

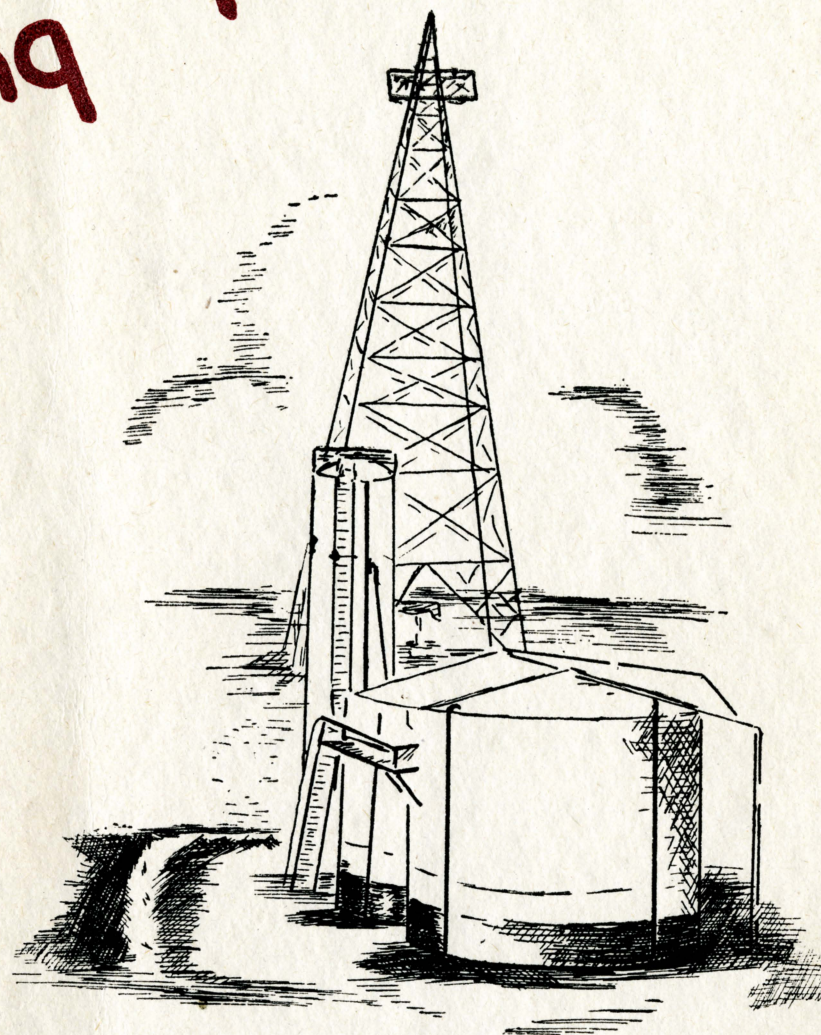
Brief in Support of
The Request for

N. L. Stamps

Petroleum Engineering Facilities

—at—

Texas Technological College
Lubbock, Texas



Prepared for:

Texas Tech Studies Petroleum Problems



Dean R. C. Goodwin, President W. M. Whyburn and Dean O. V. Adams look at Petroleum map of Texas. Dr. L. T. Patton is the other member of the college sub-committee.

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Freeport Sulphur Company
1804 American Bank Building
New Orleans 5, Louisiana

A Brief in Support of Plans to Coordinate the College and Industry in the Development of Oil in Texas

In 1925, the year Texas Technological College opened its doors, Western Texas was largely a domain of cotton, grain sorghums and livestock.

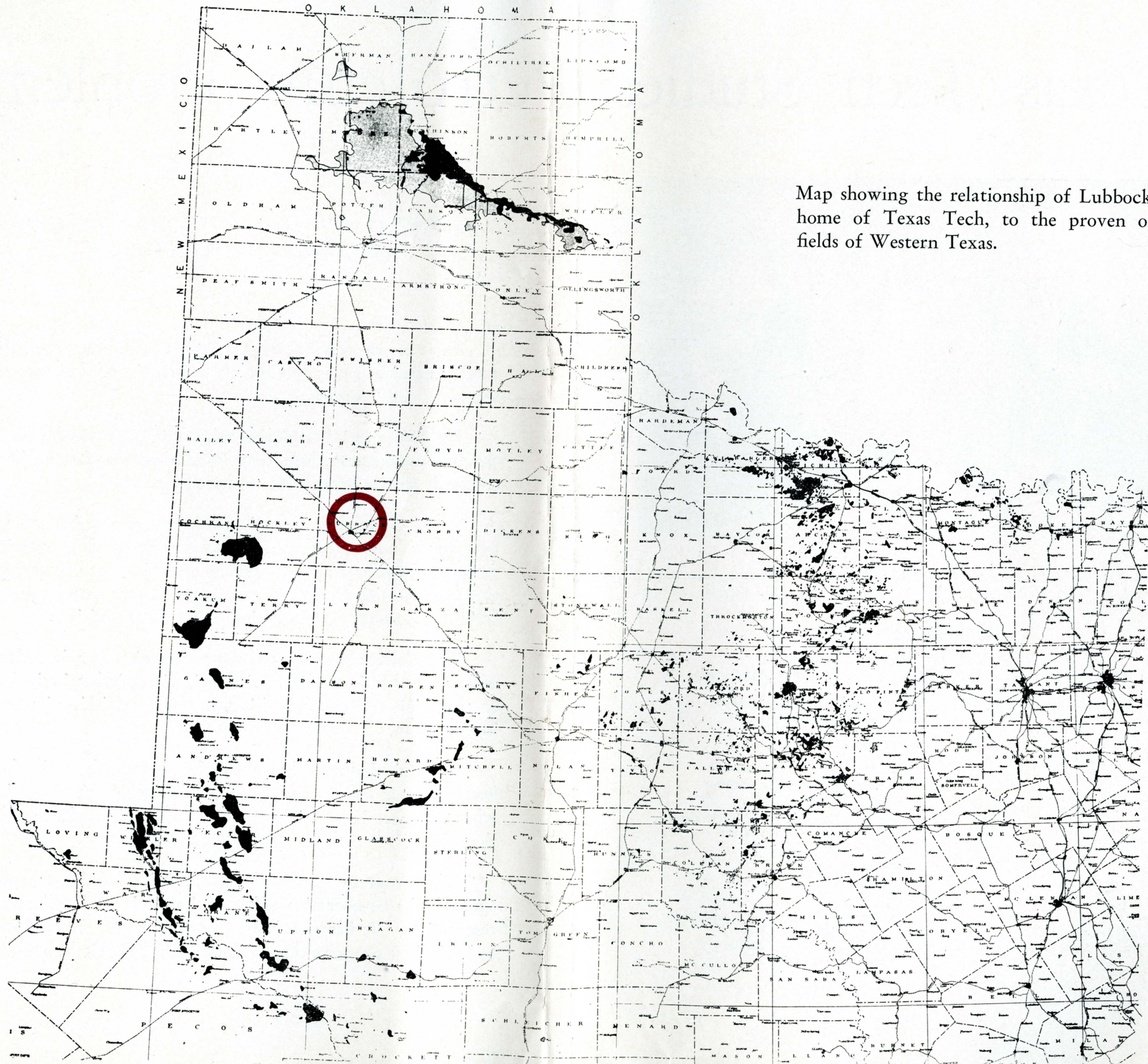
By 1947 vast oil fields and mineral deposits have been discovered underlying these same fields and ranches until the college is almost completely encircled by them.

These discoveries have placed a new responsibility and a new burden upon the college. Industry demands that trained personnel be provided to control its operations; youth demands that opportunities be made available so that it may secure the training necessary to the taking on of these positions.

The College has accepted these challenges and, in order to make sure that it shall meet its obligations, it has invited the co-operation and counsel of industry in establishing its training program.

The Oil Industry has responded generously and wholeheartedly. It has set up a permanent Petroleum Committee whose purpose it is to provide continuous aid and counsel to the college.

The program presented in this brief has been evolved through the co-operative effort of industrial and college representatives. It has the full support of both. It is believed to be the best program that it is possible for the College to offer.



Map showing the relationship of Lubbock, home of Texas Tech, to the proven oil fields of Western Texas.

