

The State of Wyoming  
Office of State Geologist  
Cheyenne

Hon. Joseph M. Carey,  
Governor of Wyoming.

Sir:--

In accordance with the provisions of Section 214, Chapter 22, Revised Statutes of Wyoming, 1910, I herewith submit my report for the period extending from February 1, 1911, to December 30, 1911, inclusive.

Very respectfully,

R E P O R T O F  
S T A T E G E O L O G I S T  
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The eleventh state legislature appropriated the sum of \$5,000.00 to cover the expense of work carried on by the state geologist during the years 1911 and 1912. There was on hand February 1st, 1911, the sum of \$416.65, remaining from the fund appropriated by the tenth legislature for that office. A detailed statement of the work carried on and the expenditures up to date is given in the following pages:

Early in February the preparation of a bulletin on the mineral resources of the state, consisting almost entirely of a compilation of matter obtained from various sources, was begun. The demand for this bulletin, which was ready for distribution in May, exceeded expectations, and the edition, consisting of 2,000 copies, has been exhausted.

In May a reconnaissance of the central part of the state was made, the following points being visited:

Esterbrook district, Albany and Converse counties;

Douglas oil field, Converse county;

Salt Creek oil field, Natrona county;

Powder River oil field, Johnson county;

Conant Creek coal field, Fremont county;

Lander oil fields, Fremont county;

South Pass district, Fremont county;

The mines in the Esterbrook district were found to be filled with water, while but little work was being carried on. In the Douglas oil fields operations were at a stand-still, although one well was drilled later in the summer. In the Powder River field oil saturated sandstones were observed, oil for local use being obtained from a pit sunk about one-half mile from the outcrop of oil sandstone, but no work, of any character, was being carried on in this district. In the Conant Creek field several beds of coal occur, one of which is sixteen feet in thickness, but, as the district is twenty miles from the railroad, development has been slow.

Operations were being actively conducted in the Salt Creek oil field and a number of wells had been drilled, the production per well ranging from ten to one thousand barrels of oil per day. This field bids fair to become a large producer of high grade illuminating oil, and is now attracting wide-spread attention.

In the Lander district about 300 barrels of oil per day were being produced from the Dallas field, while preparations were being made to begin active development in the reservation fields. The South Pass mining district, tributary to Lander, appeared to be a region of promise, but operations were confined to work being conducted by the Beck Mining Company.

After this trip of inspection it was decided to commence field work either in the Salt Creek field or the Lander fields, the great bulk of all inquiries reaching this office being in regard to those districts. As the titles to the lands in the Salt Creek field were in dispute, it was concluded to begin operations in the Lander district. The necessary instruments, consisting of a transit and a barometer, were purchased, a cook and team-

ster and a camp outfit were secured, and active work was begun in the field June 10. Stadia traverses were run across the country, the formations were measured, their ages determined, and notes for mapping taken over that section extending from north of Little Wind River to the southern extremity of the South Pass district. Notes in regard to crops, rainfall, climate, mineral resources, etc., were collected, and preparations were made to issue a report on this area, complete in every detail. The residents and operators of this region rendered every assistance, the officers of the Wyopo Oil Company being the only exception. This company refused to give out any information whatever, although later (September) Col. Power, president of this company, furnished a map showing the locations of some of the oil wells. In December the results of this investigation were published as Bulletin 2, Series B.

Late in September Mr. J. B. Phillips, of Douglas, Wyoming, offered to bear the expense of an examination of the Douglas oil fields, if conducted by this office.

This proposal was accepted, field work was begun October 1, and was completed October 26. A report on this field is now in preparation.

At the request of Mr. Russell Thorp, president of the Washakie Hydro-Carbon Mining Company, an examination of this company's lease on the Wind River Indian Reservation was made in June. A report, with maps and geological sections, was prepared and submitted to Mr. Thorp, and, as the examination required much detailed study of the lands, consuming four days, a fee of \$100.00 was charged, which, upon payment, was covered into the state treasury.

A preliminary examination of the Silver Crown mining district, some twenty-two miles north of Cheyenne, was made in July, at the request of the Cheyenne Industrial Club. A number of mines, or prospects, were inspected and a report submitted to the Industrial Club, for which no charge was made.

In accordance with instructions received from the state land commissioner, in August an inspection was made of state lands lying near Sheridan, to determine their

value as coal lands. Heavy rains interfered somewhat with the examination of these lands, but it was concluded that they were not of value as coal lands.

That portion of Albany county contiguous to the Laramie, Hahn's Peak and Pacific Railway was visited in September, for the purpose of examining deposits of high grade magnetic iron ore which had recently been discovered. It was found that the deposits, so far unearthed, consisted of small veins of iron ore, which are of too small extent to be of commercial value. However, it is not improbable that large bodies of iron ore may be discovered in this region, though the ore will probably contain rather high percentages of titanium. While in Albany county the New Rambler, the Keystone, the Centennial and various other mines were visited.

In November an examination of the Arizona mine, owned by the Otego Mining Company of Silver Crown, was made and a report prepared for the company. Fifteen samples were taken and sent to J. W. Richards of Denver, Colorado, for assay. The average value, in gold and silver, as reported by Mr. Richards was \$2.13. As Mr. Horace E. Adams, president of the Otego Company quest-

ions the accuracy of these assays, the report has not been delivered. Duplicates of the samples have been sent to J. R. Ledoux & Co. and to Ricketts & Banks of New York for the purpose of checking Mr. Richards' results. H. E. Woods & Co. and Victor Blanc of Denver have each reported lower values than Mr. Richards. A fee of \$25.00 was charged for this examination which has been paid into the treasury.

Below is given a statement of funds available and expenditures to date:

By appropriation 11th legislature	\$5,000.00	
" balance from appropriation 10th legislature	416.65	
" $\frac{1}{2}$ interest in carpet, state examiner's office	20.00	
To office expense		\$ 23.28
" furniture		172.15
" typewriter repairs and supplies		76.00
" telephone and telegrams		10.18
" photographic supplies		12.23
" express, freight and drayage		11.46
" general drafting		90.20
" post office box rent		6.50
" printing and stationery		349.39
" postage		175.49
" rail road fare		312.35
" general field and traveling expense		520.34
" instruments		181.98
" assaying		38.10
" assistant, field and office		600.00
Balance		2,857.00
	\$5,436.65	\$5,436.65

During the present winter the work of preparing geological maps of the state on a standard scale will be commenced. No work of this kind has been done heretofore, but it is hoped that within the next three years a folio containing accurate geological maps of the greater part of the state can be issued.

It is proposed to commence field work in the spring of 1912, with a study of the oil fields of the Big Horn Basin, working eastward to the Big Horn Mountains. Later in the summer the study of the oil fields lying in eastern Natrona county will be taken up. Tentative arrangements have been made for the cooperation in the field, during a part of the summer, of Mr. A. C. Boyle, professor of geology at the University of Wyoming. Should Mr. Boyle cooperate in this work he will probably be accompanied by some of the advanced students from the School of Mines.

Respectfully submitted.