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INCREASING THE SEVERANCE TAX ON NATURAL RESOURCES

By

BRUCE ROACH

Bureau of Public School Service
Division of Extension

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The benefits of education and of useful knowledge, generally diffused through a community, are essential to the preservation of a free government.

Sam Houston

Cultivated mind is the guardian genius of Democracy, and while guided and controlled by virtue, the noblest attribute of man. It is the only dictator that freemen acknowledge, and the only security which freemen desire.

Mirabeau B. Lamar

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FOREWORD

The question for the 39th year of debating in Texas high schools under the sponsorship of the Interscholastic League was chosen, as are all League debate questions, on the basis of a ballot sent to all the high schools of the State. A similar question to this was debated in 1940, but a great deal has happened in the meantime to make the severance tax question a live issue in Texas today. Last year the Legislature seriously considered a very stiff increase in the severance tax on natural gas. In the coming Legislature there are many bills being brought up which have to do with taxation, particularly natural resource taxation. Our neighbor state of Louisiana has just passed tax measures which will bring in an additional $70 million a year. A good portion of this additional revenue will be derived from an increase in the severance tax on natural resources.

But Texas is in the best financial shape in its history, and many advocates of government economy say that an increase in the tax program, particularly the severance tax on natural resources, is wholly unnecessary. The surplus in the general fund stands today at $75 million. Even with rising governmental costs, this surplus has been growing for the last several years.

Persons interested in a conservation program say that our resources on gas and oil are limited to about one more generation. After that, what? This great source of wealth in the State will be gone, and an important natural heritage will be forever lost. It is the contention of these people who are looking to the future that Texas should put some money aside in the fat years of today for the lean years that are inevitable when the natural resources play out. They point out that a stiff increase in the severance tax, particularly on gas and oil, would help Texas inherit a part of her natural wealth for future as well as for present use.

The Brief and Reading Material in this bulletin cover a number of essential points. But the material is meant merely to be indicative of the vast field of study opened up for the debater in analyzing the severance tax question.

The figures in the Brief have been carefully checked for reliability. Figures, however, change, and different authorities arrive at different totals. The debater should be constantly on the alert to get the latest available data. Many of the figures were obtained through personal interviews with the various State officials, Capitol Building, Austin: the Comptroller's Office, the Auditor's Office, the Highway Department, the State Railroad Commissioner's Office, the State Library, Department of Education, Public Welfare Department, the Governor's Office, and various others.

Our appreciation is extended to all of these State offices and to the officials for their co-operation in furnishing pertinent material and figures.

We extend our sincere appreciation to those who, through their personal interest and through the facilities of the organizations they represent, have so generously aided us in compiling this bulletin on the study of the severance tax. In particular we would like to thank David Heath of Dallas and Douglas Hicks of Houston.

We also extend our appreciation to the following who made this bulletin possible: Ray Lowry, W. H. Kittrell, Glenn Capp, Mrs. Gene Johnson, Mrs. Mae Ashworth, Miss Susie McCoy, and Miss Mahala Young.

Our thanks go also to the various authors and publishers who have so graciously consented to have their articles and statements reprinted in this bulletin. The proper credit lines will be found at the top of each article.

BRUCE ROACH

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GENERAL ADVICE TO DEBATERS

Those of you who are familiar with debate know that a complete argument is made up of a number of small sections. Each of these small sections consists of an assertion and its supporting proof. But argument is not merely assertions alone. Perhaps the weakest part of any debate is made up of unsupported assertions.

Dr. Harry Lee Ewbank of the University of Wisconsin states that there are five ways one may get others to accept his assertions:

1. He may present facts, data, statistics, supporting the assertions.
2. He may give examples illustrating his assertions.
3. He may cite opinions of others in support of the assertions.
4. He may list reasons for his assertions and draw conclusions from the facts, opinions and examples he has presented.
5. He may keep repeating his assertion in various ways. We tend to accept as true, without much proof, statements that we hear over and over.

Keep a card file handy as you go about your reading. When you see an assertion concerning a phase of severance taxes, write it down at the top of one of your cards. As you find facts, opinions, reasons or examples tending to prove the assertions, enter them on the proper card. This little system of note keeping will help you go about organizing your material in an orderly, efficient manner.

Do not forget that in searching for material not all the best data will be found in books, magazines, reference shelves, or newspapers. Some of the best material can be secured from your local officials and tax authorities, gas and oil people, or many others who are interested in some angle of this subject.

But as you gather material, do not over-burden yourself with a host of facts and figures that you will never use. To quote Dr. Ewbank again:

In outlining your case, remember that three main points, well supported by proof, are better than a larger number which because of the time limits must necessarily be supported more scantily. Try to choose theme-sentences or captions for your various speeches that will be easily remembered.

Attempt to prove only what is necessary to establish your side of the case. Talk to your audience as though they had power to vote on the question. The affirmative is urging the audience to vote Yes on the motion before the house; the negative is asking them to vote No. Consider the judges as members of your audience. Your listeners should be treated as participants in the discussion rather than as spectators.

Your hearers probably know as little about the question as you did when you started to study it. Start your explanations and arguments with this in mind instead of speaking as though the discussion had been in progress for some weeks with your audience present all the time.

Avoid as much as you can the use of big bookish words that are not familiar to your audience. And remember it is not the amount of evidence that counts: it is the importance your audience attaches to it. You can speak words faster than your hearers can hear and attach meanings to them. Instead of cramming in as much material as you can say by speaking at top speed, use only as much proof as you can explain clearly. Precision of statement will do more to make your hearers feel that you know exactly what you are talking about than quantities of statistics and quotations rapidly uttered.

When you ask questions for your opponents to answer, be sure you explain why they are important. Such questions should be few in number and directed at the weakest points in your opponents' argument. Unless you can take time to make your hearers want to know the answers, the questions might as well not be asked.

Be fair and courteous to your opponents at all times. Be slow to charge them with willful misinterpretation of your arguments or with ignorance of the question. State their position fairly and as accurately as you can before attempting to refute it. To do this demands careful listening while they are speaking or you will confuse what you wanted them to say, or what the other team in your school has been saying with what they actually said. Do not demand the impossible of your opponents. The audience is quick to detect and to resent any infraction of the rules of courtesy and fair play.

INTERPRETATION OF TERMS

The State of Texas: That body of land and water designated by boundary lines which as a part of the United States is known as Texas. In addition to the geographical lines, the term indicates the State governmental body and the activities of that body which is charged with the duty of extending benefits to the citizens of the state as a whole as differentiated from local or county governmental bodies.

Though the question is limited to the State of Texas, the same principles are involved as if the question were extended to all forty-eight states.

State of Texas also indicates that the revenue derived by an increase in the severance tax should be used for *state* purposes.

Debaters will remember that they are not debating the legality of the question. Should any specific plan violate the Texas Constitution, it is assumed that other forces will be put into play so that the constitution will be amended to take care of any discrepancies. However, it must be remembered that this is a State and not a National question. No plan advocated either by the affirmative or negative should violate the Federal Constitution, particularly the principle which prevents a direct tax on interstate commerce.

Should Increase: The proposition by this term takes a definite stand for immediate action on an increase in an already existing tax system. On those natural resources now taxed with a severance tax (or production, or regulatory) the proposition calls for an increase. On those natural resources not now having a severance tax, the proposition clears the way for levying a severance tax on such resources commensurate with the increased severance tax on other resources. The increase of the severance tax on only one or two of the major natural resources will fulfill the spirit of the proposition; but regardless of the number of natural resources on which there is an advocated tax increase, the increase should be substantial. Proposal of a small increase would defeat the purpose of the question and would be a misinterpretation of the terms.