Petroleum Engineering Facilities Are Needed At Texas Technological College

The great petroleum industry in Western Texas and the Panhandle, which produced approximately one-eighth of all the oil produced in the United States in 1946, and has more than one-seventh of its known reserve, is increasingly looking to Texas Technological College for trained petroleum engineers and scientists. The location of the college in regard to this industry is truly unique among the major colleges of the United States and the world. This brief has been prepared to support the request of the college for funds in order that it may adequately perform this important phase of its work.

By reference to the accompanying map, it is seen that the proven oil and gas fields in this area extend for two hundred miles north and an equal distance south of Lubbock, the location of the college. This area includes the vast Permian Basin to the south, the Red River Basin

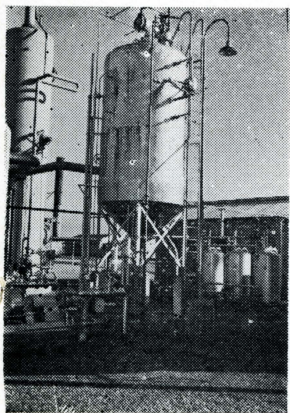
One-Eighth of Oil in U. S. Comes from Western Texas

between Lubbock and Amarillo and the Anadarko Basin to the North of Amarillo.

Within recent weeks the Stanolind company has brought in a discovery well in Hale County which may mean the opening up of an entirely new field in Western Texas.

The possibilities in Western Texas may be appreciated by noting the Slaughter Field around Sundown where there are 2,074 producing wells on approximately 73,400 acres. The estimated cost of these wells has been about \$75,000,000, and the estimated ultimate recovery on a conservative basis is 440,000,000 barrels of oil.

In the Western Texas and Panhandle fields at the end of 1946 there were over one-half million acres of proven production, 14,846 producing wells and estimated oil reserves of 3,272,736,000 barrels, being over one-seventh of the total reserves in the United States. The total number of wells drilled in these two areas last year was 2,238 at an estimated cost



. . . Potential Industrial Empire

of over \$101,000,000. The production last year in these two areas was 220,551,000 barrels or approximately one-eighth of the total production in the United States. In production the Wasson field ranks fourth and the Slaughter field eighth in the United States.

During the year, nineteen new fields and fourteen new pay sands were discovered, and twelve major field extensions were made.

In Sundown, 30 miles from the college, there is soon to be built a new gasoline plant whose initial cost is estimated at \$11,750,000. This plant will be equipped with the most modern machinery for the purpose of producing gasoline and sulphur from natural gas and treating the gas so that it may be suitable for commercial use.

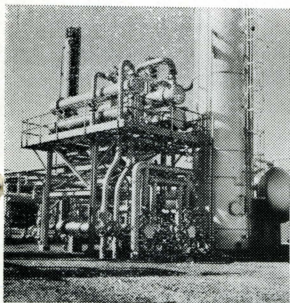
There is a great future for the new industry centering at Seagraves which is now producing hydrochloric acid from salt and natural gas. The production of salt from the practically unlimited salt deposits of this area also has great possibilities.

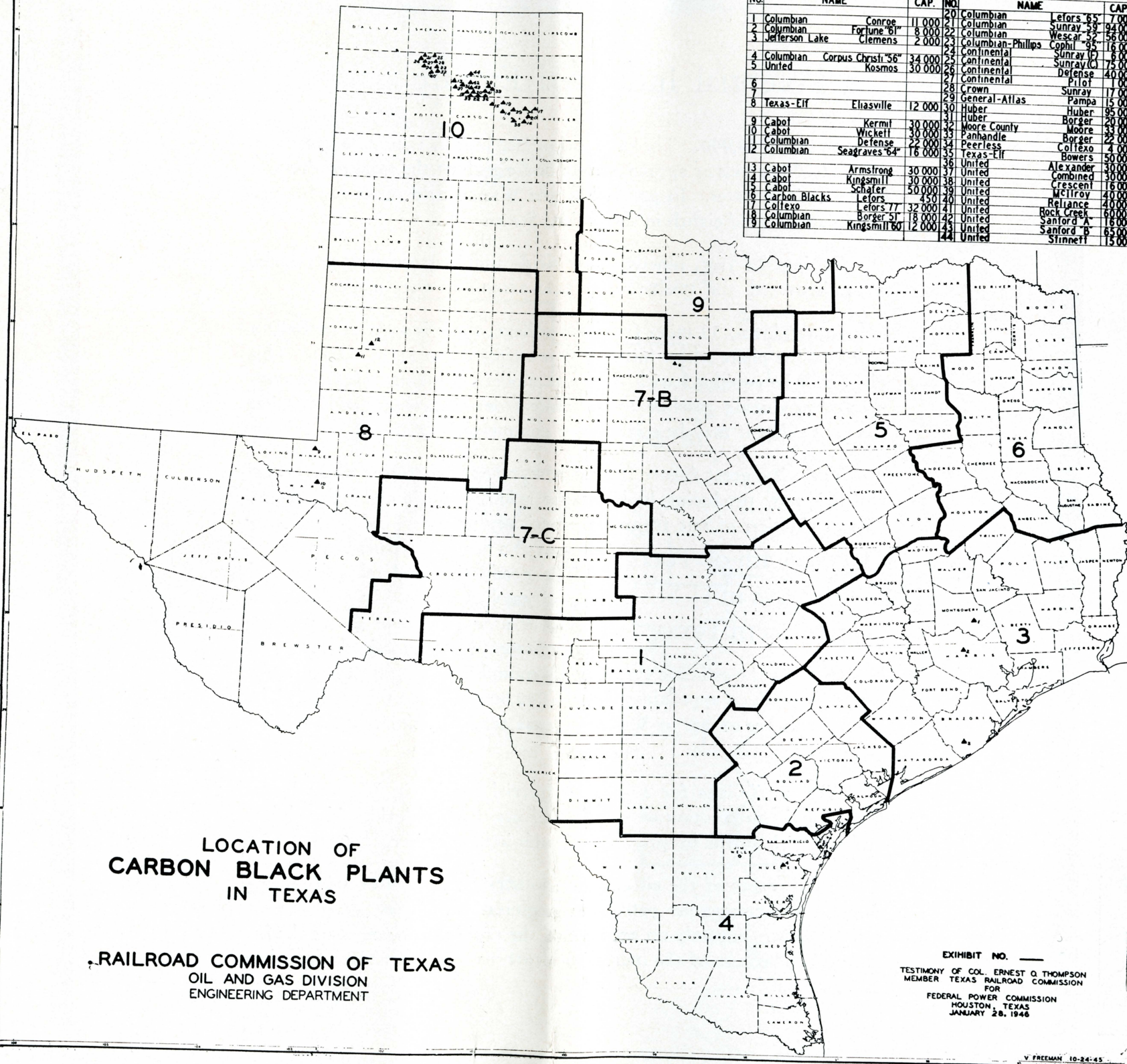
One-Seventh of Total Oil Reserve in U. S. Is in Western Texas

The production and sale of natural gas and gasoline produced from natural gas is even now a source of great revenue to the State. Its economic future may be seen from the estimate that there is enough natural gas in known reserves to produce approximately 700,000,000 barrels of gasoline. The known reserves of gas in Western Texas are approximately 37 million cubic feet.

The possibilities for a great industrial empire in Western Texas based on the production of oil, natural gas, hydrochloric acid, sulphur and salt with all the by-products of such industries is very great.

