

The State of Wyoming
Office of State Geologist
Cheyenne

TO HIS EXCELLENCY,
FRANK L. HOUX,
GOVERNOR OF WYOMING.

Dear Sir:

I have the honor to submit herewith
the Biennial Report of the State Geologist for
the two year period ending September 30, 1918.

Very respectfully yours,

L. W. Trumbull,
State Geologist.

Cheyenne, Wyoming.
October 31, 1918.

NEW PUBLICATIONS.

During the biennium we have printed and distributed the following bulletins:

- Bulletin 13. The Pilot Butte Oil Field.
- Bulletin 14. The Byron and Garland Oil and Gas Fields.
- Bulletin 15. The Oregon Basin Gas Field.
- Bulletin 16. Mining Laws and Petroleum Withdrawals.
- Bulletin 17. Bibliography and Index of Wyoming Geology.

The demand for our bulletins has been so great that we have had to print the second, and even the third, edition of some of them. This also applies to bulletins originally published previous to 1917.

The requests for bulletins comes not only from every State in the Union, but from many foreign countries. We feel that a prompt and ready answer to requests for geologic reports in the form of bulletins has been largely responsible for the tremendous increase in interest in Wyoming's oil development, which has taken place during the past five years.

CORRESPONDENCE.

The letters of inquiry coming to the office continue to be many in number and extremely diverse in subjects inquired about. The unusual conditions of the Mineral Industries brought about by the war have caused many inquiries regarding our known but undeveloped mineral deposits. It is probable that conditions will be such during the coming few years that some of these up to now non-productive minerals can become of economic importance.

OFFICE VISITORS.

Not the least of the duties and privileges of the office is the meeting of visitors at the office. Many of these are by appointment days in advance because of the writer's many absences over the State. Practically every man of importance in the mineral industries, as well as the geologists and engineers working in the State, visit the office for information. In order to be able to supply such information, every effort is made to keep our files of technical papers as well as newspaper clippings up to date.

NEW DETAILED SURVEYS.

Owing to the smaller appropriation for this biennium, combined with the extraordinary costs of doing field work and the fact that almost all younger men suited for the work were in the army, no detailed field surveys of new or prospective oil fields have been made.

It is questionable whether such surveys are now of the value which they were at the time that every effort was being made to induce capital to come to the State to prospect for oil. The larger oil companies now keep corps of geologists in the field, and they will have such areas mapped and prospected before this office could do the field work and get a report into print.

From now on it would appear that so far as the petroleum development is concerned this office can be of value more in the way of gathering data and statistics and distributing the same, than it can as a scout and searcher for promising oil structures.

STATE GEOLOGIC MAP.

The last legislature appropriated \$4000 "for the printing" of a state-wide geologic map, "prepared by the State Geologist". The same legislature cut down the contingent fund of the State Geologist from \$10,000 to \$8,500 for the biennium. Due to exorbitant increases in map-making costs, it has been impossible to get out such a map as would be a matter of pride to the State, hence no map has been printed and the \$4,000 will revert to the general fund. We would suggest and request that the next legislature appropriate an amount of \$7,500 for "the preparation and printing of a state-wide geologic map". The map is now in manuscript form and has been in steady use during the two years past, but it requires much drafting in order to get plates off, which will be of use by the printer. This is due to the fact that in printing the map some thirty-seven different plates have to be used, in order to get the required colors and patterns.

REPORTS TO STATE LAND BOARDS.

During the first half of the biennium this office had many requests from the Land Commissioner's Office for reports upon the various sections of State lands, as to their probable value for oil, gas, or coal; but of late such requests are infrequent due to the decision of the Land Board to make no further sales of State lands at present.

In order to make report upon some sections it is frequently necessary to visit the land in question; on others it is possible to make report from data already gathered.

MINE INSPECTION AND MINE ACCIDENTS.

There have been no calls upon the office to inspect or investigate accidents in metal mines, employing five or more miners, during the biennium. This means that metal mining is at a very low ebb within the State.

PETROLEUM DEVELOPMENT.

I shall not detail the history of development during the past two years. Everyone reading the daily papers knows of the various new oil and gas fields which have been discovered. The fact that oil production has been quadrupled since 1916 is a matter for great congratulation. State income from royalties have vastly increased, as well as general taxes. The oil industry, however is not bearing its just proportion of the general taxes.