Severance Tax: The severance tax is usually defined as a levy laid on the privilege of severing natural resources from the land or water. The word *sever* in our proposition means natural resources cut, mined, dredged, taken or removed for commercial purposes from the soil or water. Texas does not call any particular tax by the name "severance tax," but the term includes, in the main, the gross production tax and the regulatory tax on natural resources. The taxes, are written into the Texas laws as "occupation taxes." In some states the severance tax is referred to also as a gathering tax, and a privilege tax.

Its: This pronoun refers to the State of Texas and the natural resources found in the boundaries of the state.

Natural Resources: This term may include all of the natural products of the soil and water found in the State of Texas. Thus, the term in its broadest sense includes all the natural wealth of the State. Usually, the term when used in connection with taxation refers to the timber and mineral resources. Until recently, timber has not been considered a major natural resource; but because of the enormous increase in value of timber recently, the lumber industry and affiliated activities may very well be considered in a natural resource program.

In regard to minerals, it is significant that Texas leads all the states in the production of mineral resources. According to the Texas Almanac for 1947–48 (pp. 252) Texas is first, Pennsylvania is second and California is third. Some eighty-five to ninety percent of the annual mineral value in Texas comes from oil, gas, and sulphur. Since oil, gas, and sulphur are the three major natural resources, the debater may choose to limit the discussion to an increased severance tax on these three resources. The affirmative team has the right to state the major natural resources on which the severance tax is to be increased.

GENERAL ANALYSIS OF THE QUESTION

Taxation is a living issue. Not only is taxation a paramount subject for discussion in state matters, but taxation is also a major national problem. You as a debater will undoubtedly find the study of taxation highly interesting and your audiences will profit from hearing taxation discussed.

The problem of taxation will touch nearly every one of your listeners. They all have direct, vivid experiences with one or more of the various kinds of taxes. When you talk about any section of the tax problem, you will find that you are on familiar ground as far as the understanding of the audience goes. And so, since the problem of taxation is one close to our State and our community, the debater will do well to relate the severance tax question directly to the audience. This problem is not merely another school debate; it is a problem of vital importance to all your listeners.

In our debate question this year, we are concerned with this particular phase of the tax problem: the severance tax on natural resources, and the results of an increase in this tax. Even though the question is limited to the severance tax on natural resources, we should be interested in the whole tax structure. Every debater who wants to be well informed will avail himself of the opportunity to read a good book on economics and on our current tax systems (for instance, W. P. Webb, *Divided We Stand*, and Alfred Buehler, *Public Finance*).

As you proceed with your study of the severance tax, you will find yourself asking a number of questions pertaining to the feasibility of an increase in the tax. Among these you will want to know: 1. How much money should be raised? 2. Is the severance tax on natural resources the part of the tax plan that should be increased? 3. How should the extra tax revenue be used?

The affirmative will be faced with the job of justifying an increase in the tax revenue in general. Then it must justify the increase in the natural resource severance tax as the means to take care of the needed additional revenue. In order to justify the proposed increase in taxation, the purposes for which the additional money will be used must be clear and sound. Such uses must have a permanency if the arguments are to be effective. The affirmative will doubtless use any or all of the present state needs: 1. Farm-to-Market Roads. 2. Prison System. 3. Eleemosynary Institutions. 4. Education (General, Pre-school, Handicapped, Trades and Technical, Physical Plants, Buildings, County Libraries). 5. Public Welfare (Old-age Assistance, Aid to Dependent Children, Aid to Needy Blind). 6. Natural Resources Conservation Program (Texas Forest Service, etc.). 7. Permanent Endowment Fund for Future Use. Bills concerning many of these are to be brought before the next session of

the Texas Legislature. The Legislature is faced with the problem of finding ways for financing the increasing cost of the State Government. Here are typical years taken from the Texas Comptroller's Report with the cost of the State Government beside the appropriate year:

1920: $ 33,498,724.83
1930: $103,672,473.30
1939: $164,323,499.81
1947: $319,998,100.69
1948: (estimate) $416,400,000.00

In addition to the fact that there is added revenue needed as never before, it is almost certain that the State ad valorem tax will be repealed at the next meeting of the Legislature. And though the amount collected by the State on ad valorem is not tremendous, the tax gathered from this source will have to be substituted by income from some other source. Incidentally, the repeal of the State ad valorem tax might be an asset for the local governments. The need to increase the available revenue of the local governmental bodies can be met by the State's relinquishing its ad valorem tax to the local districts entirely.

We, however, are interested primarily in the State Government in our question this year. Tax levies by the National Government or by the Local Government are not included. Our proposition says that the State shall be the agent to assess, collect and spend any revenue which an increased severance tax on natural resources brings in.

As has been said, the affirmative must justify an increase in the severance tax on natural resources. The fact that many of the governmentally sponsored systems and institutions require additional revenue is not sufficient proof that the severance tax is the part of the tax system that should be increased. One might just as well say that the real-estate, luxury, or income tax should be increased. The need for additional revenue is but one of the many necessary issues to be proved by the affirmative. The affirmative must also show that this proposal meets the requirements of good taxation: productivity, equity, economy, certainty, elasticity (these fundamentals are discussed by A. E. Buehler in *Public Finance*, and by Adam Smith in *Wealth of the Nations*).

A tax increase on severed natural resources should serve two purposes: first, the income from such an increase should cover the immediate need; second, such a tax should serve as a step in a permanent long-range plan for assistance to future generations. You as a debater should be conversant with both present and future needs.

DEBATE BRIEF

Resolved, That the State of Texas Should Increase the Severance Tax on Its Natural Resources.

(Note: Footnotes and references have in general been omitted in the brief. Authorities, statistics and supporting proof may be found in the Reading Material sections. Be sure to consult Ragsdale, Paul C., *Natural Resource Tax*, University of Texas Press, Austin, 1940. This bulletin is available from the Bureau of Public School Service for 25 cents a copy.)

INTRODUCTION

I. It is important that this question be discussed.
   A. Natural resources are frequently mentioned as the best source for additional revenue measures.
      1. Many public figures and candidates for public office advocate an increase in the Natural Resource Tax.
      2. Many people think that Natural Resources are a common state heritage and should stand special taxation for the common benefit of all, both for present and future generations.
   B. The State Legislature is faced with the important job of finding additional State Revenue.
      1. The cost of the State Government is advancing about one hundred million dollars a year.
      2. Expenses in particular are going up for public welfare, roads, and education.
      3. Many state agencies, such as prison system, eleemosynary institutions, conservation bureaus, etc., need additional funds if they are to function effectively.

II. Natural Resources have played an important part in the history of Texas.
   A. The first recorded use of oil in North America by white men was in 1543.
      1. Survivors of the DeSoto Expedition caulked their boats with pitch, the residue of oil from a seepage near Sabine Pass.
   B. Drilling for oil has been a long and continuous activity in Texas.
      1. First well was completed in 1866 near Nacogdoches.
      2. First field of importance was near Corsicana in 1894.
      3. Beaumont, Ranger, Burkburnett, Mexia, and Borger all became centers of large petroleum fields through successive years.

4. Largest oil field in the world was discovered in 1930 in East Texas.

C. The Coastal Sulphur fields were discovered in 1870.

D. Texas now leads the nation in the production of oil, natural gas, sulphur and helium.

E. Texas has over 50 known mineral resources as listed in the 1948 Texas Almanac (page 254).

F. The area covered by timber in Texas is 76 million acres, the largest woodland area of any state in the nation.

III. The proposition has certain terms that need definition for a clear understanding.

A. *The State of Texas* means that such revenue as derived from an increased severance tax shall be used for State purposes.