In all phases of the oil and gas industry there is an ever increasing demand for competent petroleum engineers, geologists, geophysicists, and physicists, not only on account of the rapid development of the industry but because of the increasing depth to which wells are drilled in





NO.	NAME	CAP.	NO.	NAME	CAP.		
1	Columbian	Conroe	11 000	20	Columbian	Lefors 65	7 000
2	Columbian	Fortune 61	8 000	21	Columbian	Sunray 59	94 000
3	Jefferson Lake	Clemens	2 000	22	Columbian	Weslar 52	56 000
4	Columbian	Corpus Christi 56	34 000	23	Columbian-Phillips	Cophil 95	16 000
5	United	Kosmos	30 000	24	Continental	Sunray 12	6 000
6				25	Continental	Sunray 12	75 000
7				26	Continental	Defense	40 000
8	Texas-Elf	Eliasville	12 000	27	Pilot		1 000
9	Cabot	Kermitt	30 000	28	Crown	Sunray	17 000
10	Cabot	Wickell	30 000	29	General-Atlas	Pampa	15 000
11	Columbian	Defense	32 000	30	Huber	Huber	95 000
12	Columbian	Seagraves 64	16 000	31	Huber	Borger	20 000
13	Cabot	Armstrong	30 000	32	Moore County	Moore	33 000
14	Cabot	Kingsmill	30 000	33	Moore County	Borger	22 000
15	Cabot	Schaler	50 000	34	Peerless	Coltoso	4 000
16	Carbon Blacks	Lefors	450 40	35	Texas-Elf	Bowers	50 000
17	Coltoso	Lefors 77	32 000	36	United	Alexander	30 000
18	Columbian	Borger 51	18 000	37	United	Combined	30 000
19	Columbian	Kingsmill 60	12 000	38	United	Crescent	16 000
				39	United	McIlroy	40 000
				40	United	Reliance	40 000
				41	United	Rock Creek	60 000
				42	United	Sanford A	16 000
				43	United	Sanford B	16 000
				44	United	Stinnett	15 000

. . . Vast Natural Resources

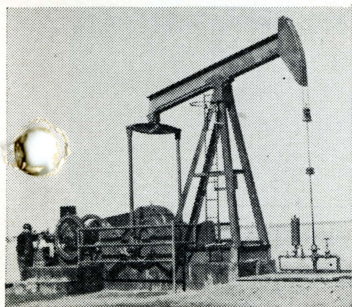
the search for oil. In the exploration for the discovery of new fields, in the location and drilling of wells, in the bringing in and completing of oil and gas wells, in efficiently operating these wells to conform with the state proration and conservation laws, in the design, location, construction and operation of pipe lines for oil and gas, and in the design, construction and operation of refineries, natural gas plants, carbon black plants, trained technical men are needed. Trained engineers are needed in order to work out and enforce an efficient conservation program in accordance with state laws which are intended to prevent waste and to promote maximum recovery from oil pools.

Oil and gas companies, both large and small, are looking to Texas Technological College to supply them with such men who have been soundly grounded in the fundamentals and with only enough specialization to enable them to appreciate the problems of the petroleum industry and to intelligently apply their knowledge to the solution of such problems.

It is but natural for the sons of men who work on drilling rigs and at other oil field jobs in this area and who see engineers and other men trained in science directing such operations to want to study to become petroleum engineers. It is also natural for their fathers to encourage them to do so and to expect that Texas Technological College, which is located relatively near to their homes, to provide them with the very best education of this nature which can be found in any college.

During the fall semester of 1946, 317 students enrolled at Texas Tech for the study of Petroleum Engineering, and a conservative estimate is that at least five hundred would do so if the program which has been planned by a joint committee of men from the oil and gas industry and from the College is put into effect.

**Petroleum Industry
Needs Scientifically
Trained Engineers**

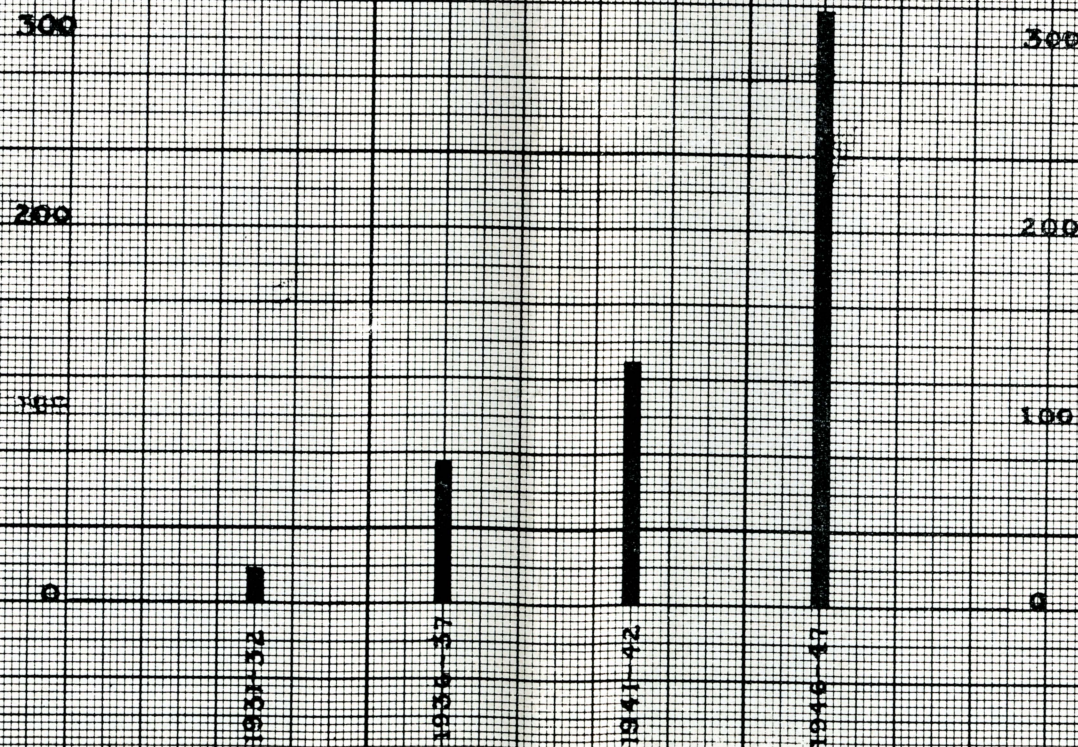


ENROLLMENT DATA - TEXAS TECHNOLOGICAL COLLEGE

	1926-27	1931-32	1936-37	1941-42	1946-47
Total College Enrollment	1,535	2,155	3,010	3,824	5,366
Total Engineering Enrollment	386	378	605	809	1,765
Total Petrol. Engr. Enrollment		18	78	129	317

* Fall semester only.

ENROLLMENT IN PETROLEUM ENGINEERING 1931-1946

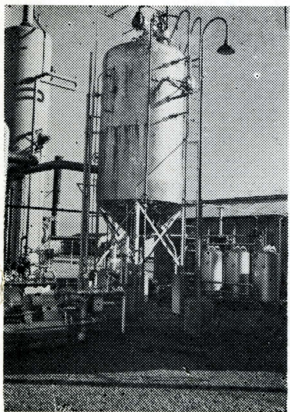


... Long Range Program

A table giving certain enrollment data for the College and a graph showing the growth in the number of students wishing to study Petroleum Engineering is included on page eight. In expanding the work at the College the Committee from the petroleum industry has recommended the revision of the present Production in Petroleum Engineering and the addition of an option in Natural Gas Engineering. The work in these options would be the same through the junior year. In the senior year a number of new courses would be required dealing with the most modern developments in the industry.

In every phase of the oil and gas industry and in the production of other products previously mentioned many problems exist whose solution would greatly increase the income and resources of the State. A well equipped research laboratory is contemplated as a part of this development. A large part of the expense of such research could come from the industry itself, once the laboratory is equipped and a competent staff of research men provided.

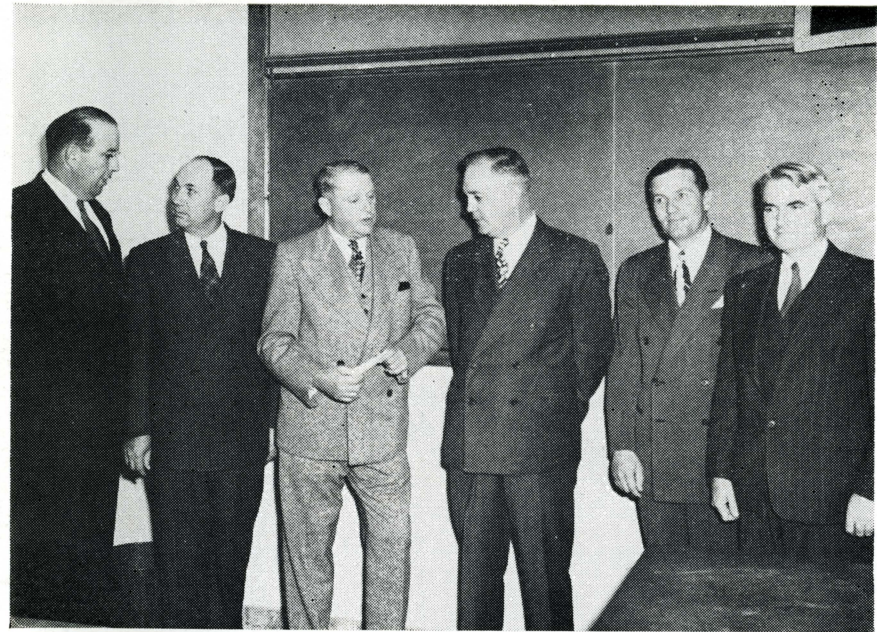
It is necessary that an adequate long range program be set up. The Committee estimates that additional buildings and equipment costing one million dollars will be needed, also additional faculty members, not only in Petroleum Engineering but in all other departments in which these students study, will be needed. The additional annual budget for staff and maintenance for this work should be from \$75,000 to \$100,000. Competent teachers can only be secured from men now in industry and salaries must be made available which will be sufficient to attract them to teaching.



