

ACTIVITIES OF THE GEOLOGICAL SURVEY OF WYOMING

1943 - 1944

The following outline presents in brief form the activities of the Geological Survey of Wyoming during the years 1943 and 1944.

STAFF

H. D. Thomas serves as State Geologist and A. F. Hagner as Assistant State Geologist. Both are members of the teaching staff of the geology department at the University and during the winters have certain teaching obligations. Their summers are free for geological field work, however.

During the summer of 1944 Dr. J. C. Haff, of the Colorado School of Mines, served on the Geological Survey staff from June through October and undertook field studies throughout the State.

Students in geology have been employed as field assistants during the summers and a permanent part-time secretary has been continuously employed.

FIELD EXAMINATIONS

The following field examinations were made during the two-year period. These varied from reconnaissance examinations to detailed mapping involving days, weeks, or months.

H. D. Thomas

Vanadium deposits of western Wyoming, Lincoln County
Limestone reserves of Rogers Canyon area, Albany County
Elk Basin oil field, Park County
Copper Mountain tungsten deposits, Fremont County
Dolomite in the Rogers Canyon area, Albany County
Anorthosite reserves of the Laramie Mountains, Albany County
Geology of Jackson Hole, Hoback Range, and Gros Ventre Mountains
Coal in the Sheridan field, Sheridan County
Coal in the Gillette field, Campbell County
Coal in the Kemmerer field, Lincoln County
Coal in the Hanna field, Carbon County
Coal in the Rock Springs field, Sweetwater County
Phosphate rock in the Beckwith Hills, Lincoln County
Phosphate rock in the Wind River Mountains, Fremont County
Oregon Basin oil field, Park County
Potash rock in the Leucite Hills, Sweetwater County
Sunrise mine, Platte County (Examination as State Metalliferous
Mine Inspector)
Phosphoria formation, Shoshone Canyon, Park County
Water supply for Defense Plant Corporation Alumina plant, Albany County

A. F. Hagner

Tungsten deposits of the Copper Mountain district, Fremont County
Beryl, tantalite, mica, and lithium of the Copper Mountain district
Fluorspar, manganese and copper deposits in the Black Hills area
Non-metallics of the Wheatland district (graphite, kyanite, talc,
dolomite, vermiculite), Platte County
Iron deposits of the Hartville district, Platte County
Sericite and vermiculite in the Encampment district, Carbon County
Vermiculite, asbestos and tungsten in the Lander area, Fremont County
Mica, beryl and tantalite in the Medicine Bow Mountains, Albany County
Iron, vermiculite and asbestos in the Glenrock district, Converse County
Feldspar deposits of the Laramie Range, Albany and Laramie Counties
Mica and copper deposits in the Hartville uplift, Platte County
Copper deposits in the Medicine Bow Mountains, Albany County
Radio-active minerals in the Red Desert, Sweetwater County
Sericite deposits near Wheatland, Albany County
Anorthosite in the Laramie Mountains, Albany County
Titaniferous magnetites of the Laramie Range, Albany County

J. C. Haff

Lead and zinc deposits in the Ferris Mountains, Carbon County
Kyanite in the Encampment district, Carbon County
Salt springs, Weston County
Lead and zinc in the Sierra Madre Mountains, Carbon County
Gold placers in the South Pass district, Fremont County
Fluorite deposits of the Bear Lodge Mountains, Crook County
Porphyritic diabase in the Big Horn Mountains, Sheridan County
Nepheline-syenite in the Mineral Hill area, Crook County
Copper deposits in the Sierra Madre Mountains, Carbon County
Coal deposits near Echeta, Campbell County
Regional geology in Fremont, Hot Springs, Park and Teton Counties

LABORATORY AND OFFICE RESEARCH

The following research studies have been completed or are now in progress.
Some of these will lead to published reports.