B. *Should Increase* means that a substantial amount of added revenue should be derived from the now existing severance tax system.

1. Both the desirability and the practicality of the severance tax is included.
2. A severance tax may be levied on those natural resources not now bearing such a tax.
3. The term indicates that the Legislature should act on the proposition as soon as possible.

C. *Severance Tax* means the tax levied on the privilege of severing natural resources from the land or water.

1. In Texas the Severance Tax as defined by the State Comptroller includes the gross production and regulatory taxes.
2. The tax applies to those natural resources removed for commercial purposes.

D. *Its* refers to the State of Texas and the natural resources found within the boundaries of the State.

E. *Natural Resources* are "forests, lands, minerals and water," according to the Encyclopedia Americana.

1. There are some 30 natural resources in Texas produced on a commercial basis.
2. Petroleum, natural gas, sulphur, helium, and timber constitute about 95% of the value of Texas natural resources produced commercially.
3. The affirmative may choose any or all of the natural resources which are to bear an addition to the present severance tax. The affirmative might well choose oil and natural gas to bear the whole increase.

IV. Some of the major issues involved in the question are these:

A. Is there a genuine and permanent need for additional State revenue?

B. Is increasing the severance tax on natural resources the most practical and desirable method of securing the additional revenue?

C. Will an increase in the severance tax fulfill the natural heritage rights concerning natural resources?

AFFIRMATIVE BRIEF

Texas should increase the severance tax on its natural resources, for

I. Texas is faced with a genuine and permanent need for additional State revenue.

A. The State Government must provide for additional revenue.

1. General governmental costs have gone up as follows (according to State Comptroller's report:)

In millions of dollars:

1939—$164.3	1944—$182.2
1940—$165.7	1945—$186.4
1941—$166.0	1946—$238.6
1942—$205.7	1947—$319.9
1943—$181.7	1948—$416.4 (estimated)

2. State expenses are using from 60 to 100 million dollars more a year now than before the war.
   a. Citizens demand more services of their government, which costs more money.
   b. High cost of living and higher wages account in part for the increase.
   c. Greater population demands more expense by the government.

B. The State must have additional revenue to meet its public welfare obligations.

1. The constitution limits the total expense for welfare to $35 million a year.
2. The Public Welfare Fund is going in the red since this is not enough to fulfill all the obligations at present.
   a. As of Sept. 1, 1948, the following were on the rolls:
      (1) Old Age Assistance: 207,143 receiving $31.57 average per month (total of $6,540,482 for Sept 1, 1948).
      (2) Needy Blind: 5,737 receiving $35.01 average per month (total of $200,861 for Sept. 1, 1948).
      (3) Dependent Children: 15,458 families receiving $40.86 average per month (total of $631,599 for Sept. 1, 1948. This is for 41,783 children).

b. According to the Director of Public Welfare all of the people receiving aid need more money to meet existing conditions.
c. The dependent children have been cut 16% in what they receive because of lack of funds.
d. A basic obligation of the State is the adequate care of its needy citizens.
e. The Department of Public Welfare will disperse $100 million in 1949, according to the Director.

C. The State must meet the increasing payments of the teacher in the retirement fund.
1. According to Mrs. B. B. Sapp, the director of the fund, Texas must apportion 7 million a year for this purpose.
a. Due to increased salaries, this fund will increase.
b. Due to more population the number of teachers will increase.
(1) There are between 40 and 50 thousand teachers in Texas now.
(2) Counting clerical help, etc., 65 thousand belong to the retirement plan.
2. A sound retirement system is essential to a sound educational system.

D. The farm-to-market roads and all-weather school bus roads are a badly needed improvement for Texas.
1. According to the Highway Department, there are 172,312 miles of unimproved country roads in Texas.
2. The new Federal Government grant is less than the grant now in effect.
a. In the last three years the Federal Government has granted $30 million to Texas, which Texas matched.
b. The new grant is less and Texas must make up the difference if the road improvement program is to go on.
3. 34,000 miles now taken care of by State.
4. Governor Jester states that a minimum of 25,000 miles need improvement.
a. According to Highway Department, roads cost $9,000 a mile.
b. Total for 25,000 miles comes to $225 million.

E. Improvements are demanded in the Prison System.
1. The head of the Prison System states that a 20% increase in the budget is needed to cover the bare necessities needed in prison improvement.

F. Eleemosynary institutions need much additional revenue.
1. The institutions are now filled and need additional space.
2. The aged needy are being placed in mental institutions for lack of a place to send them.

3. The added revenue needed here is approximately $50 million.

G. The Educational System needs a tremendous amount for furthering the educational advantages of the State.
   1. There are needs for General Educational Fund, Preschool Fund, Handicapped Fund, Trades and Technical Fund.
   2. There are needs for physical plants, buildings, county libraries.
   3. There is a need to double present apportionment per school child to take our place among best educational systems of the United States.
   4. Back pay owed the rural school teachers which developed in 1947 is $11 million.
   5. In general the need amounts to about $45 million, just for aid to teachers' salaries, and necessary expenses, according to the Department of Education.

H. More money is needed for soil, water and natural resources conservation.
   1. Only two-thirds of State is skimpily covered in this program now.
   2. Texas' greatest resource, its soil is being washed away. (Bureau of Cotton Research, University of Texas.)
      a. Texas is 45th in yield per acre in corn.
      b. Texas is 16th of the 18 cotton producing states in yield per acre.
   3. Tremendous need for adequate water supply conservation.
      a. Flash floods wash away soil, live stock, towns.
      b. Lack of dams cause shortage of water in hot summer months.

I. Permanent endowment fund for future needs should be established.
   1. When natural resources are gone a major source of revenue will disappear.
   2. Natural heritage of the State will be gone never to return.
   3. Future generations should be thought about in an adequate revenue system.
   4. Existing natural reserves provide only about 30 years remaining to establish such a fund.

J. Bonded indebtedness needs to be paid off, which is $4,102,200 plus accrued interest.

II. Increasing the severance tax on the natural resources in Texas would be the practical and desirable method of securing additional needed revenue.

A. An increase in the severance tax would be productive.

1. The 1947 figures on income and tax are as follows:
   a. The annual total income of the natural resource industry in 1947 was $1,805,000,000.
   b. The total tax on natural resources in 1947 was $68,192,000 or about 3.2% of the income.
2. The estimated 1948 figures are as follows:
   a. Total income, $3,331,000,000.
   b. Total tax, $103,000,000 or about 3.1%.
3. A just and fair increase of the severance tax would produce the following: (1948 figures from Comptroller's Office.)
   a. 1c more per barrel on the (estimated) 900,000,000 barrels of oil produced in 1948 would bring in $9 million.
   b. A tax of 20c per long ton on the 4,800,000 long tons of sulphur produced in 1948 would bring in $960,000.
   c. A tax of only .5 of one cent per thousand cu. feet on gas would bring in $10,000,000 on the 2 trillion cu. feet actually used in 1948. Gross production 1948: 3 trillion cu. feet.
   d. A tax of 5% on lumber products would bring in $6,700,000.
   e. A tax of 5% on the 366 million dollars worth of miscellaneous natural resource industries (cement, etc.) would bring in $18,300,000.
   f. The Legislature recognizes the productivity of the tax.
      (1) The House passed the McClellan Bill in 1947 to increase gas tax to 1.85c per 1000 cu. feet; this would bring in a total of from $30–$35 million a year it was estimated in 1947 (on two and a half trillion cu. feet).
4. According to the Railroad Commission, gross production figures are as follows:
   a. Oil: 1946—755,899,971 barrels.
      1947—816,188,478 barrels.
      1948 (est.)—900,000,000 barrels.
   b. Gas: 1946—2,768,938,762 cu. feet.
      1947—2,893,553,714 cu. feet.
      1948 (est.)—3,000,000,000 cu. feet.