Petroleum Leaders Meet with Texas Tech Officials at the College Nov. 4, 1946



George Livermore, Lubbock, independent oil man; Clifford B. Jones, president emeritus, Texas Technological College; Joe S. Bridwell, Bridwell Oil Company, Wichita Falls.

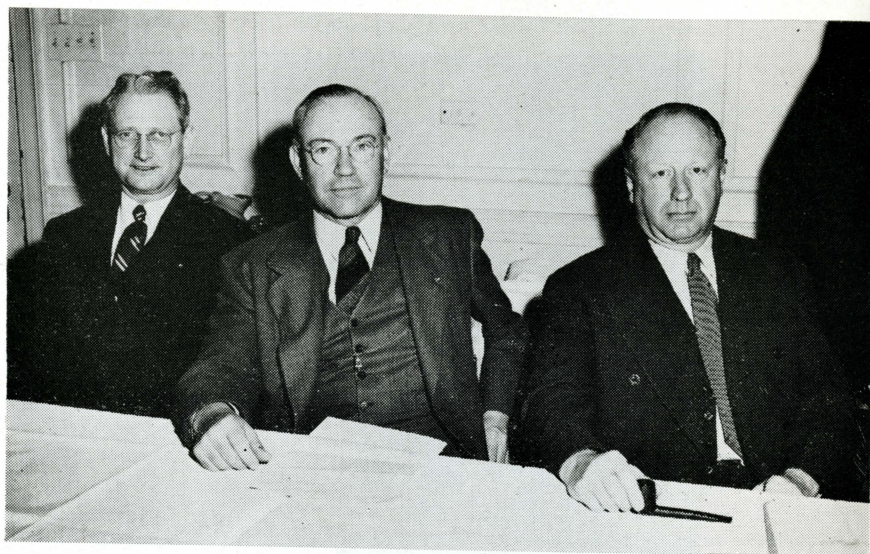


George Livermore, Lubbock, independent oil man; Dr. W. M. Whyburn; Chanslor Weymouth; M. P. Paret, Jr., Standard Oil of Texas, El Paso; Eddie Chiles, president, Western company, Seagraves; C. P. Cordray, Gulf Oil Company, Fort Worth.



Seated: Dr. W. M. Whyburn, O. B. Ratliff, George Livermore, F. L. Carmichael. Standing: Dean R. C. Goodwin, Dr. Leroy Patton, Chanslor Weymouth, Joe S. Bridwell, Dr. Wallace Pratt, Dr. Clifford B. Jones, C. P. Cordray, Owen Thornton, Eddie Chiles, W. W. Rusk, Dean O. V. Adams, M. P. Paret, Jr., Max K. Watson.

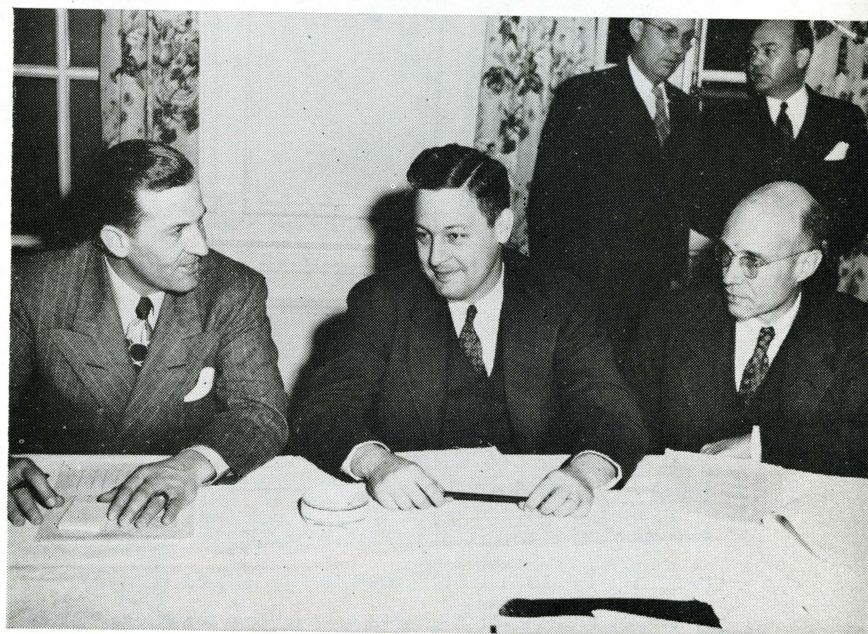
College Directors confer with Petroleum Leaders at Fort Worth Jan. 16, 1947



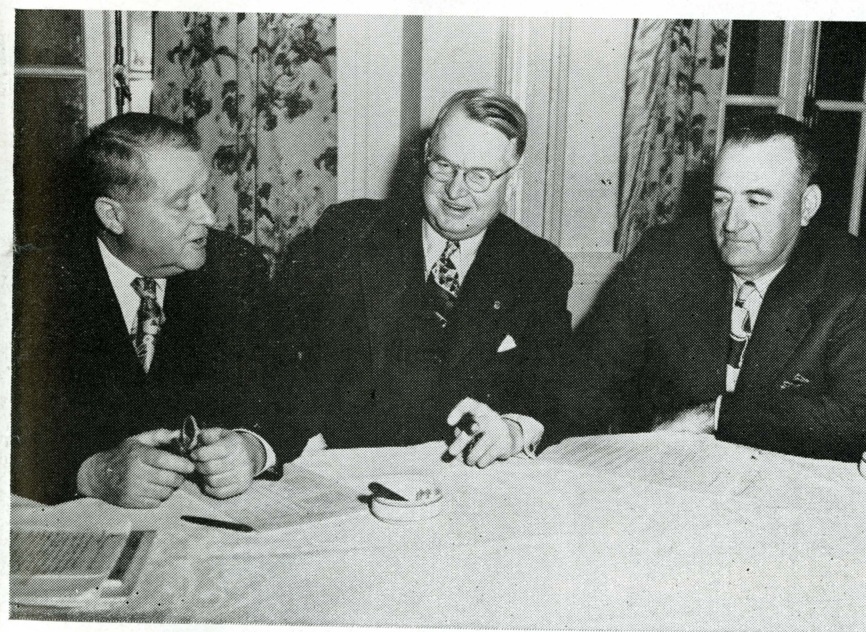
Max K. Waston, assistant to the president of the Canadian River Gas Company, Amarillo; W. W. Rusk, vice president, Amarillo Oil Company, Amarillo; H. M. Bayers, Gulf Oil Company, Fort Worth.



F. L. Carmichael, general manager, Lone Star Gas Company, Fort Worth; Dr. Leroy Patton, head of the geology department; Earle Clark, Texas Mid-Continent Oil and Gas Association; O. V. Adams, dean of Engineering.



Eddie Chiles, president, Western Co., Seagraves; Owen Thornton, Texas Co., Houston; H. D. Wilde, Humble Oil and Refining Co., Houston. Standing: Dr. W. M. Whyburn; Leroy Menzing, Fort Worth Star-Telegram Oil Editor.



Chanslor E. Weymouth, Amarillo; Mark McGee, Fort Worth; Robert B. Price, El Paso; members Board of Directors, Texas Technological College.



Due to the lack of sufficient building space Instruction in Petroleum Engineering is at present being carried on in these various buildings on Texas Technological College campus. Buildings illustrated—Library, upper left; Engineering, bottom left; Chemistry, upper right.

