

William H. Carson is the director of three schools in the college of engineering. They are the mechanical, natural gas and petroleum schools.

Petroleum Research

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Petroleum Engineer, Empire Company



SURELY and steadily the petroleum engineering school of the University of Oklahoma has advanced to rank second to none among schools which offer this comparatively new branch of engineering. The school has far passed the point of receiving admiration and commendation by only the state in which it is located. It has come to be recognized by the whole oil industry, both national and international, as a place where men are trained to handle adequately the many technical problems which arise in prospecting for, producing, and refining our most widely used natural resource—petroleum.

The past year has seen some far reaching developments in petroleum engineering along with the other activities which are impelling the advancement of this great university. This year brought to the school an increase in the enrolment of 48 per cent over last year. The greater part of this increase was in the junior and senior classes and was due almost entirely to transfers from colleges and universities in various parts of the United States. Several new students from foreign countries have enrolled. There have been no changes in the petroleum engineering faculty during the past year. Dr. Huntington, Mr. Cloud, and Mr. Bingham, are teaching with a degree of excellency of which we are justly proud. Plans are in the making for an enlargement of the faculty, however, since the increase in enrolment has made it more difficult to teach effectively. By this time next year, it is hoped that at least two more instructors will be added.

Of paramount interest to all of us are the new buildings and equipment which

have been made possible through PWA grant, legislative appropriation, and donations from the oil industry. Only the painstaking efforts of Mr. Carson, director of the School, and his close contact with the industry have made such improvements possible. Approximately \$100,000 of new equipment and apparatus has been installed in our laboratories as a result of these agencies. A description of some of these follows:

(1) Dr. Huntington of the faculty, and Mr. Donnell of the Continental Oil Company of Ponca City designed a lubricating oil plant which is being constructed near the present refinery distillation unit for the purpose of carrying on applied research in the manufacture of finished lubricating oil stocks. The equipment will include, among other things, refrigeration machinery for chilling the wax distillates, clay and wax presses, contact furnace, and pilot solvent extraction unit. The plant will provide not only excellent means for instructing refinery engineering students in the various unit processes involved in the manufacturing of lubricating oils, but also an opportunity for graduate work in developing new processes and improving existing methods.

(2) A pilot oil and gas cracking and polymerization plant is to be built near the Petroleum building. This equipment will serve the purpose of providing instruction for students in this important branch of petroleum refining. Graduate students will carry on research in the manufacture of improved motor fuels which are being required for the modern gasoline engine.

(3) An experimental oil well has been completed under the direction and super-

vision of Mr. Cloud. This well is equipped to study the effects of length and frequency of pumping strokes, pump submergence, oil temperatures, plunger clearance, and pump design upon the volumetric efficiencies of oil well plunger pumps. All equipment necessary to complete this well, as well as that required to conduct the various tests has been furnished gratis by various jobbers and manufacturers of oil field specialties. These organizations are as follows: Lufkin Foundry and Machine Company, General Electric Company, National Tube Company, Jones and Laughlin Steel Corporation, Halliburton Oil Well Cementing Company, Republic Steel Corporation, D. and B. Pump and Supply Company, Production Supply Company, Axelson Manufacturing Company, Charles Englehard, Inc., Baker Oil Tools, Inc., Brewster Company, Inc., J. H. McEvoy and Company, and Oil Well Improvements Company.

(4) Mr. Bingham, who has done quite extensive research on rotary drilling muds, reports that it is planned, through the aid of PWA funds, to build a closed circulating mud system designed to operate under 5,000 pounds per square inch pressure. This system will be for the purpose of studying wall-building, wall-sealing, and temperature effects as related to rotary drilling muds. Along this line, Mr. Bingham is now directing a study of the cause of gas-cutting of muds, the effect of gas-cutting, and methods for minimizing gas-cutting. During the first semester some nice results were obtained in this laboratory study. These laboratory results will be checked against results obtained with actual samples of gas-



Lawrence Brock, senior engineer, Abilene, Texas, is president of the O. U. Engineers' club and in that capacity has shouldered much of the work in making the celebration a success. Brock started planning for St. Pat's Day last spring when he was elected to the office. A full summer, autumn and winter of worry and attending to details, will be climaxed with the three-day event. Brock last year was editor of the Engineering Edition of "The Sooner Magazine." He is a member of numerous organizations, including Sigma Gamma Epsilon and St. Pat's Council. His ability to "get the job done" has made him a leader among engineering students. This year, he succeeded in arranging for a broadcast of the coronation ceremony over KOMA, Oklahoma City, and a filming of the event by the Pathe News Camera. It is a new era in engineering celebrations.

cut mud collected from wells in different fields of the Mid-Continent area.

