

GEOLOGIC RECONNAISSANCE OF AVAILABLE NATURAL RESOURCES
IN THE VICINITY OF EVANSTON, WYOMING

A geologic reconnaissance of the Evanston area was undertaken at the request of the Evanston Chamber of Commerce. Field work was carried on from June 4 to June 9, 1947, inclusive. All known localities, believed by the townspeople of Evanston to have economic possibilities, were examined. Other areas within Uinta County were traversed briefly, chiefly in the search for brick clays.

In the late 1800's brick was burned at Almy, approximately six miles northwest of Evanston. Clay is found in the Almy area, associated with the Quaternary valley fills in the margin of the hills, east of the former townsite. In general these clays are only a foot or two thick and of very limited areal extent. They are closely associated with other alluvial material, including cobbles up to six inches in diameter.

The largest observed occurrence of these alluvial clays in the Almy area is located in S $\frac{1}{2}$ sec. 12, T. 16 N., R. 121 W., about $\frac{3}{4}$ mile north of the Bear River Bridge. The clay is exposed in a road cut along the east side of Bear River. The clay is interbedded with a sandy clay, but both seem to possess plastic properties when wet. The aggregate thickness is about five feet. The outcrop is about 150 feet long. There is about 50 feet of overburden at this point, which consists of clayey material mixed with gravel. Clay appears to outcrop in a zone about 100 feet wide, and may be traced east that distance toward the bluffs. About 200 yards south of the road cut

exposure, clay is found in a steep cut bank along the east side of Bear River. This lens is exposed for about 100 feet and averages four feet thick. The overburden is three to five feet thick. The clay is somewhat impure, and contains fine clastic sand, as well as biotite and other dark minerals.

Clays and clay shales are also found in the Evanston formation which forms the bluffs just east of the highway at Almy. These beds may be suitable for making brick, but the 150 to 200 feet of overburden make this economically unfeasible.

Clay was also reported in the vicinity of Sulfur Creek, in sec. 11, T. 16 N., R. 120 W., and adjacent areas. A few scattered lenses of alluvial clay were found in this area, the largest of which is exposed for about 20 feet and measured two feet thick. A prospect pit dug in the Fowkes formation in this locality contained some fracture fillings of chalcedonic quartz, but no other minerals.

Clay was reported in the vicinity of Evanston, on a low rounded hill just north of the insane asylum, and along the bluffs north of Bear River, opposite the town. The insane asylum clay is alluvial, and varies in color from white to greenish-gray. The quality of the clay seems to vary considerably. The white clay is associated with cobbles up to four inches in diameter. Clay is exposed for about 200 feet east-west along the Union Pacific Railroad tracks, and north about 100 feet to the bank of Bear River. Fresh graves in the new cemetery at the insane asylum contain clay, indicating the bed extends at least that far to the south.

The total thickness of the clay is about 10 feet, but white clay is only two feet thick. No clay was found on the bluffs north of Bear River.

In general, the alluvial clays in the Evanston area are not suitable for brick making as the individual deposits are too small and scattered to permit even small scale operation.

Mr Bert Despain, county agent, reported an occurrence of phosphate rock at Crawford Mountain, in northwest Uinta County, just east of Woodruff, Utah. The adjoining area in Utah has been extensively prospected. According to Mr. Despain and ranchers in the Woodruff area, developments are planned by "Simplott of Woodruff." A rancher whose property is located south the phosphate area in sec. 6, T. 17 N., R. 121 W., reports that the county assessor at Randolph, Utah, has given him a map showing the location of all existing claims and developments. In view of the development activity in the area, it was not considered worthwhile to visit the locality for the purposes of the present investigation.

The Jamison bentonite claim is located just west of Meyers Bridge, six miles south of Evanston, in sec. 30, T. 14 N., R. 119 W. Mr. Bert Despain reports that Mr. Alec Jamison has sold bentonite from this area, which was used for reservoir lining. The area is in the Knight formation. A few streaks of bentonitic clay were found, but are too small for any but the very smallest scale production.

Mr. Chris Vrang, an engineer for the Morrison-Knudson Corporation at Evanston, is very familiar with the area. In his opinion the occurrences of bentonite in the Frontier formation along the east side of Oyster Ridge, in the eastern part of Uinta County, offer the best possibilities for economic development. Two of the localities suggested by Mr. Vrang

were investigated, Spring Valley and Scully Gap. Little bentonite occurs at Spring Valley. At Scully Gap, in $E\frac{1}{2}$ sec. 2, T. 17 N., R. 117 W., a light colored hill about 20 feet high contains bentonite. The bentonite occurs near the base of the Frontier formation which strikes N. 10° E. and dips west 30° . The exposed bentonite has no overburden, as it occurs on the dip slope of a small hogback upheld by a thin sandstone layer. The exposure is about 600 feet long and the bentonite has an estimated thickness of five feet. Outcrops resembling bentonite can be seen for about $\frac{1}{2}$ mile north along the strike from the crest of the small hill. Photograph #1 was taken about 250 yards west of the hill, near the junction of the road with a trail.

Another locality, Skull Point Gap, mentioned by Mr. Vrang as being most favorable, was not visited, as it is located in Lincoln County and not within the scope of the present investigation.

The bentonites in the eastern part of Uinta County offer the best possibilities for future investigation of all localities mentioned in this report.

Frank W. Osterwald
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