CANADIAN RIVER GAS COMPANY

AMARILLO

TEXAS

February 11, 1947

Dr. W. M. Whyburn, President
Texas Technological College
Lubbock, Texas

Dear Dr. Whyburn:

Texas Technological College is located in an area ideally suited to the development of outstanding courses in technology especially in the fields of Petroleum and Natural Gas Engineering. The area surrounding this institution has in recent years developed into one of the largest potential oil and natural gas reserves in the southwest. The public and student interest in any institution of learning tends to center upon the industry peculiar to its specific service area as well as general technological advances in related industries. It, therefore, is a natural conclusion that Texas Technological College will develop into one of the outstanding colleges offering courses in Petroleum and Natural Gas Engineering if proper and sufficient facilities and faculty are provided at this college.

It should be further noted that Texas Technological College is the only institution offering courses in Engineering within a reasonable distance of the towns and cities of the South Plains area and for that reason the College and Universities in adjoining states, which are nearer to this area than other Texas institutions and offering outstanding engineering courses, are receiving a large number of our students interested in Engineering. Upon graduation these students tend to obtain employment within the state in which they obtained their college training and Texas thus loses many promising technical graduates.

It is our understanding that Texas Technological College is now overcrowded with students and facilities are inadequate to properly conduct the various courses especially in Engineering. Although a large proportion of these students are returned service men it is believed that the natural growth of the area served by this institution will require additional facilities as this large influx of service men complete their training. Any additional facilities and faculty provided now will serve two purposes in properly training the returned service men and in providing for future requirements of the immediate future.

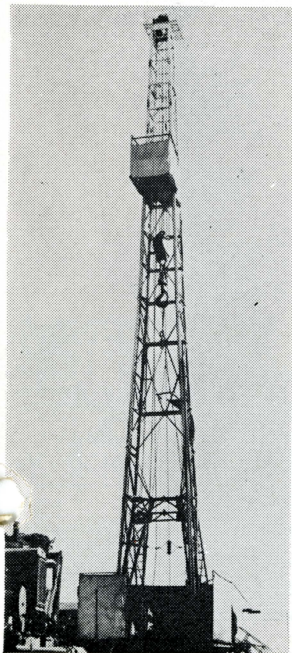
We heartily endorse any reasonable program for expansion and improvement in the curricula for Engineering students in Texas Technological College. We shall need such trained men in our organization and prefer men who have lived in this area and who are well acquainted with its people and conditions.

Sincerely yours,

Max K. Watson

Max K. Watson
Assistant to President
Canadian River Gas Company

MKW/hrm



LUBBOCK . . . "The Home of Texas Tech"

The recent discovery of oil at Petersburg, 25 miles northeast of Lubbock, has spotlighted the position of the Hub City of the Plains relative to the great oil fields of West Texas. The Petersburg discovery may prove to be one of the most important in years.

Located as it is in the North Permian Basin, midway between the South Permian Basin and the Panhandle fields, Lubbock has naturally been influenced by oil, and oil has played a great part in building it from a town of less than 2,000 in 1910 to a thriving, aggressive city of 51,607 in 1947.



Lindsey Theater

The closest large oil field to Lubbock is the Slaughter field in Hockley county, the next county on the west. This is one of the major fields in the North Permian district, an area which contains more than 5,000 producing oil wells, most of them not more than 100 miles from Lubbock.

To serve these fields, the city has many companies dealing with the oil business in all its aspects. The classified section of the latest telephone directory lists approximately 75 lessors, marketers, producers, contractors, dealers and others who depend directly upon the oil fields for their livelihood. Many more of Lubbock's citizens are in some way indirectly affected by the presence of oil in this region.

Transportation companies have recognized Lubbock's importance to the oil industry by connecting it to other outstanding Southwestern oil centers. Direct air connections are available between Lubbock and Midland-Odessa, the New Mexico fields, Wichita Falls, Amarillo, the Oklahoma fields and the East Texas fields. In addition, supplies, equipment and crude oil roll over the highways and railroads which



Lubbock National Building

radiate from Lubbock throughout the petroleum bearing Plains.

Experts say that the Permian Basin section, of which Lubbock county is a part, contains the largest known potential oil reserves in the nation. The location of this oil was unknown until a few years back, and even when the tremendous supply was proven, development was slow and tedious because of the distance from markets and the lack of transportation. The war changed this picture and the building of new pipelines from the various counties to refining centers has stepped up production. Other pipelines are under construction or contemplated and, in addition, refineries, carbon black plants and other facilities are being constructed in the area, all of which assure further development.

At present producing wells are in operation only a few miles to the north, east and west of Lubbock, and with the continued expansion of the North Permian Basin fields and the oil industry in the area, Lubbock will become an even more significant West Texas oil center.



Hilton Hotel

The Western Co.

ENGINEERED ACIDIZING

Seagraves
Levelland
Midland
Odessa
Dallas
Eunice, New Mexico

Serving the Permian Basin

GENERAL OFFICE

P. O. Box 5312

Seagraves, Texas

Feb. 13, 1947

Dr. W. M. Whyburn, Pres.
Texas Technological College
Lubbock, Texas

Dear Dr. Whyburn:

A very thorough study has been made of the program and curriculum adopted by the Board of Directors January 16, 1947. I am very enthusiastic about this program. Each man in our company that I have discussed this with feels that if this program is carried out in its entirety, Texas Technological College will produce the very finest engineers available to the oil and natural gas industry.

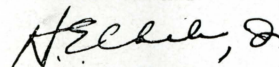
I have discussed this program with numerous men both engineers and otherwise in the oil and gas industry, and they are unambiguously of the opinion that this is the most progressive step that has ever been taken by an engineering school in this part of the country.

It will be tragic if the legislature fails to do its share in sponsoring this progressive step. Certainly our representatives in Austin, who brought this school into being cannot fail to nurture it properly during its period of growth. If they do this, each one of them can feel proud in the years to come of the part they had in developing a great center of learning, and thereby developing the resources of Texas.

Please do not fail to call upon me if there is anything I can do to further this program. With best wishes for the success of this venture, I am,