H. D. Thomas

Vanadium in Wyoming crude oils
Iso-gravity maps of Embar and Tensleep crude oils of Wyoming
Petroleum exploration and developments in Wyoming
Stratigraphic distribution of Wyoming crude oils
Examination of cores and cuttings from Big Hollow deep test
Paleontologic and stratigraphic studies of cores from the deep
producing zone in the Oregon Basin oil field

A. F. Hagner

Petrology of cores from Rambler Copper mine
Petrology of cores from Iron Mountain titaniferous magnetite
Petrology of Laramie Mountain titaniferous magnetites
Petrology of the Laramie Mountain anorthosites

Max L. Troyer (student assistant; war veteran)

Bibliography of Wyoming geological literature

PUBLICATIONS, REPORTS AND MAPS

Published reports

- "Wyoming vermiculite deposits", Geological Survey of Wyoming Bulletin 34, 1944, 47 pp., by A. F. Hagner
- "Oil and gas field map of Wyoming", by H. D. Thomas
- "The Saline Lake deposits of Wyoming - The Downey Lakes", Wyoming Geological Survey Reports of Investigations No. 1, 1943, 8 pp., by S. H. Knight.
- "Wyoming mineral industries", Colorado Mining Yearbook, by H. D. Thomas (In press)
- "Como Bluff anticline, Carbon County, Wyoming", Bulletin of American Association of Petroleum Geologists, Vol. 28, No. 8, 1944, pp. 1196-1215, by R. O. Dunbar. Reprinted as a Contribution of the Geological Survey of Wyoming.
- "The Mineral Industries of Wyoming", Bulletin of the Association of American State Geologists, by H. D. Thomas (In press)
- "Sources of information on the petroleum geology and the petroleum resources of Wyoming", mimeographed, 6 pp., by H. D. Thomas

Unpublished reports and maps (These are placed in the files of the Geological Survey and are open for public inspection)

- "Limestone reserves of the Rogers Canyon area, Albany County", (Original report submitted to Defense Plant Corporation)
- "Tungsten deposits of the Copper Mountain district, Fremont County" (Manuscript report)
- "Anorthosite reserves of the Laramie Range, Albany County", (Original report submitted to Defense Plant Corporation)
- "Beaver copper claims, Encampment district, Carbon County" (Manuscript report)
- "Porphyritic diabase in the Big Horn Mountains, Sheridan County" (Manuscript report)
- "The Buckeye copper claim, Sierra Madre Mountains, Carbon County" (Manuscript report)
- "Royal Purple fluorite claims, Bear Lodge Mountains, Crook County" (Original report submitted to U.S.G.S. for distribution to government war agencies)

- "Nepheline-syenite in the Mineral Hill area, Crook County"
(Manuscript report)
- "Ogden Creek fluorite deposits", Crook County, (Original report submitted to U.S.G.S. for distribution to government war agencies)
- "Big Nugget gold placer deposit, Atlantic City district, Fremont County", (Manuscript report)
- "Peterson fluorite deposits, Bear Lodge Mountains, Crook County"
(Original report submitted to U.S.G.S. for distribution to government war agencies)
- "Cottonwood Creek kyanite deposits, Carbon County", (Manuscript report)
- "Lead and zinc deposits in the Sierra Madre Mountains, Carbon County", (Manuscript report)
- "Salt springs near Cambria, Weston County", (Manuscript report)
- "Lead and zinc deposits in the Ferris Mountains, Carbon County",
(Manuscript report)
- "The Echeta coal mine, Campbell County", (Manuscript report)
- "The Collins sericite deposit, Platte County" (Detailed map)

AREAL GEOLOGICAL MAPS

In order to assist in oil and mineral exploration, the Geological Survey has made available to the public prints of all unpublished geological maps resulting from Survey work. During past years geological maps of 16 Wyoming counties were compiled. These have been publicized and prints, sold at cost, have been widely distributed. Twelve areal geological maps made by graduate students in geology whose field work was subsidized by the Geological Survey, have been similarly distributed. Over 500 of these maps have been dispensed in two years.

COOPERATIVE STUDIES

U.S. Geological Survey.- The State Geological Survey has carried on a cooperative program with the U.S. Geological Survey for the past two years on a fund-matching basis. A free mineral identification service has been carried on under this agreement. During the summer of 1943 Dr. Hagner examined mineral deposits over the State under this program. During the field season of 1944 Dr. Hagner, and Dr. W. H. Newhouse of the Federal Geological Survey, spent four months in field work on the titaniferous magnetite deposits in the Laramie Range. The titaniferous magnetite project will continue into 1945 and attention will also be turned to the alumina-bearing anorthosite of the region. Plans have also been made to undertake field work on the iron deposits of the Hartville district under the cooperative agreement.