B. Increasing the severance tax would be the most effective way of securing additional revenue.
   1. Other sources of taxation cannot bear additional taxation.
      a. The base property tax is proving a poor source of revenue.

(1) Ad valorem tax delinquency is increasing every year.

(2) Assessed value of property fluctuates too much for ad valorem tax to have a solid basis.

(3) The tax does not tax according to the ability to pay.

(4) Elaborate assessing and collecting machinery must be maintained to execute this tax properly.

(5) The Legislature at the next session is almost certain to repeal the State ad valorem tax and make it an entirely local tax.

b. Business and industrial taxes should not be increased.

(1) Occupational licenses are heavy at present.

(2) The chain store tax is as high as feasible.

(3) The Federal Government is exacting heavy business taxes.

(4) Texas is just starting to grow industrially and should not increase the tax burden on business.

(5) Business industries already pay local, state, and national government taxes which are proving burdensome.

c. Special luxuries and excise taxes are already a burden on the general public.

(1) Cigarettes, gasoline, alcoholic drinks, automobiles, cosmetics, theatre tickets, etc., the things which make our standard of living high, are already taxed to the limit both by the State and the Federal Government.

(2) Since the sales are widespread and in different categories, the tax is hard to collect. Such taxes are known as "nuisance taxes."

2. New State taxes are not practical for raising revenue.

a. The sales tax has been repeatedly turned down by the Legislature and the people of Texas.

(1) Though there is no general sales tax, Texas already levies a heavy selective sales tax.

(a) The original cost of cigarettes is less than 5c a package; yet taxes bring the retail price up to 17c to 22c a package in Texas.

(b) The gasoline tax at the retail pump is the largest single tax collection in the State (1947, $78,721,600; estimated 1948, $86,000,000. Deductions not included.)

(c) The alcoholic industry pays numerous taxes.

(2) The sales tax violates the principles of good taxation. (See The University of Texas Bulletin: The Sales Tax, by Rousse and Hester, available from Bureau of Public School Service at 25c.)
(a) It is complex and costly to administer.
(b) It is detrimental to business.
(c) It falls heaviest on the lower income groups.
(d) It does not tax according to ability to pay.
(e) It produces an unstable yield of revenue.
(f) It is the worst form of regressive taxation.

b. A State income tax is impractical for Texas.
(1) The income tax is primarily a tax for the Federal Government; any State income tax would be double taxation.
(2) The income tax varies greatly in time of prosperity and depression.
(3) It would drive wealth and industry from the State.
(4) It would call for a complete new system to administer the tax.

3. Natural resources are capable of bearing an increase in the severance tax.
a. Texas is the leading State in the Union in natural resources.
(1) Half the total known crude oil reserves of the U. S. are in Texas.
b. Texas can produce its oil more cheaply than other competing states.
(1) According to an official study by the U. S. Department of Interior, 1927–34, comparative production costs were as follows:

Oklahoma—$1.10 per barrel.
Louisiana—$1.13 per barrel.
Texas—$ .79 per barrel.

c. Texas has both land and water transportation for shipping natural resources to other markets.
d. Texas produced 43.7% of the total U. S. supply of oil.
e. Texas has a virtual monopoly on sulphur.
(1) Texas produced 80% of the U. S. supply and an appreciable amount of the world's supply, according to Texas Almanac.
(2) There is practically no competition in the monopolistically controlled sulphur industry according to R. H. Montgomery in "The Brimstone Game."

f. Total timber cut in Texas in 1947 was 1,750,000,000 board feet.
   (1) Texas has more timber land than any other state, 76 million acres. Timber is being cut 3% faster than it is being grown.
   (2) New types of pine that mature in 7 years are making timber a major natural resource.

g. Natural resources are not overtaxed today.
   (1) The production tax paid in 1948 is $103 million on an income of $3,331,000,000.
   (2) Taxes paid by Texas producers are less than those paid by competing adjoining states. (Louisiana has just made a substantial increase in an already stiff tax program.)

h. A fair and just tax plan can be worked out as a basis for the increased severance tax.
   (1) Such a tax would be productive.
      (a) A total of $40 million could be easily added.
      (b) Louisiana added $70 million by such an increase.
   (2) Such a tax would be continuous, for with higher tax, conservation would be a major factor. In addition Texas proration and conservation laws make for stability.
   (3) Such a tax increase would be easy to administer.
      (a) The present tax structure for State natural resource taxation would be used as a basis for the increase.
      (b) The machinery for collection is already in operation.
   (4) A tax rate schedule based on productivity of oil wells could be adopted.
      (a) Stripper wells, marginal producers, and high cost production wells under such a plan would be allowed complete exemption or slight increase.
         (1) Marginal producers help the conservation program of the State.
         (2) Although the number of marginal wells totals about 40% of the total number of wells, they produce only about 5½% of the total petroleum yield (Railroad Commission figures).
         (3) If the marginal producer's tax were not increased at all (as a bonus for such

production) there would be at most only about 6% decrease in the proposed severance tax increase.

(b) A sliding scale tax is just and fair.
(1) Used by Federal income tax.
(2) Used by corporation tax.

(5) Such a tax is based on the ability to pay.
(a) Producers of natural resources are able to pay. Their total income is $3,331.0 with a tax of $103.0 (in millions of dollars).
(b) Producer would pass tax on to the consumers, and this would be paid largely by consumers out of the State.
(1) Seven out of nine gallons of gasoline were sent out of State in 1947.
(2) Gas exported to Mexico alone in 1945 (last available figure) was over 14 billion cu. feet.
(3) Interstate export of gas in 1945 (last available figure) was 406 billion cu feet.
(4) 80% of U. S. sulphur comes from Texas.
(5) Over one-half million tons of sulphur were shipped in 1947 for foreign export.

III. Texas needs to increase the severance tax on natural resources to recover a share of her exploited natural wealth.

A. An increased tax would lead to conservation of gas and oil resources.
1. Independent indiscriminate production without regard to immediate sale would be curtailed.
2. Stabilization would result in the industry.
3. Flaring and wasting in the fields would be cut down.
4. Extra tax would make producers seek new uses.

B. It would enable the State to share more fully in the enjoyment of its natural resources.
1. Out-of-state consumers would pay a large share of the increased tax, the benefits of which would be realized in the State.
2. A larger increase of tax money would allow the State to fulfill the obligations of good government to its citizens.

C. Natural resources are a State economic heritage and so there is every justification for making them the object of special taxation for the common benefit of the State.
1. Profits to the individual owners and producers are made possible only because of a free gift of nature.

2. The common heritage theory is accepted in Texas: this is shown by the fact that these resources are already the object of taxation that does not apply to other products.
3. "Since natural resources, accumulated by the slow development of the ages, are a heritage of the race and not merely of one generation, then certainly a privilege tax by the State is justified on the sheer ground of self-preservation," according to George Vaughn, noted economist.

D. Since it is an accepted fact that natural resources will not last forever, and since such resources are irreplaceable, it is only logical that natural resources, Texas' greatest heritage, should be made to contribute to a permanent fund for the common good of the State both for present and future generations of citizens.
   1. A trust or endowment fund should be set aside for such time as when the natural resources run out.
      a. A maximum of 30 years or less for gas is estimated.
      b. A maximum of 50 years for oil is estimated.
      c. Half of an additional tax or at least $20 million a year should be placed in this fund.
         (1) Universities operate on the endowment principle.
         (2) Banks use the reserve system.
   2. Future generations can use educational systems, roads, rehabilitation programs and welfare provisions.
      a. It is especially appropriate that natural resources should be called upon to provide funds for public welfare. Aid to dependent children, to the blind, to the aged, etc., will be of benefit not only to these people now, but to succeeding generations.
      b. Every barrel of oil and every cubic foot of gas and every ton of ore produced depletes the reserve for the use of future generations.

