

**U. S. DEPARTMENT OF AGRICULTURE.
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BULLETIN 183, APRIL 15, 1907: MECHANICAL
TESTS OF PUMPS AND PUMPING PLANTS,
USED FOR IRRIGATION AND DRAINAGE IN
LOUISIANA IN 1905 AND 1906**

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1905 and 1906 by W. B. Gregory

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W. B. GREGORY

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OFFICE OF EXPERIMENT STATIONS—BULLETIN 188.

A. C. TRUE, DIRECTOR.

MECHANICAL TESTS
OF
PUMPS AND PUMPING PLANTS

Used for Irrigation and Drainage in
Louisiana in 1905 and 1906.

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LETTER OF TRANSMITTAL

U. S. DEPARTMENT OF AGRICULTURE,
OFFICE OF EXPERIMENT STATIONS,
Washington, D. C., January 16, 1907.

SIR: I have the honor to transmit herewith a report on mechanical tests of pumps and pumping plants used for irrigation and drainage in Louisiana, prepared under the direction of Elwood Mead, chief of Irrigation and Drainage Investigations, by Prof. W. B. Gregory, of Tulane University, and to recommend its publication as a bulletin of this Office.

Very respectfully,

A. C. TRUE,
Director.

HON. JAMES WILSON,
Secretary of Agriculture.

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MECHANICAL TESTS OF PUMPS AND PUMPING PLANTS USED FOR IRRIGATION AND DRAINAGE IN LOUISIANA, 1905 AND 1906.

INTRODUCTION.

Some of the largest pumping plants in the world used for irrigation are located in the rice country of Louisiana and Texas. It is only ten or eleven years since the first of these plants of any considerable size was established.

Rice irrigation had passed through the experimental stage, and lands previously considered suitable only for grazing were being rapidly brought under rice cultivation. The new industry offered exceptional inducements to capital, as rice was an unusually profitable crop. The first pumping plants were located along the rivers, bayous, and small streams, but as the area under cultivation was increased it became desirable to plant rice on land that was out of reach of the large canals. Search for underground waters was usually rewarded; the deep wells of Louisiana and the shallow wells of Texas have served to supply water for irrigating vast tracts that otherwise could not have been used for rice growing.

Many of the large pumping plants, erected during the early period of the development of the industry, showed an entire lack of consideration of economy. A certain amount of water was needed and the pumps were capable of supplying the demand, but the amount of fuel required to do the work was entirely too great. Rice growers were so prosperous that questions of economy did not arise, and lack of experience was accountable for their indifference. It is true that some of the pumping plants built at that time were excellent examples of good engineering, but these were exceptional.

The fuel used was wood and coal. With the former the expense was often only that of cutting and handling, but even so, it was not cheap fuel, and plants designed to use it needed larger boiler equipment than was required if coal was used.

The discovery of oil at Beaumont, Tex., in 1901, and later at many other points in both Louisiana and Texas, has revolutionized the fuel supply of that section. The Jennings oil field is located in the heart of the rice country of Louisiana, and furnishes fuel for nearly all of the pumping plants for miles around.