MINERAL RESOURCES OF CHEYENNE AND VICINITY

Oil and Gas

The recent discovery at Wellington, thirty miles south of Cheyenne, is of great importance, as there seems to be no question but that a good-sized field will be developed there. At this time it is impossible to make any predictions as to the probable production of this field, but there is no question that it is an important discovery and will result in an immense development. It is believed now that this oil and gas comes from the Dakota sands, a formation which undoubtedly underlies the later sediments throughout the entire southeast portion of Wyoming which lies east of the Laramie Range. Without doubt it is too deep to be within reach of the drill over most of this territory, and at present there are no known structures in the vicinity of Cheyenne which give any indication that this formation is within drilling depth in any structural condition which would result in the accumulation of oil or gas. However, such structural conditions may exist, and future explorations may demonstrate their existence. It is certain that a search for these structures will be prosecuted for a number of years, and large sums of money spent in that work. Indications of oil are said to have been found in water wells at various points in the Cheyenne vicinity. Such indications improve the chances of making such discoveries.

METALLIC MINERALS

Reports of former State Geologists indicate that in the vicinity of Hecla there is a gold ledge having possibly several hundred thousand tons of ore running from five to six dollars per ton in gold. This would indicate a commercial proposition which should develop into a paying mine.

Copper and zinc are also known to occur in the Hecla Region, which is about twenty miles west of Cheyenne, but are still in the prospecting stage of

of development. Some of these properties, however, indicate possibilities of developing into commercial mines when capital is secured for their development. It is impossible to give any estimate of tonnage in connection with these deposits.

Titaniferous Iron Ore

Nine miles from the railroad at Iron Mountain is the famous Iron Mountain deposit of Titaniferous iron ore. This is a prominent ledge about one and a half miles in length and three or four hundred feet wide. Its depth is not known. The ore is a magnatite which runs approximately seventeen percent Titanic Acid, but is very low in Silica and other impurities. Owing to the Titanic Acid content this ore cannot be worked commercially at the present time but will no doubt be worked in the future and should make an industry of some magnatude. According to the United States Geological Survey this is the most important deposit of Titaniferous iron in the United States.

OTHER MINERALS

Fire clay is known to occur at Hecla, but no effort has been made to develop it, and it is impossible to state at this time whether the deposit has any commercial value. The crest of the Laramie Range is situated about thirty miles west of Cheyenne, and at this point are tremendous deposits of disintegrated granite, which makes a gravel of very high quality, known as Sherman Gravel. It is composed of quartz and feldspar. Owing to the fact that it is a product of disintegration and not erosion, the gravel is very sharp and cannot be surpassed for concrete, highway surfacing, and railroad ballast. It is mined on a large scale by the Union Pacific Railroad, with steam shovel, and will continue to be used for years to come.

LIMESTONE

At Granite Canyon, eighteen miles west of Cheyenne on the Union Pacific Railroad, is a limestone quarry which is operated for the purpose of supplying sugar factories with this product, which is necessary in the process

of refining sugar. This quarry probably has an output of 5000 to 10,000 tons per year. Limestone quarries for the same purpose are located near Horse Creek, about twenty-six miles north of Cheyenne, their output probably being about 20,000 tons per annum. The manufacturerof sugar from beets is increasing, and undoubtedly will continue to increase in proportion to the population of the United States. Limestone used for this purpose must be at least 96% calcium carbonate, a requirement which cannot be fulfilled by all limestone deposits. It is apparent that limestone developed in these quarries will be in demand for considerable number of years, as long as it can be quarried and suipped in competition with other stone. These quarries are closer to the Colorado factories than other Wyoming quarries and have an advantage in lower freight rates.

BUILDING STONE

The Dakota formation outcrops at Iron Mountain along the railroad and presents an ideal location for quarrying a sandstone used for building purposes, and was in operation for several years. It is not in operation at present, however, but is a potential source of building stone for the future.

CEMENT MATERIALS

Investigation of the United States Geological Survey has shown that in the vicinity of Iron Mountain Station are shales and limestones which can be used for the manufacture of Portland Cement. The demand for Portland Cement is at present being taken care of by plants in other states, but with the increase in population of western states and increased demand for Portland Cement, these deposits can be utilized.

GRAPHITE

The Plumbago Canyon in the Laramie Range, about twenty miles south of Wheatland, contains deposits of graphite or plumbago. Some inquiry for graphite has

has recently been made, but eastern manufacturers, but owing to the distance of these deposits from the railroad and their low grade, it is not probable that they will develop into a commercial proposition in the near future.

SUNRISE DISTRICT

While situated about 120 miles from Cheyenne, the Sunrise District, has considerable influence upon the development of this region. The Sunrise iron mines produce a high grade Hematite ore to the extent of about 500,000 tons per annum, the ore being shipped to Pueblo, Colorado for treatment, a considerable proportion of it passing through Cheyenne, the remainder going around by the Burlington Railroad. Sunrise District has probably produced in the neighborhood of $2,000,000.00 worth of copper ore, though no authentic figures are available. This copper ore occurs in the iron deposits. No figures have been given out as to the amount of iron orecopper ore at Sunrise as disclosed by diamond drilling, explorations, but the amount of iron ore is beloeved to be ga great many million tons.

Several deposits of mica occur in this region, and as inquiry is being made for mica there is some probability that these deposits will be operated in a few years. A considerable tonnage of arsenic ore also occurs in this locality. The work of the United States Department of Agriculture has disclosed the fact the the Boll Weevil is threatening the existence of the cotton industry of the southern United States, and that the only treatment successful against this insect is with the use of calcium arsenate. As a result of the decreased production of cotton, the arsenic market has developed very rapidly in the last year, and the price has risen considerably. Inquiries are being made for new sources of arsenic, and this deposit may be worked for its arsenic content in a few years, if the demand continues heavy.

Limestone occurs at no great distance from the arsenic, which would

provide the two principal raw products necessary in the production of calcium arsenate. The Sunrise and Guernsey District is also noted for the extent and purity of its limestone deposits, from which the first shipments of limestone for sugar factory purposes were made in 1904, and the industry has continued to grow and develop. Several quarries are operated in this district, their combined output being probably 60,000 to 75,000 tons per annum. The supply of stone in these deposits is so enormous and so situated that quarrying is very economical, and being located on the railroad this will continue to be an important industry for a great many years. The stone is probably not surpassed in purity anywhere in the United States. It is not at all unusual for entire carloads of limestone to run 98% to more than 99% calcium carbonate.