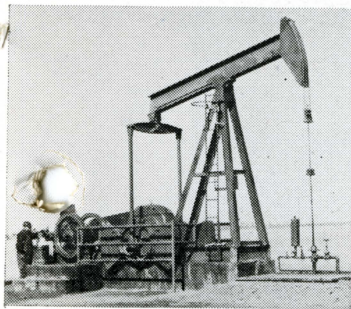
Very truly yours,

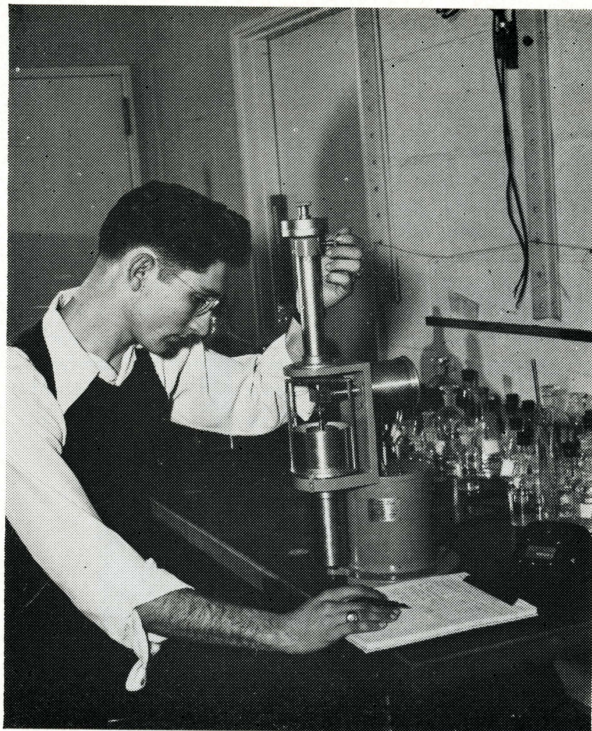
THE WESTERN COMPANY



H. E. Chiles, Jr., Pres.

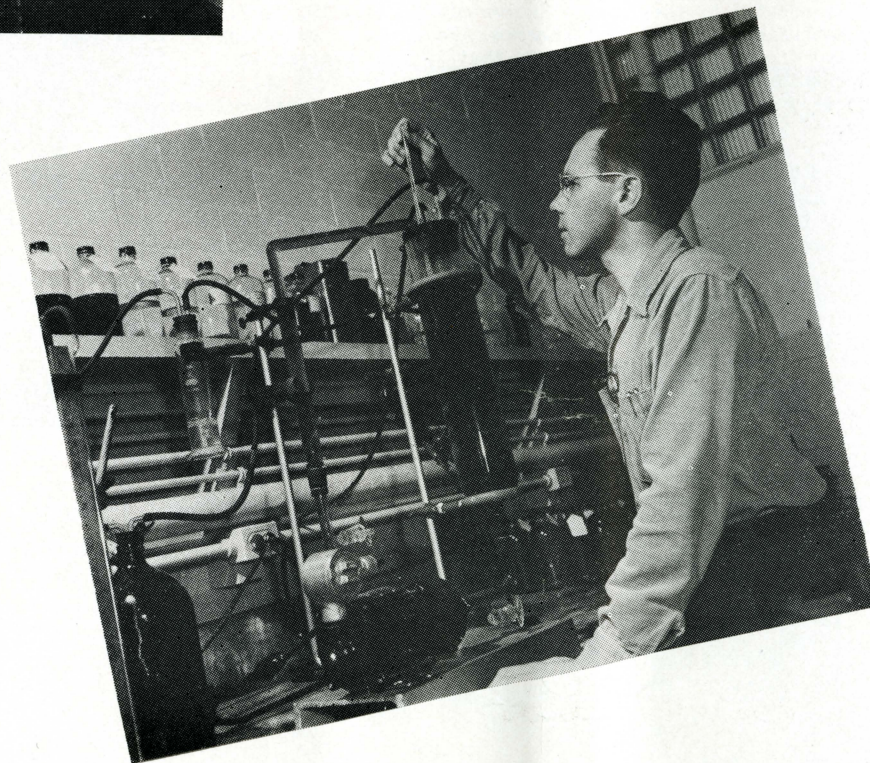
HFC/hh



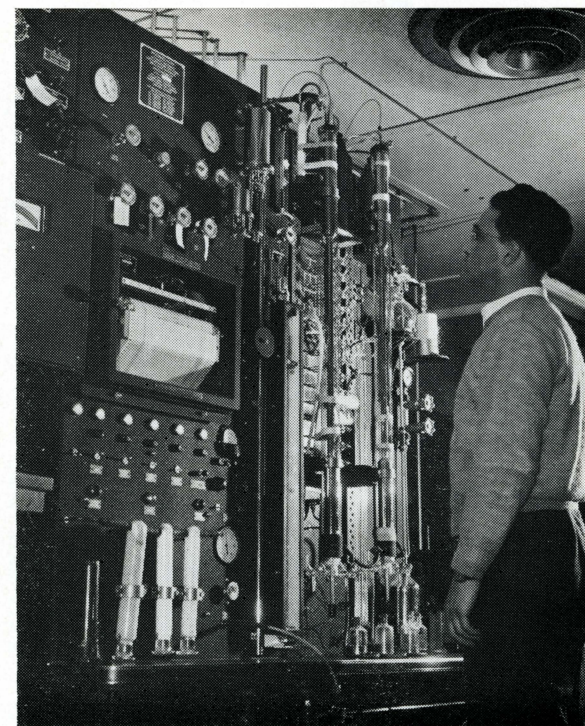


Laboratory Scenes

Texas Technological College needs equipment for work in petroleum such as is shown on this and the following pages. These pictures, which were made at industrial laboratories, show research equipment, pilot plant scenes, and testing apparatus of the type which should be familiar to petroleum engineering graduates.



Research
Laboratory



STANDARD OIL COMPANY OF TEXAS

P. O. BOX 862

M. P. PARET, JR.
VICE PRESIDENT


EL PASO, TEXAS
February 3, 1947

Mr. W. M. Whyburn, President
Texas Technological College
Lubbock, Texas

Dear Mr. Whyburn:

There is indeed a very real shortage in West Texas of young men schooled in the basic principals of engineering. Your proposal to augment the existing engineering facilities and services at Texas Technological College when consummated, will help materially to relieve an unsatisfactory situation in this area.

Yours very truly,



LETTERS, TELEGRAMS
AND EXPRESS
CARLSBAD, NEW MEXICO

MANZANITAL
PINE SPRING
CULBERSON COUNTY, TEXAS

February 5, 1947

Dear Doctor Whyburn:

Your two letters, of January 21, are before me.

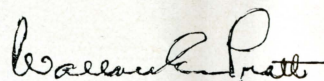
If you wish, I would be glad to continue to serve on your sub-committee.

I believe I have no worthwhile suggestions for inclusion in the literature you are preparing.

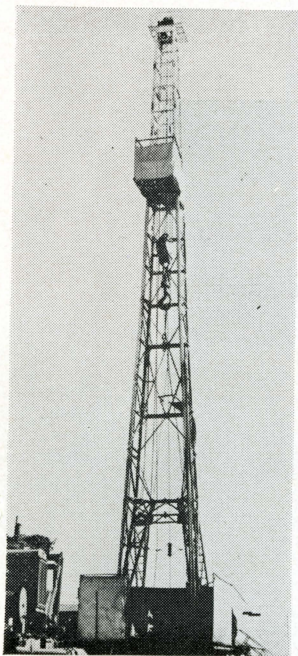
I think you know my feeling that Texas Technological College should point its activities towards the services of West Texas, in particular. While it is a state institution, of course, its opportunity lies in the region immediately surrounding it. In serving West Texas, it also serves best the people of all of Texas.

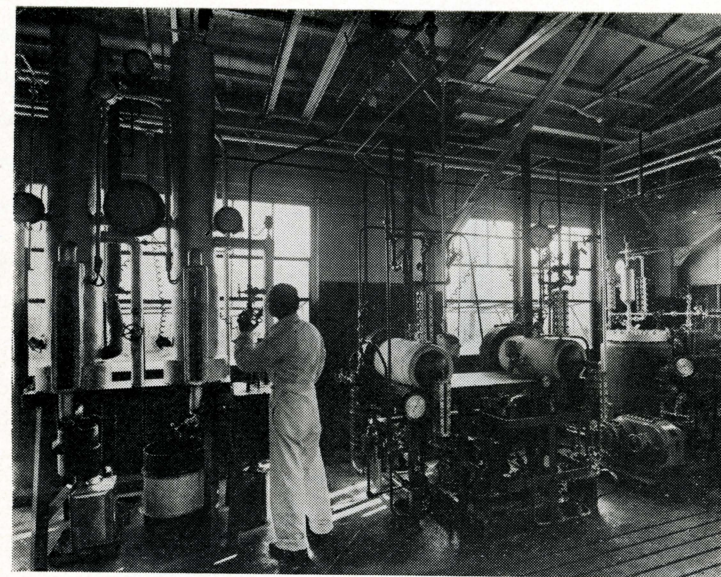
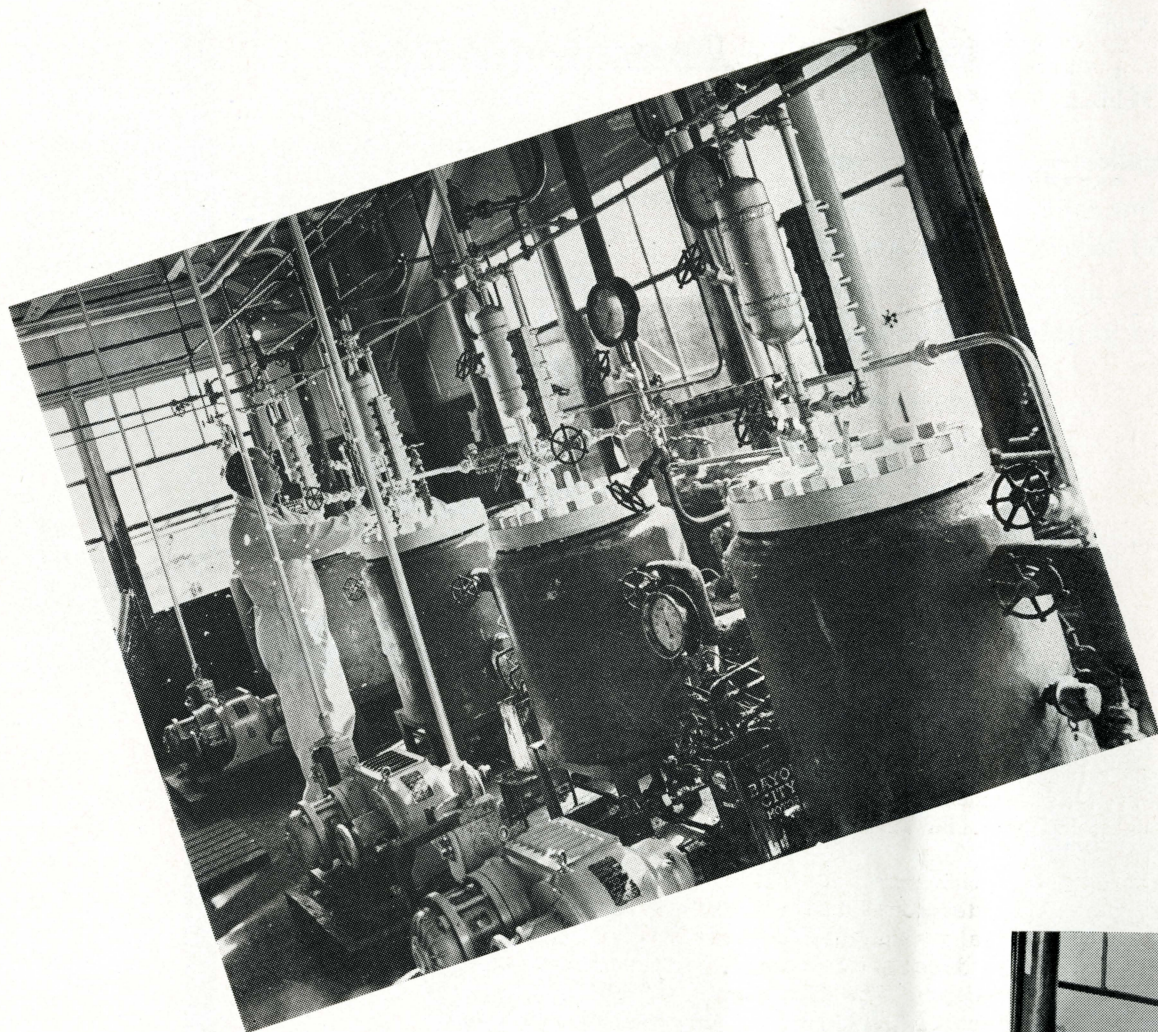
With best wishes to you, I remain,