(5) A vibrating mud screen of the very latest design was donated to the school by the Link-Belt Company of Philadelphia. This type of screen is built for the purpose of removing abrasive cuttings which under ordinary mud pit settling conditions would remain in suspension and cause prohibitive wear on mud pumps, drill pipe, and drilling bits.

(6) A portion of the fund allotted to petroleum engineering will go to purchase a high pressure double-stage compressor and other equipment to supplement the equipment already installed for studying the passage of saturated and unsaturated crude oil through unconsolidated sand.

The graduate and undergraduate research program is going ahead nicely. A number of articles written by faculty and students covering findings of research done during the last year have been published in several of the national petroleum journals. Professor Bingham is giving special instructions to students, who care to take the course, on writing engineering reports. Dr. Huntington and Professor Bingham were honored last year by being requested to write a section of the Oxford University Press which deals with the petroleum industry and is entitled the *Science of Petroleum*. Dr. Huntington's subject was *The Separation of Crude Oil—Gas Mixtures*. Professor Bingham's subjects were *Present Trends in Rotary Drilling and Completion*, and *Equipment Service Records and Mechanical Down Time Analysis*.

Last year the school of petroleum engineering graduated thirty students. Our

records show that all of these men are employed. Their names and places of employment are:

- C. E. Ayers, Phillips Pet. Co., De Noya, Okla.
- A. W. Bailey, Hughes Tool Co., Houston, Tex.
- W. C. Bednar, Amerada Pet. Co., Tomball, Tex.
- T. P. Brooks, Rowan Drilling Co., Tex.
- J. B. Burkhalter, Reed Roller Bit Co.
- C. W. Cannon, Shell Pet. Co., Houston, Texas.
- C. W. Chandler, Hughes Tool Co., Houston, Texas.
- M. C. Chiles, Harrison-Abercrombie Drlg. Co., Houston, Texas.
- J. F. Crawford, British-American Oil Co., Oklahoma City.
- P. E. Fletcher, Atlantic Production Co., Longview, Tex.
- M. W. Hudson, Oil Well Supply Co., Oil City, Pa.
- J. E. Johnson, Gulf Refg. Co., Cleves, Ohio.
- J. A. Jones, Rowan Drlg., Hobbs, New Mexico.
- W. B. Kimbrell, Rowan Drlg. Co., Longview, Tex.
- W. F. Krueger, Bureau of Mines, East Lansing, Mich.
- J. T. Langham, Phillips Pet. Co., Breckenridge, Texas.
- S. W. Lomax, Gulf Production Co., Ft. Worth, Texas.
- R. A. Martinez, Carter Oil Co., Seminole, Okla.
- W. F. Matheny, Phillips Pet. Co., Bartlesville, Okla.
- M. G. Miller, Stanolind Oil Co., Pampa, Texas.

- A. M. Mouser, Oils, Inc., Oklahoma City.
- F. C. Nuhfer, Parkersburg, West Virginia.
- R. E. Seifert, Amerada Petroleum Co., Ada, Oklahoma.
- J. H. Sidwell, Sinclair-Prairie, Nowata, Okla.
- A. H. Tonkin, Stanolind Oil Co., Wewoka, Okla.
- V. M. Torres, Dewey Portland Cement Co., Dewey, Okla.
- G. B. Turner, Eastman Oil Well Surveying Co., Oklahoma City.
- G. T. Urbaneja, Gypsy Oil Co., Seminole, Okla.
- W. R. Warren, Stanolind Oil & Gas Co., Perry, Okla.
- J. S. Welboan, Freeport Sulphur Co., Freeport, Tex.

The Petroleum Engineers Club has been exceptionally active this year. Meetings have been well-attended and capable speakers were secured who talked on interesting and valuable subjects. The club is affiliated with the American Institute of Mining and Metallurgical Engineers. In the May issue of Mining and Metallurgy, the official publication of the A. I. M. M. E. a table was included showing the memberships in the forty universities and colleges included in the organization. O. U. was sixth. In a similar list that was published the previous year, O. U. was 34th. Lawrence Brock, President of the Club, Louis Mack, Vice-President, and Wilson Cochran, Secretary-Treasurer, with the assistance of a number of others are putting forth an extra effort in a membership drive, as they hope to have Oklahoma rank first.

Shown here are Lawrence Peek, president of the student A. I. E. E. organization; Joe Cannon, the engineer who mourns most deeply Queen Verna's exit to C. I. A. this year; Morris McDannald, one of the few engineers who has found time to letter in football; Jim Cowles, Camera club enthusiast; Booth Strange, vice-president Engineers club; W. F. Cloud, professor of petroleum engineering.