Since Texas is faced with a genuine and permanent need for additional revenue; since increasing the severance tax on natural resources would be the practical and desirable method of securing additional revenue, and since Texas needs to increase the severance tax to recover a portion of her exploited natural wealth as security for the future, it becomes clear that the State of Texas should increase the severance tax on its natural resources.

NEGATIVE BRIEF

I. An increase of the severance tax on natural resources is unnecessary to meet rising governmental expenses.

A. Texas is in excellent financial shape.

1. The general fund at the end of the fiscal year 1948 will have a surplus of $75 million (est.).
2. This great surplus has accumulated in spite of ever rising governmental costs.
3. Many of the over 100 separate funds in the government system had cash balances at the end of the year.
4. The bonded indebtedness of the State is $4,102,200 and can be taken care of out of general surplus.
5. Texas is so well off that the State Comptroller reports the ad valorem levy for the general fund will not be made in 1948.

B. A plan for governmental economy could save the State millions of dollars a year.

1. There are many unnecessary and overlapping tax duties carried out by a disorganized group of boards, bureaus and commissions.
2. The Griffenhagen report states that, "In all important phases of financial administration the State of Texas is surprisingly weak."
3. A constructive plan for reorganization has been proposed which would save the government around $7 million (Joint Legislative Committee, Judge H. N. Graves, chairman).
4. Economy in government must take into consideration how the money is spent as well as how it is collected.
5. According to George C. Hester, "The whole State Government reeks with the spoils system, which should be substituted by a fair and adequate merit system."
6. Also, according to Mr. Hester, "We have a court system in Texas that costs nearly three times that of the English system which serves 40 million people."
7. The more than 100 funds into which State money goes need consolidation for more efficient operation.
8. There is much unnecessary expense in the administration of the social security program.
   a. The number on the rolls now is over 200 thousand.
   b. The cost of social security is about $90 million a year.
   c. Too many people on rolls who are undeserving.
      (1) They have adequate bank accounts.

(2) They have children to take care of them.
(3) They transfer their property to get the old-age assistance.

d. Texas needs new laws for defining the worthy old-age citizens who need assistance.

9. Other states have saved money by a reorganization policy.
   a. Virginia, Nebraska, and Idaho all save from 20% to 30% in an economized state governmental program.
10. Texas should use the money now available through governmental economy for further expenses rather than increase the tax difficulties on its citizens.
    a. The costs of administrative departments have increased 900% in the last 25 years.

C. A partial collection of the delinquent taxes could save several million dollars a year.
   1. Delinquent taxes totaling $85 million are now on the books. (Approximately $15 million of this is owed to the State, according to the State Auditor's Office.)
   2. A large portion of this is not only legally collectable but actually collectable as well.
      a. George C. Hester says that "One-half of the total delinquents are solvent and . . . are wilful evaders."
      b. Approximately 15% of the ad valorem tax is delinquent each year.
      c. From $15 to $20 million more could be collected annually by collecting past taxes and by utilizing a more efficient tax collection program.

D. Several million dollars could be saved by reorganizing the present tax system.
   1. The taxation of property is not uniformly assessed under the present laws.
   2. A great amount of personal property escapes taxation altogether.
   3. The method of tax collection wastes much money.
      a. Overlapping districts and unnecessary extra machinery cause extra expense.
      b. Tax officials could be freed from partisan alliances and control.
      c. Consolidation of small districts would help in administrative saving.

E. No additional taxes are needed to take care of rising costs in the government.
   1. Teacher retirement takes a maximum of $7 million a year of which $2.5 million is payment for deficit, 1938–40.
      a. In *two* years the deficit will be paid and the amount to be met by the State will be about $5 million.

2. The State educational system is now paying $55 per capita, and has risen from 25th to 7th in the U. S. in rating scale. Texas schools were among the best in the nation in 1947–48.
3. Public welfare is being taken care of to the maximum of the State constitutional provision ($35 million to be apportioned by State).
   a. Old-age pension is going to too many people.
      (1) New restrictions are needed so that the deserving will receive aid.
      (2) The truly needy will receive more when rolls are reduced, since the total apportionment is to be used (matched by the Federal Government).
   b. Other states have efficient public welfare laws resulting in better care and fewer non-deserving participants.
   c. Texas old-age pension laws are far too liberal.
      (1) Texas provides almost double national coverage in the number of pensioners on the rolls.
      (2) Nine-tenths of the families in Texas who will never benefit from old-age pensions are expected to supply more elaborate pension programs than families of comparatively greater income in other states.
   d. Comparative costs of living between sections must be taken into consideration in comparing Texas figures with those of the East.
      (1) Living costs in Texas are about two-thirds those of the eastern states.
      (2) In such a ratio, Texas pays the highest pension rate in the U. S.
   e. George C. Hester says, "There is also a great block of our Texas population, particularly the Negroes and the Mexicans, with extremely low standards of living as well as income. Flat or exorbitant pension systems could only make our State a paradise for such classes and their clans, most of whom with their children would remove themselves from productive work entirely and become public parasites in our State's social and economic system."
      (1) A dangerous group of voters would be fostered who would care only for increasing pensions.
      (2) This would increase the number of undeserving pensioners.
      (3) Supporting a willfully idle population would result in a loss of needed workers.

(4) Added pensioners would move to Texas to take advantage of the pension system.

4. The farm-to-market roads and the all-weather school bus roads are well on the way to being taken care of without further taxation.
   a. Governor Jester suggests spending about $20 million a year from the general fund (surplus in the fund is nearing $75 million).
   b. Of the 25,000 miles needed, we now have 16,200 miles under construction.
   c. Of the 9,000 miles still lacking, the program can be put under construction from the general fund.
   d. 25,000 additional miles of good rural roads practically doubles the mileage of the State highway system (at present 34,000 miles).
5. Economics in the Prison System will make the Prison System more efficient.
   a. Proposed new self-sustaining projects will materially cut the increase in prison costs.
   b. New therapy and vocational rehabilitation systems will alleviate present unrest and will provide a large share of the revenue needed for the Prison System.
      (1) Sales of manufactured goods from prisoners will help finance reorganization.
6. Eleemosynary institutions number many in the State of Texas already.
   a. The State already maintains a home for dependent and neglected children at Waco, an orphan's home at Corsicana, a colored orphans' home at Gilmer, a juvenile correction home at Gatesville for boys and one for girls at Gainesville.
   b. Religious, fraternal and other organizations care for both children and old folks. Methodists, Baptists, Presbyterians, Catholics and other denominations all have orphanages. Masons, Odd Fellows and other fraternal organizations have orphanages and also homes for the elderly.
   c. Texas has a Confederate home, a blind institute for white, and a deaf and dumb school for white, and a blind, deaf and dumb school for colored. There are several homes and schools for the mentally defective.
7. The conservation program is doing a fine job at present.
   a. Forest fires are at a minimum.
   b. The soil conservation program already has about two-thirds of the State under a rehabilitation program.
   c. The Federal Government is assisting in this program.

(1) New State funds will not be needed since Federal aid will take over.