FEDERAL WITHDRAWALS and A POSSIBLE FEDERAL LEASE LAW.

Federal withdrawals of oil lands have taken place from time to time. Always after much money and effort had been expended by individuals and corporations in prospecting. Such withdrawals are being used as a club in the hands of the Federal Bureau to compel the passage of a law by Congress, which will allow the Bureau to administer the public domain.

Were the proposed law to apply to withdrawn lands, Wyoming in general would not so strenuously object, but to have all our remaining public domain, non-withdrawn as well as withdrawn, handed over to the incompetent, as well as

possibly questionable, management of the Federal Bureaus seems almost unbearable. We do not doubt that petroleum development in Wyoming (this statement does not apply to California, for instance) is farther advanced to-day than it would have been had the lease law passed and become a law two years ago.

CHEMICAL ANALYSES.

As emphasized in previous reports, this office is handicapped in not being able to do or have done analytical and assay work except by paying the regular custom fees for the same. For this reason the office is not collecting samples of a variety of minerals, which will eventually demand attention, and about which we know very little until an accurate analysis is obtained. Among these minerals may be mentioned clays (fire, brick, and pottery), Fuller's Earth, cement materials, potash and other alkalis, phosphates, mineral and spring waters, as well as oils, gases, and coals. Analyses of all these minerals from different parts of the State should be available to answer the inquiries of many correspondents and visitors. Samples can be collected from time to time as other work is being done over the State, at almost additional expense.

RECOMMENDATIONS.

Blue Sky Law.

I wish to bring to your attention, and respectfully urge, that you give emphasis in your message to the legislature to the necessity for some restrictions in the matter of incorporations in this State.

As you know, Wyoming has been, and still is, a debtor state; we do not own within the State enough wealth to finance our own developments and improvements. Yet we have placed no restrictions upon incorporations whereby the foreign investor may feel that there is even some slight obligation of the State behind its incorporated companies. The past three years have seen hundreds of millions of worthless stock of Wyoming incorporations sold to innocent purchasers largely in other states.

The office of State Geologist has saved hundreds of individuals from losing money in these fake oil and refinery companies. But this office has no authority, nor should it be expected, to function as a censor of mineral companies. The State should effect such a censorship either through the office of the Secretary of State or through a commission such as is so effectually handling the matter in the State of California.

Let me again urge the necessity for some Blue Sky legislation. The good name of our State is being badly smirched through the operation of dishonest stock operators because of the entire lack of restrictions upon them.

Supervision of Oil Well Drilling.

Thousands of wells have been drilled within the boundaries of the State during the past five years. Thousands more will be drilled during the years to come. Many oil fields as yet unsuspected will be found. In all these the matter of water getting into the oil or gas strata is a vital matter. Already two fields in the State have been seriously damaged, if not ruined, by the operations of incompetent or careless drillers.

The opportunity, and in fact certainty, of repetition of such operations should be removed by the passage and enforcement of proper law regarding oil well drilling, operation or plugging. This is not a matter of geology, but rather is a technical matter of which geologists are but casually informed. For this reason it is necessary that the enforcing of such a law be placed in the hands of a competent technician, not in those of a geologist. In other words, the law should provide for a

Commissioner of Oil Well Operation, and not ask nor expect the State Geologist to handle the enforcement of the law, except perhaps, as in the State of California, the Oil Commission be a branch of the State Geologist's Office, the Commissioner himself bearing all authority and responsibility of his department.

Salary of State Geologist.

As a matter of future welfare, I wish to mention the desirability of making the pay of the State Geologist commensurate with the importance and responsibility of the office.

I would first remind you that any increase of pay made by the coming Legislature will not become operative until January, 1921, when the term of the writer expires. The present pay is \$3,400 per year. Wyoming pays her State Geologist the lowest salary of any state in the Union except one. Salaries in other states run up to \$6,000 per year. But few men who have had the education and training to qualify as geologists can now afford to hold the office of State Geologist at the present salary. Reputable and competent geologists in private pay in the State are receiving from \$5,000 to \$6,000 per year. The writer has been offered a salary much larger than the office salary many times during the present term.

At the time the present salary was fixed (1891), the salary was a fair one, but it is not now. But the point to bear in mind is that under present conditions the State will be unable to secure a competent man for the present salary.