

Engineering at the University of Wyoming

By J. R. GUITERAS, Professor of Mining Engineering, University of Wyoming, Laramie, Wyoming.

With its enormous reserves of coal, petroleum, metallics and non-metallics, Wyoming is especially interested in the activities of its College of Engineering.

The University of Wyoming at Laramie—"The Top o' the World"—has recently erected a number of magnificent buildings on its spacious campus. Notable among these is the new Engineering Building, housing the departments comprising the College of Engineering.

The instructional work at the University of Wyoming is divided among five colleges: Liberal arts, agriculture, engineering, education, and the law school. The College of Engineering includes the departments of mining, civil, electrical, and mechanical engineering. A four-year course of study in one of these departments leads to the appropriate bachelor's degree, the corresponding professional degree being conferred after five years of practical experience.

The department of mining engineering, in attempting to include within its curricula the vast array of subject matter that is usually considered pertinent, offers optional courses of study along three major lines: mining engineering, a broad curriculum including metal and coal mining; metallurgical engineering and petroleum engineering. No attempt is made to revolutionize established principles of engineering education, the aim being rather to chart a compromise course between the Scylla of "mere technology" and the Charybdis of the "Platte River" type of course—all breadth, without sufficient depth to be useful.

We consider our students fortunate in finding themselves upon a campus offering instruction in many interesting and valuable related subjects, in commerce and in languages. Contrary to many mining schools, we have no mine in which the students learn the fundamentals of underground surveying. Instead, we use our net work of steam tunnels connecting the various campus buildings. One of our recent graduates, writing back from his first experience in an Arizona mine, observes, "All that is lacking to make it just like a mine is a small stream of copper water running down your neck." With this "lab" the students carry the meridian underground by one-shaft or two-shaft methods, locate the various stopes (buildings) and set lines for underground connections.

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the United States. Petroleum and natural gas resources are also well known, petroleum constituting the second great mineral asset of the state. Precious metal mining in Wyoming has a varied history revolving mainly about the scattered gold diggings of former years and the platinum discoveries in the old Rambler mine and other workings in the Centennial district. The largest metallic mining enterprise in Wyoming is the Sunrise mine, which furnishes 50,000 tons of iron ore a month to the Colorado Fuel and Iron Company's furnaces at Pueblo, Colorado. Among the state's non-metallic mineral resources, much activity is being evidenced in the field of refractories. Abrasive and ceramic materials are also receiving considerable attention. Large deposits of leucite bearing rocks assaying 10 per cent K_2O give promise of future usefulness if and when a commercial method shall have been developed to extract the potash in a valuable form.

The problems involved in the development of many of these resources constitute a real challenge to the department of mining engineering of the University of Wyoming. One of the important functions of the department is the administration of

the State Assay Service. This includes mainly:

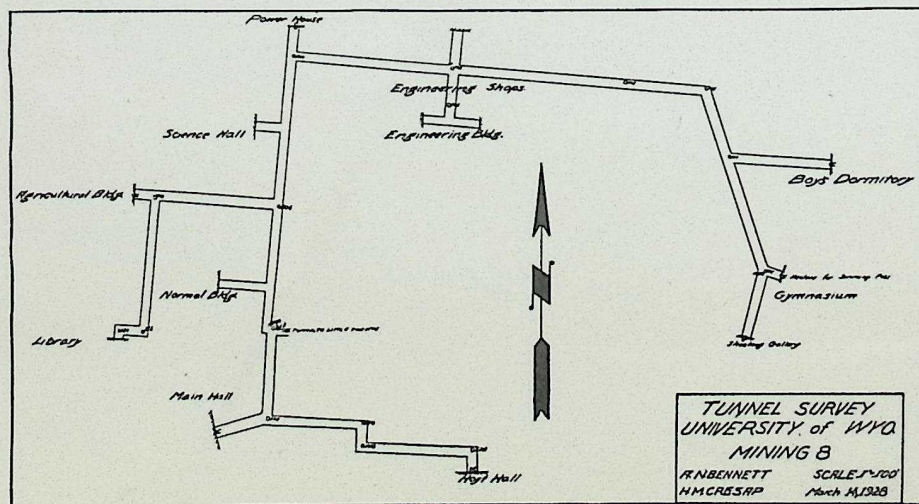
1. Identification of rocks, minerals and mineral products, their fields of usefulness, markets, etc.
2. The assay of ores.
3. Coal analysis.
4. Ore testing.

The ore dressing laboratory has recently been equipped with the most modern apparatus obtainable for the testing of ores. Every effort is made to establish contacts between the assay service and industrial enterprises engaged in the development of the mineral resources of Wyoming. It is in this laboratory that the students become acquainted with testing methods and flow sheets in their attempt to determine the most advantageous treatment for a definite ore.

To supplement their classroom work, senior students take an inspection trip, usually to the Salt Lake City district, for the purpose of studying modern equipment and methods of operation. Inspection trips are also made to the Union Pacific coal mines at Rock Springs, probably the most efficiently equipped in the United States. The Salt Creek oil fields and others in Wyoming, as well as many mining and industrial undertakings in nearby Colorado afford additional opportunity to supplement bookwork with field practice.

Recent graduates are engaged in mining work in all of our western mining states and in Mexico, South America and Africa. The boys are unusually good physical specimens and invariably prove satisfactory to the industry. They seem to be in increasing demand, this year's graduating class being practically all placed in spite of the prevailing adverse economic conditions.

Unfortunately, the office of the state geologist of Wyoming is at Cheyenne, but the petroleum research station of the U. S. bureau of mines is located on the university campus; and it should be stated that the department of mining engineering greatly appreciates the cordial spirit of co-operation extended it by these two valuable allies, as well as by other departments of the university.



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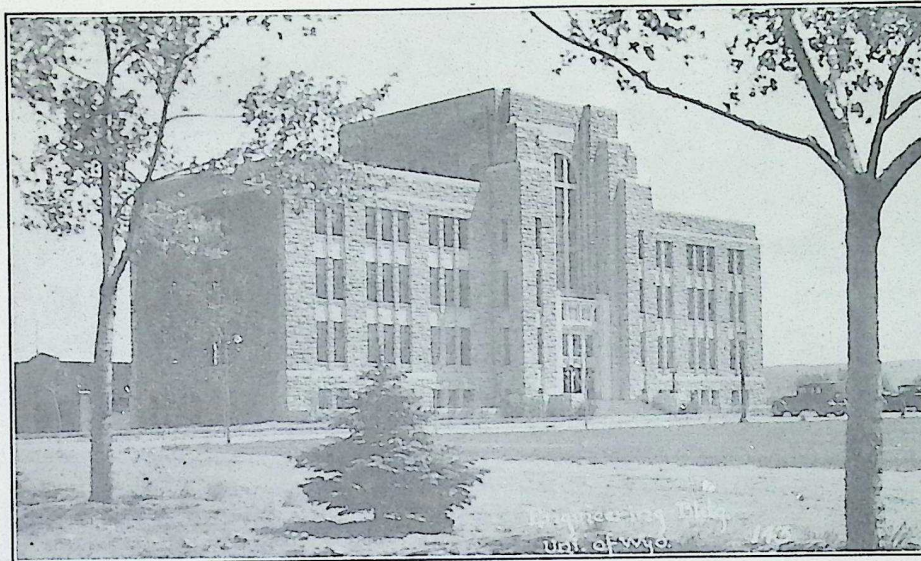
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