8. A sizeable amount can be apportioned from the ever growing surplus fund for a permanent endowment fund for the future needs of the State.
   a. The general fund is growing each year:

1945—balance at the end of the year	$13.4 millions
1946	34.1
1947	49.8
1948	75.0 (est.)

   b. Special statutory fund surpluses could be placed in an endowment fund.
      (1) This surplus in 1947 was $128 million. (This surplus was not restricted by the State Constitution.)

II. Natural resources cannot stand an additional increase in the severance tax.
   A. The taxes that natural resources pay at present are excessive.
      1. Natural resources pay many taxes besides the gross production and regulatory taxes.
         a. They pay: ad valorem, franchise, drilling permit, payroll, car and truck license, motor fuel tax on gasoline used by company cars, well-servicing tax, pipeline tax.
         b. They are taxed by state, county, city and school districts.
         c. Texas mineral resources already pay over half of all State taxes except the individual taxes of poll and sales taxes.
   B. Conditions of the natural resource industries prohibit further taxation.
      1. The taxes now paid are too high in proportion to the value of the industry.
         a. In 1948 Texas natural resource industries received only a little over 40% of the State's income but they had to pay over 50% of the State's taxes (exclusive of the poll tax and sales taxes, such as the gasoline tax paid by the general public).
         b. The natural resource tax has increased more than 1600% since 1927 as against a general increase of 250% in all other taxes.
      2. The profits made upon natural resources are not in line with the capital invested.
         a. The percentage of return on the gross investment in the petroleum industry since 1921 is only 2.04% (Texas Mid-Continent Oil and Gas Association).

b. In 1946, the Petroleum industry spent $1,524,104,000 in Texas (a billion and a half dollars), according to *Texas Oil and Gas*—1947, and Texas Mid-Continent Oil and Gas Association.

3. The natural resource industries have had to borrow heavily in order to carry on production.
   a. Production costs are high and are increasing every year.
   b. According to Texas Mid-Continent Oil and Gas Association, the total borrowed capital by the Texas Oil Industry is $648,375,000.
   c. The oil companies are not as fabulously wealthy as they are made out to be.
   d. Labor costs have increased greatly.
   e. Equipment costs have increased.
      (1) Deeper drilling.
      (2) Shortage of materials.
4. The major part of the natural resource taxes are paid by producers and people within the State.
   a. Over 50% of the State tax bill is paid by natural resources.
   b. Natural resources employ one-sixth of the total working population in Texas. (This includes allied industries.)

III. Increasing the severance tax on natural resources is impractical and undesirable.

A. Such an increase does not meet the requirements of a good tax.

1. It would not tax according to the ability to pay.
   a. Natural resources are already paying more than their share of the tax bill—50%.
   b. It would wipe out thousands of small independent producers in marginal and stripper wells.
      (1) 65% of all wells in the State (75% outside of East Texas) are on the pump. They produce only about 7 barrels a day or less.
      (2) Because of the additional cost of pumping, and because the high overhead costs are distributed over a small amount of production, these wells necessarily have a higher cost of production per barrel.
      (3) Since the production costs are higher, these wells have to operate on a narrower profit margin in order to meet the competition of large scale producers.

(4) This profit margin is so narrow that an increase in the taxes would represent the difference between operating at a profit and a loss.

c. This increase would not be a continuous source of tax revenue.

(1) Natural resource taxes decrease drastically in times of depression.

(2) Proration laws cause wide difference in total income.

B. The proposed increase would be highly detrimental to the natural resource industries.

1. In the case of sulphur, such an increase threatens the existence of the industry.

a. New products and processes as substitutes for sulphur offer stiff competition.

(1) New processes have been found for a substitute for sulphuric acid, sulphur's greatest outlet.

(2) Nitric acid is being being used instead of sulphuric acid in the fertilizer industry.

2. Petroleum producers cannot stand the proposed increase.

a. Marginal producers cannot pay additional costs.

b. Many producers would go to other states.

(1) Many states have lower total taxes than Texas even now (Oklahoma, Illinois, etc.).

(2) Texas oilmen have no secret processes or methods that are not available to all producers everywhere.

c. Natural resource producers would be forced to cut expenses.

(1) Wages would be cut.

(2) Fewer new fields would be explored.

d. The proposed increase would lead to widespread destruction of markets.

(1) Texas oil reserves total about 55% of the nation yet Texas supplies only about 44% of the national market.

(2) Texas is already at a disadvantage in geographical location.

(a) The freight rates to the Middle West and East are high.

(b) Texas cannot compete with the West Coast market, or the Orient, for California has easily accessible transportation for West Coast needs, and handy water transportation for Far Eastern markets.

3. It would increase the price to the consumer.

a. Natural resource industries cannot absorb the entire tax.

b. The consumer would be forced to pay higher prices for his product.
(1) Natural resources are essential to his business.
(2) The products cannot be obtained elsewhere.
(3) As a result, the general public would suffer from such an increase.

C. If new State taxes are needed there are others that are preferable to a severance tax increase.
1. A state income tax is preferable.
a. A state income tax only one-fourth the rate of the Federal tax would bring in $264,954,873.
(1) Federal income tax collections in Texas in 1947: $1,059,819,495.
b. It is productive in the states where it is used: New York, Wisconsin, etc.
c. Such a tax is a help in broadening the tax base.
(1) Texas has no State income tax at present.
(2) Property and natural resource taxes supply most of the tax money.
d. The tax is based on the ability to pay.
e. It would be easy and economical to administer.
(1) The Federal Government already has the machinery set up.
(2) It is difficult to evade income tax.
f. The income tax is favored as one of the best types of taxation by most tax authorities.
2. A uniform retail sales tax would fall on all alike.
a. A 2% sales tax would bring in over $93 million a year.
(1) Retail sales in 1947, $4,685,601,000 (Bur. of Business Res., U.T.).
b. It is a principal revenue for many states.
c. It is easy to collect. Such a tax does not come once a year but is spread out.
d. Administration is easy since no complicated forms are filled out.
e. Evasion is difficult.
f. It provides a continuous source of revenue.
g. It broadens the tax base and causes a better distribution of the tax burden.

IV. Any harm suffered by the natural resources industries would harm the State and all its citizens.
A. The natural resources are the largest single source of tax revenues.
1. In addition to one-half of the state taxes, they pay one-third of the local taxes.

2. In 1948 they paid the educational bill for one-third of the school children in Texas.
3. The general welfare of one-sixth of the working population is directly dependent on the natural resources industry.

B. The increase would be undesirable from the standpoint of public policy.
   1. The conservation policy would be violated.
      a. The marginal operator, one of the State's most important elements in a conservation program, would be forced out of business.
         (1) The small independent operator recovers petroleum which would otherwise be allowed to waste.
         (2) Large producers operate only where an abundance of oil makes large scale production possible.
      b. Texas is not as bad off as some alarmists would have you believe.
         (1) The total reserves for gas were 86,056,783 million cu. ft. (53.8% of U. S. total) (86.1 trillion cubic feet).
         (2) The total reserves for oil were 11,646,360,000 bbls. (55.8% of U.S. total) (11.6 billion barrels).
         (3) New fields are being discovered every day.
            (a) The percentage of reserves to use has grown steadily.
   2. Texas producers are already doing much toward a conservation program which will help the general public.
      a. An increase of taxes will not cause the producers to do more for the communities, but will rather have the tendency to cut down on what they are now doing.
      b. The Railroad Commission has a widespread proration policy which conserves the resources by limiting production to market sale.
   3. New sources of power are being developed steadily.
      a. The atomic energy cycle may do away with the great need for present energy resources in the not too distant future.
      b. The limitless use of water power in Texas is virtually undeveloped.

