail route 1), 3.35 miles northeast of Crockett; Bureau of Economic Geology locality No. 113-T-2.

The geologic section at these localities is given in the publication to which reference has been made.

The thickest bentonite bed at either locality is 3.6 feet thick. It has been shown that the bentonite at both localities is of the same stratum. This indicates that the bentonite extends from Alabama Ferry at least to Hurricane Bayou, a distance of twenty miles through Houston County. It is probably that the extent of this stratum is much more than twenty miles because its northeast end is at present unknown. In the region north of Crockett the bentonite dips to the south-southeast at the rate of about one hundred feet per mile. However, this is only an approximation because in the few drill holes so far put down the dip has been found to be quite variable. Therefore the overburden, which is at a minimum at or near the surface exposures, increases to the south-southeast.

Chemical analyses have not yet been made on this bentonite. Commercial uses suitable for this particular deposit of bentonite are therefore not known, but the bentonite appears to be very pure and of high quality.

The crew of W.P.A. Project No. 17743 is now engaged in tracing this bed by auger method from Hurricane Bayou to Alabama Ferry. This method of tracing will result in exact knowledge of the location of the bentonite stratum and the thickness of its overburden. These data are particularly important at the place where the highway and the railroad cross the bentonite stratum because development would be particularly favorable at those points. By the augering method employed on this project it will be possible to determine localities where the overburden is at the minimum. At such localities commercial development will be possible.

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