The University furnished quarters for the Fuels Division of the U.S. Geological Survey in their project on Wyoming petroleum geology. Six federal geologists are engaged in field and office work compiling basic geological data valuable to oil companies in their search for new fields. The State Geological Survey is cooperating completely through conferences and by making unpublished data in our files, our library, and our physical equipment available to the federal geologists.

U.S. Bureau of Mines.- The State Geological Survey cooperates with the Bureau of Mines to the extent of bringing promising Wyoming mineral deposits to the attention of the Bureau with the idea that they may be core-drilled, trenched or sampled by the Bureau. The State Geological Survey has served as geological consultants on the Bureau's exploratory programs on copper, tungsten, titaniferous magnetite, fluorite, and hematite in Wyoming.

UNIVERSITY OF WYOMING NATURAL RESOURCES RESEARCH INSTITUTE

Sound geological data are a prerequisite to any studies on the benefiting or processing of Wyoming raw materials made in attempting to bring about their industrial utilization. The State Geological Survey serves as a consulting agency to the Natural Resources Research Institute in its projects on coal, phosphate rock, and other mineral resources.

FEDERAL BOARDS, COMMISSIONS AND COMMITTEES

Senate Steel Shortage Investigating Committee.- The State Geologist has served on this committee for over a year as Wyoming collaborator, whose duties are to see that the funds made available to the Bureau of Mines for iron ore exploration are expended in the best interests of the State of Wyoming.

Synthetic liquid fuels.- The State Geologist and the Assistant State Geologist attended the hearing before the Congressional Committee on Public Lands and Surveys at Sheridan, August, 1943, and testimony on Wyoming coal reserves was given for the record.

Jackson Hole National Monument hearing and suit.- In August, 1943, the State Geologist testified on the geology of Jackson Hole before the Congressional Committee investigating the Jackson Hole National Monument. A geological discussion was given in the field and written testimony submitted for the record. In August, 1944, the State Geologist served as an expert witness for the State in its suit attempting to nullify the Jackson Hole National Monument.

Others.- Federal agencies which have been served through office conferences, field examinations, reports, or compilations are the War Production Board, the War Department, the War Relocation Authority, the Defense Plant Corporation, the Securities Exchange Commission, the Department of Agriculture, Senate Committee on Small Business, and others.

OIL WELL CORE AND SAMPLE REPOSITORY

The State Geological Survey has established a repository for cores and cuttings from deep wells drilled over the State. Through the cooperation of the oil companies, over 100 sets are now in the collection. These are open to public inspection and have been valuable to oil operators. The samples are located in a single place rather than scattered over the State, and this is a feature desirable to oil men.

DISSEMINATION OF GEOLOGICAL INFORMATION

Office calls.- With the intensification of the search for new oil fields in Wyoming, there has been an influx of companies which have not previously operated in the State. The State Geological Survey has been an important source of geological information for these companies. It is estimated that 300 office calls have been made by oil men in the past two years. Mine operators, prospectors, mining geologists, and representatives of industrial firms have been frequent callers seeking technical advice or geological information.

Correspondence.- The volume of mail asking for information on the natural resources of Wyoming and on the geology of the State has steadily increased. A considerable part of the State Geologist's time is spent simply in handling correspondence. Some inquiries necessitate the compilation of extensive reports involving the expenditure of much time.

PUBLIC RELATIONS

The State Geologist and the Assistant State Geologist have given talks on various phases of Wyoming mineral resources to luncheon clubs and to chambers of commerce at various places in the State. Technical talks have been given at engineering, petroleum, and research meetings. Newspaper articles on Wyoming natural resources have been prepared for Wyoming newspapers. The State Geologist and Assistant State Geologist have served as Wyoming delegates to national meetings or local conferences on petroleum, mining, or mineral industries.