Thus, since an increase in the severance tax on natural resources is unnecessary to meet rising governmental expenses; since natural resources cannot stand an additional increase in the severance tax; since increasing the severance tax on natural resources is impractical and undesirable; and since any harm to the natural resource industries would harm the State and all its citizens, then it is clear that Texas should not increase the severance tax on its natural resources.

GENERAL READING MATERIAL

STATE RECEIPTS

Fiscal Year Ended August 31, 1947

(From State Comptroller's Report, 1947, p. 8)

	Cents of Each Dollar	Amount
REVENUE RECEIPTS:		
Al Valorem Tax	.0401	$ 15,011,957.30
Inheritance Tax	.0065	2,425,632.08
Poll Tax	.0043	1,591,517.98
Store Tax	.0026	978,094.65
Gross Receipts and Production Tax	.1929	72,215,567.86
Insurance Companies Occupation Tax	.0200	7,496,084.43
Occupation Taxes, Miscellaneous	.0025	918,076.77
Cigarette Stamp Tax	.0558	20,867,338.46
Liquor, Wine and Beer Tax	.0336	12,585,450.31
Highway Motor Fuel Tax (Gross Collections)	.2103	78,721,600.76
Less Refund Claims *Deduct	*.0381	*14,250,448.19
Franchise Tax	.0141	5,290,775.96
Insurance Commission Maintenance Tax	.0010	370,137.29
Radio, Cosmetics and Cards Sales Tax	.0021	789,803.15
Automobile Sales Tax	.0171	6,389,998.38
Automobile Licenses	.0442	16,552,094.50
Other Miscellaneous Taxes and Licenses	.0048	1,787,871.08
Total Taxes and Licenses	.6138	$229,741,552.77
Fees and Permits	.0135	5,038,749.13
Land Sales, Rentals and Royalties	.0414	15,509,524.78
Sales of Commodities and Properties	.0014	530,010.93
Court Costs, Fines and Suit Settlements	.0009	328,289.94
Interest and Penalties	.0248	9,275,944.61
Miscellaneous Revenues	.0062	2,335,418.83
Teacher Retirement Contributions	.0096	3,576,169.80
Employees Contributions—Unemployment	.0537	20,087,999.43
County, Federal and Other Aid	.2347	87,851,427.60
TOTAL REVENUE RECEIPTS	1.0000	$374,275,087.82

NON-REVENUE RECEIPTS:	
Distribution of Road Board Surplus	$ 1,800,000.00
Amount of Refunds (Deducted Above)	15,579,080.14
Redemption of Securities	12,913,525.10
Deposits Subject to Repayment	12,496,112.30
Total Non-Revenue Receipts	$ 42,788,717.54

*Minus.

Total Deposited Receipts	417,063,805.36
Warrants Void by Statute of Limitation	$ 41,412.99
Net Transfers in from Trust Accounts	$ 510.00
OPENING CASH BALANCE SEPTEMBER 1, 1946:	
State Treasury	$110,460,988.24
Federal Treasury	155,532,399.98
Huntsville Banks	100,000.00
Total Opening Cash Balance	$266,093,388.22
TOTAL PROVISION OF CASH	$683,199,116.57

STATE EXPENDITURES

Fiscal Year Ended August 31, 1947

(From State Comptroller's Report, 1947, p. 9)

Purpose	Cents of Each Dollar	Amount
GOVERNMENTAL COST EXPENDITURE:		
Legislative	.0031	$ 993,157.81
Judicial	.0070	2,252,888.53
Executive and Administrative	.0098	3,117,845.90
Protection of Persons and Property	.0089	2,824,516.28
Regulation of Business and Industry	.0096	3,074,917.07
Conservation of Health and Sanitation	.0131	4,181,612.97
Development and Conservation of Natural Resources	.0112	3,579,962.23
Highway and Road Debt	.2848	91,146,484.20
Eleemosynary and Correctional	.0381	12,182,416.96
Educational	.3313	106,013,331.77
Parks and Monuments	.0007	239,588.37
Public Welfare, Pensions, Benefits and Retirements	.2819	90,213,091.82
Payment of Public Debt	.0001	29,896.25
Miscellaneous	.0004	138,390.53
TOTAL GOVERNMENTAL COST	1.0000	$319,988,100.69
NON-COST PAYMENTS:		
Tax Refunds and Repayments		$ 15,576,172.15
Payments for Securities Purchased		31,158,406.59
Depository Interest and Unused Funds Repaid to Federal Government		2,867.99
Other Non-Governmental Cost Payments		14,057,209.47
TOTAL NON-GOVERNMENTAL COST		$ 60,794,656.20

GRAND TOTAL EXPENDITURES AND PAYMENTS	$380,782,756.89

CLOSING NET CASH BALANCE AUGUST 31, 1947:	
State Treasury	$132,550,772.57
Federal Treasury	169,765,587.11
Huntsville Banks	100,000.00
Total Cash Balance	$302,416,359.68
TOTAL APPLICATION OF CASH	$683,199,116.57

HISTORY OF THE TEXAS GENERAL FUND

(Compiled from State Comptroller's Reports)

Millions of Dollars

Fiscal Years Ending August 31

	Balance Start of Year	Balance End of Year
1927	$ 5.4	$ 2.4
1928	2.4	2.6
1929	2.6	0.3*
1930	0.3*	0.8
1931	0.8	2.6*
1932	2.6*	1.6*
1933	1.6*	7.3*
1934	7.3*	5.2*
1935	5.2*	6.4*
1936	6.4*	9.3*
1937	9.3*	10.4*
1938	10.4*	13.4*
1939	13.4*	18.9*
1940	18.9*	23.3*
1941	23.3*	28.7*
1942	28.7*	29.2*
1943	29.2*	22.2*
1944	22.2*	3.1*
1945	3.1*	13.4
1946	13.4	34.1
1947	34.1	49.8
1948	49.8	75.0†

*Deficit.

†Estimated; 66.0 was figure as of July 1, 1948, with two months remaining in the fiscal year.

TEXAS GOVERNMENTAL COST EXPENDITURES

(Compiled from State Comptroller's Reports)

Millions of Dollars

		Average per month	Average per day
1920	$ 33.5	$ 2.8	$ 91,800
1930	$103.7	8.6	$284,000
1936	$124.9	10.4	$342,000
1937	$144.7	12.1	$396,000
1938	$157.7	13.1	$432,000
1939	$164.3	13.7	$450,000
1940	$165.7	13.8	$454,000
1941	$166.0	13.8	$454,000
1942	$205.7	17.1	$564,000
1943	$181.7	15.1	$498,000
1944	$182.2	15.2	$500,000
1945	$186.4	15.5	$510,000
1946	$238.6	19.9	$654,000
1947	$319.9	26.6	$876,000
1948 (9 months)	$312.8	34.7	$1,146,000
1948 (projected 12 months)	$416.4	34.7	$1,146,000

THE 1948 SEVERANCE TAX COLLECTION

As Estimated by the State Comptroller's Office

(Editor's Note: These figures were obtained in a personal interview with the members of the State Comptroller's Office in July, 1948.)

In Millions of Dollars

Natural Gas	$ 7.0
Oil	88.0
Carbon Black	2.28
Sulphur	5.0
Cement	1.176
Total Estimated Collection	103.456

Total Estimated Production:

Gas	3 trillion cu. ft.
Oil	900 million barrels
Sulphur	4.8 million long tons

TEXAS TAX SYSTEM

(From Loose-Leaf State Tax Guide, Commerce Clearing House, Empire State Bldg., New York.)

