

MEMORANDUM ON THE MINERAL RESOURCES OF SWEETWATER COUNTY
WYOMING

The included data pertaining to the mineral resources of Sweetwater County, Wyoming, have been assembled at the request of Mr. John Lucas, of Rock Springs, for possible consideration in the solution of problems which have arisen through the closing of coal mines in the Rock Springs coal field.

The material here presented deals only with mineral deposits which are presently known and on which reliable information is available. It is possible that unknown deposits exist in the county and remain to be found, as was the case with the trona deposits which were discovered through the drilling of a well for oil or gas. It is obviously impossible to count on such future discoveries at the present time.

Sweetwater County has great reserves of the energy-producing substances--coal, natural gas, petroleum and oil shale. Other than these, however, few mineral commodities are known which are large enough and of adequate grade to provide for profitable development.

The known mineral commodities, other than coal, petroleum and natural gas, are listed below. Most of these are discussed in more detail in Geological Survey of Wyoming Bulletin 45.

ALUM

The mineral tschermigite, an ammonia aluminum sulfate, occurs in association with lignite beds about three and one-half miles southwest of Wamsutter and crops out for about three miles along the outcrop. Analysis of eight 160-pound samples gave an average of 2.48% ammonia alum.

CLAY

Clays are common in Sweetwater County and it is quite likely that some of them would be suitable for the production of bricks. No clays suitable for the manufacture of refractory bricks or of tile, pottery or porcelain are known at present, but may exist.

NATURAL CLINKER

Natural clinker, formed along burned coal beds, occurs in the area east of Wamsutter. Similar rock in other parts of Wyoming is used for railroad ballast, road metal, and local building material.

OIL SHALES

The oil shales of the Green River Basin do not compare in quality or thickness with those in northwestern Colorado and there is little or no chance for their immediate utilization.

POTASH

In the Leucite Hills, near Superior, are numerous volcanic plugs, cones, necks and lava flows made up of potash-bearing rocks known as orendite and wyomingite. The potash content ranges from 9.81% to 11.91% and it is estimated that there are nearly two billion tons of the rock in the area. If the average potash content be taken as 10%, then there are about 200 million tons of potash locked up in the rock. The alumina content averages about the same as potash and there are also about 200 million tons of alumina in the deposits.

PUMICE

Some of the potash-bearing volcanic rock in the Leucite Hills is true pumice and is suitable for use in lightweight building materials.

TRONA

Trona deposits discovered in the Green River Basin in 1938 have been sufficiently explored to prove that the reserves are of great magnitude, but since the deposits are being exploited at the present, they need no discussion.

URANIUM

Radioactive coal. - Coal occurs in the Red Desert, north of Wamsutter, which contains uranium in amounts ranging from .002% to .007%. During the summers of 1952 and 1953, the U. S. Geological Survey drilled nearly 15,000 feet of core holes on the deposits. The information gained from these studies is still classified as restricted on the basis of security regulations, but it is known that the reserves are high. Although the amount of uranium in the coal may seem extremely small, the Red Desert coals rank high among the known uranium-bearing coals.

Other uranium deposits. - Uranium occurs as the mineral schroekingerite in the Lost Creek area, north of Wamsutter. These deposits have been known for many years and have been quite thoroughly investigated by the U. S. Geological Survey. They appear to offer no commercial possibilities. The geological conditions are such that uranium deposits may be expected to occur over other parts of Sweetwater County. The discovery of commercial deposits cannot be counted upon, however.

SUMMARY

The important developed mineral resources of Sweetwater County are coal, petroleum, natural gas, and trona. The undeveloped mineral resources are represented by few commodities, most of which are of small size or of uncertain utilization.

The potash deposits of the Leucite Hills appear to offer the greatest possibilities for development, if a cheap method of extracting the potash can be, or has been, devised.

The uranium-bearing coals in the Red Desert might warrant some attention, but because of security regulations it is difficult to obtain anything but the most generalized information regarding them. It is known that the coal also carries selenium, which at present is in demand and commands a high price. If these coals could be utilized in a power plant, it might be possible to obtain valuable by-products, such as uranium and selenium. Such a possibility, however, could be discussed intelligently only by specialists of the Atomic Energy Commission or the Bureau of Mines who alone possess detailed information on these coals and their possibilities.

Respectfully submitted,

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