Yours sincerely,

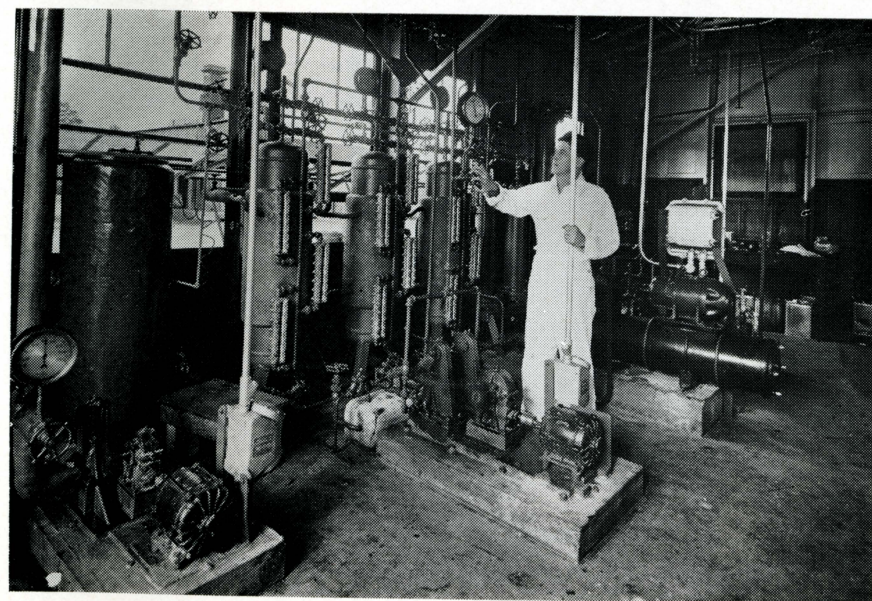


Dr. W. M. Whyburn, President
Texas Technological College
Lubbock, Texas





Pilot Plant



WEST TEXAS GAS COMPANY

GENERAL OFFICE, LUBBOCK, TEXAS

R. E. WERTZ
PRESIDENT
AMARILLO, TEXAS

February 5, 1947

Dr. W. M. Whyburn, President
Texas Technological College
Lubbock, Texas

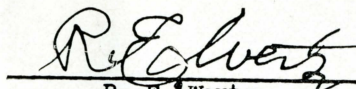
Dear President Whyburn:

I have followed with a great deal of interest the development of the program for expanding the services of Texas Technological College to provide curricula for the training of students in the engineering of petroleum, natural gas, and other basic minerals. The Board of Directors and all of you at the College are to be commended for seeking the counsel of representatives of the industries involved. To me the program recently adopted by the Board of Directors, which was developed through such counsel, seems to be well founded, thoroughly practical, and reasonable from the standpoint of cost.

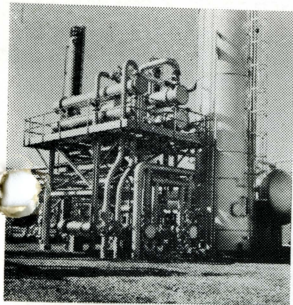
Located as it is in the heart of a vast area rich in wholly undeveloped or only partially developed reserves of petroleum, natural gas, salt, potash and other basic minerals and chemical raw materials, Texas Technological College is ideally situated to offer outstanding training in the curricula proposed. The industries active in the development of mineral resources of West Texas need trained men and naturally look to Texas Technological College for them. They will, I am sure, welcome the planned expansion of services and will cooperate in every way possible.

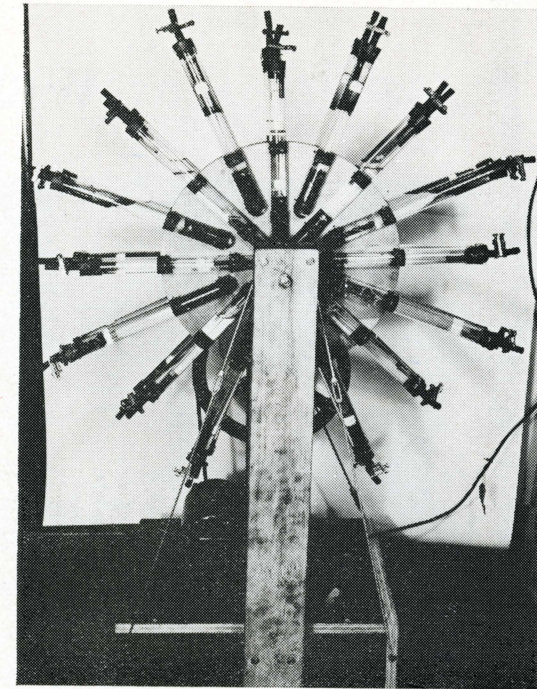
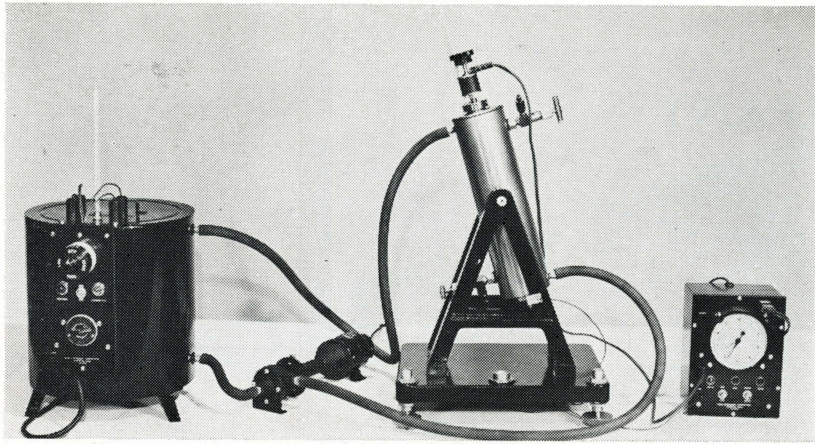
Assuring you of our continuing interest and support, I am

Sincerely yours,

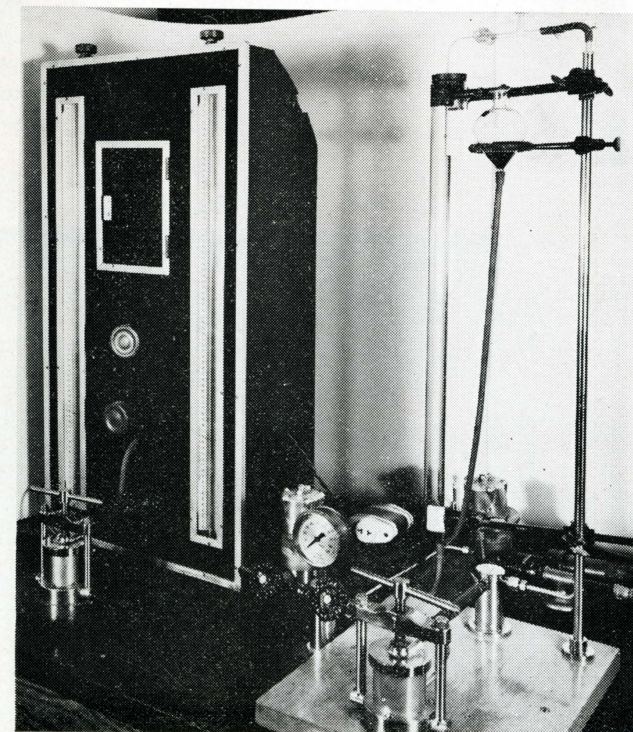
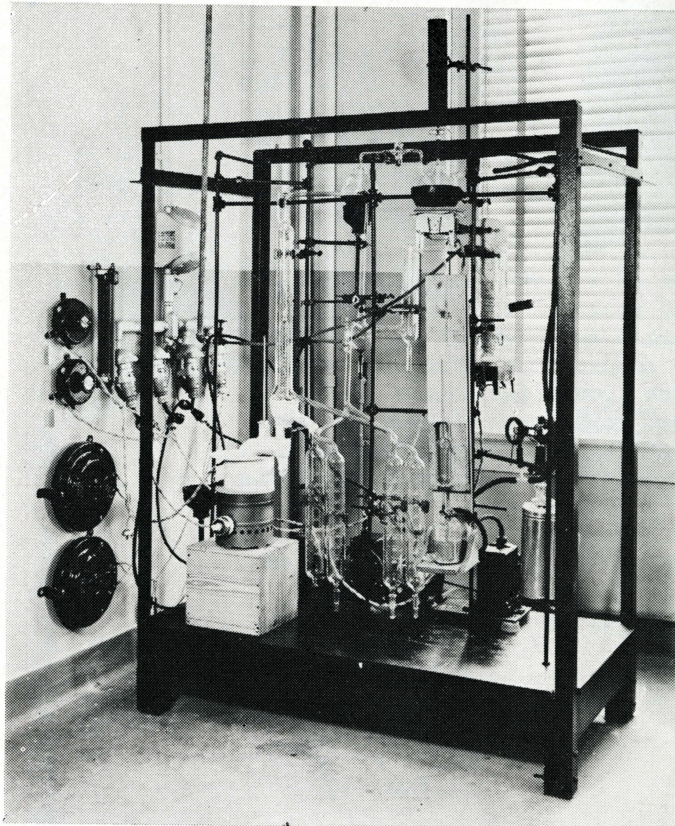

R. E. Wertz
President

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Testing
Equipment



THE TEXAS COMPANY

TEXACO PETROLEUM PRODUCTS



Houston 1, Texas
P. O. Box 2332

February 12, 1947

Mr. W. M. Whyburn, President
Texas Technological College
Lubbock, Texas

Dear Sir:

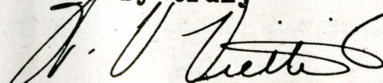
It has been a pleasure to serve as a member of the Mineral Industry Advisory Committee and to council with you and the others associated with Texas Technological College in developing the courses of engineering study which were adopted by the Board of Directors on January 16, 1947.

The program for developing strong courses of study for engineering in the fields of petroleum, natural gas, and other basic minerals represents an important step in the forward progress of your school.

The demand in industry is more and more for men with engineering training. That this training should stress fundamental knowledge with less emphasis on purely descriptive matter is concluded both by industry and the colleges. It is believed the suggested courses of study reflect this trend to the degree consistent with the necessity for completing the engineering training within four years.

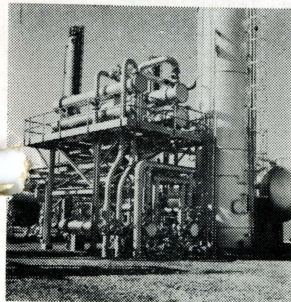
We feel that men trained according to this program will be well qualified to take their place in developing the mineral industries of Texas.

Yours very truly

A handwritten signature in dark ink, appearing to read "W. V. Vietti".

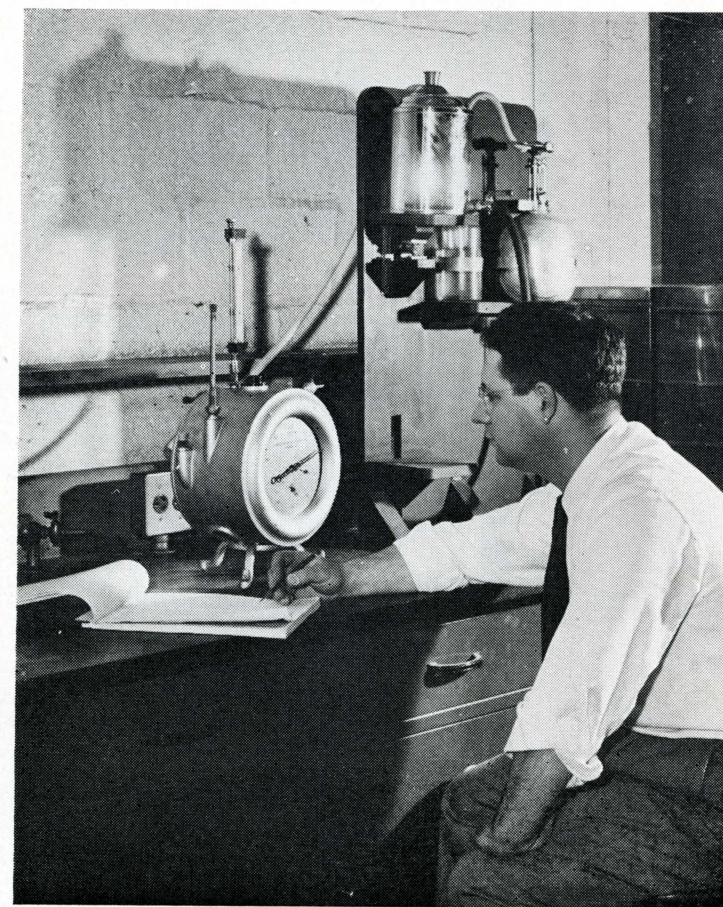
W. V. Vietti

OFT-RC





Once a Petroleum building is obtained, additional specialized equipment will be provided by the industry.



M. G. CHENEY
PETROLEUM GEOLOGIST
COLEMAN, TEXAS

January 27, 1947.

President W. M. Whyburn
Texas Technological College
Lubbock, Texas

Dear Prof. Whyburn:

Industrial expansion in Texas will no doubt call for increased number of technically trained specialists. Presumably this means expanded facilities for training engineers and research personnel such as you have recently outlined. The proposed curricula for petroleum engineering and chemical engineering show careful planning on your part. Effective training in these subjects should give ample preparation during these under-graduate years. Post-graduate work should however be encouraged for those showing special talent.

Expansion of your facilities and annual budget, as outlined in your program dated January 16, 1947, appears conservative in amount and essential to accomplish the purposes outlined.

You may be interested in the enclosed leaflet which sets forth the Stanford geological program. Geology seems quite fundamental to scientific and cultural education, and we trust your department of geology will be given liberal support. The wide usefulness of this subject is emphasized in the enclosed leaflet entitled "The Geological Attack".

With best wishes -

Yours sincerely,



M. G. Cheney