Constitutional Basis.—Art. VIII, Sec. 1 of the Constitution provides that taxation shall be equal and uniform; that all property shall be taxed in proportion to its value which shall be ascertained as may be provided by law; that the Legislature may impose a poll tax; that it may also impose occupation taxes upon individuals and corporations doing business in the State and that it may tax the incomes of both natural persons and corporations. This section has been held to apply to ordinary ad valorem taxes and not to license taxes or fees. [Atkins v. State Highway Dept. (Tex. Civ. App. 1918), 201 S. W. 226.]

Revenue System.—The Texas revenue system is founded on a general property tax at uniform rates within each taxing district. The general property tax has been supplemented by taxes on franchises, occupations and privileges. An annual franchise tax is levied on domestic and foreign corporations.

Taxes imposed by law are as follows:

1. *Admissions tax.*—A tax is levied on admissions to places of amusement. An excise tax on the value of any special award given in connection with the operation of any such place of business is also imposed.

2. *Alcoholic beverage taxes.*—A stamp tax is imposed on all beer and liquor sold within the State. Annual flat rate fees are required for permits to manufacture or deal in alcoholic beverages and beer.

3. *Bank share tax.*—The shareholders in every State and National bank doing business in Texas are taxed on the value of their shares at general property tax rates.

4. *Carbon black producers.*—Manufacturers or producers of carbon black are required to pay an occupation tax on each pound manufactured or produced.

5. *Cement distributors' tax.*—A tax is imposed on every person manufacturing or producing cement and/or importing cement into Texas. Interstate sales and sales exempt under State or Federal Constitution are exempt.

6. *Chain store tax.*—Every corporation operating stores is required to pay a tax measured by the number of stores operated.

7. *Cigarette tax.*—A stamp tax, on a graduated scale according to weight, is imposed on all cigarettes used or otherwise disposed of. Dealers, agents and solicitors, in addition, pay a flat annual permit fee.

8. *Commercial and collection agencies.*—An occupation tax based on gross receipts is imposed on all collection agencies.

9. *Corporation franchise tax.*—Domestic and foreign corporations pay a franchise tax upon that proportion of the outstanding capital stock, surplus and undivided profits, plus the amount of outstanding bonds, notes and debentures other than those maturing in less than a year from date of issue, as the gross receipts from their business done in Texas bears to the total gross receipts of the corporation from their entire business.

10. *Corporation organization taxes.*—Domestic corporations pay an organization tax based on authorized capital stock at the time of organization or increase of capital stock. Foreign corporations pay an entrance fee based on the issued capital stock employed in Texas.

11. *Estate tax.*—See "Inheritance tax" below.

12. *Express companies.*—Express companies pay a tax measured by the gross receipts derived from intrastate business.

13. *Freight car companies.*—Every company owning stock cars, refrigerator and fruit cars, tank cars, coal cars, box cars or flat cars and leasing, renting or charging mileage for the use of said cars within the State of Texas pays a tax on gross receipts.

14. *Gas, electric light, power or waterworks companies.*—Every corporation owning, operating or managing or controlling any gas, electric light, electric power or waterworks, or water and light plant shall pay a tax measured by gross receipts from intrastate business and graduated according to the size of the town in which business is carried on.

15. *Gasoline tax.*—Every distributor making the first sale of motor fuel pays an occupational or excise tax on each gallon of fuel, so sold, distributed or used.

16. *Inheritance tax.*—An inheritance tax is levied, computed on the actual market value, at the time of the decedent's death, on the share passing to each beneficiary. An estate tax is also provided to absorb the difference, if any, between the amount of the State inheritance tax and the 80% credit allowed under the Federal Estate Tax Act.

17. *Insurance companies.*—Insurance companies pay a tax on the gross premiums received in the State.

18. *License taxes and inspection fees.*—These are imposed for various privileges and services.

19. *Motor vehicle registration.*—Annual registration fees, graduated according to weight, are imposed for registration of motor vehicles. Common, specialized and contract carriers and motor bus companies also pay additional license fees.

20. *Natural gas gross production tax.*—Every person or corporation engaged in the business of producing or of saving of natural gas, including casinghead gas, and every person importing natural gas (declared by statute to be "producers") pay a tax measured by

the market value of the total amount of gas produced and saved within the State, or sold, if imported into the State.

21. *Oil gross production tax.*—A tax computed upon the total barrels of oil produced or salvaged from the earth and levied at a percentage of the market value when the market value is $1 or more per barrel and a flat rate when the market value is less than $1 per barrel.

22. *Oleomargarine tax.*—Every wholesaler shall pay a tax on each pound of oleomargarine sold.

23. *Poll tax.*—There is levied on all persons between 21 and 60 years of age an annual flat rate poll tax.

24. *Property taxes.*—Ad valorem taxes are levied on real and personal property at rates equalling the aggregate levies for all taxing districts in which the property is situated. Railroad, ferry, bridge, turnpike or toll, oil pipeline, and common carrier companies pay a special tax on their intangible assets.

25. *Radios, cosmetics and playing cards tax.*—A luxury excise tax is imposed on all persons selling new radios, new cosmetics, and playing cards.

26. *Stock transfer tax.*—A tax is imposed on all transfers of stocks or certificates of right to stocks. The tax is paid by means of stamps.

27. *Sulphur production tax.*—Each person who owns, controls, manages, leases or operates any sulphur mine or mines, wells or shafts pays an occupation tax measured by the number of tons of sulphur produced.

28. *Telegraph companies.*—A tax measured by gross receipts from intrastate business is imposed on telegraph companies.

29. *Telephone companies.*—Telephone companies pay a gross receipts tax measured by gross receipts derived from intrastate business and graduated according to the size of the city in which business is carried on.

30. *Terminal companies.*—Every terminal company or railroad doing a terminal business within the State shall pay a gross receipts tax.

31. *Textbook publishers.*—An occupation tax based on gross receipts is imposed on textbook publishers.

TEXAS*

Natural Gas Production Tax

Taxable.—Every person engaged in producing natural and casinghead gas within Texas and importing† such gas produced in another state into Texas shall pay a tax based on the average market value.

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*The tax upon ores, marble and cinnabar ores severed and produced was repealed by S.B. No. 225, Laws 1943.

†No tax can be levied on gas produced outside Texas. Attorney General's Opinion, September 15, 1941.

In determining the market value of gas there shall be excluded: (a) gas lawfully injected into the earth, (b) lifting oil, and (c) gas lawfully vented or flared in connection with the production of oil, except where gas injected into the earth is sold for that purpose.

Rate.—5.2% of market value when produced.

Reports.—Producers report to the Comptroller of Public Accounts on the last day of every month for the preceding month.

Collection.—The tax levied shall be paid at time of making report.

Oil Production Tax

Taxable.—A tax is levied on all oil produced in Texas and is paid by the first purchaser and deducted from payment due the producer unless it is not sold during the month it is produced, in which case it is paid by the producer.

Rate.—4.125% of market value if it exceeds $1 per barrel, otherwise 4.125c per barrel, plus an additional tax of 3/16 of 1c per barrel.

Reports.—Producers and first and subsequent purchasers report to Comptroller of Public Accounts on or before the 25th of each month.

Collection.—Tax payment to accompany required reports.

Sulphur Production Tax

Taxable.—Every producer pays a tax on sulphur mined, or produced by any method in Texas.

Rate.—$1.272 per long ton or fraction thereof.

Reports.—Producers report to Comptroller of Public Accounts on the first day of January, April, July, and October.

Collection.—Tax payable to State Treasurer at time of making quarterly report.

PRESENT TAXES ON NATURAL RESOURCES

(Reprinted from *Taxation of Natural Resources in Texas*, Texas Research Institute, Dallas and Austin, Texas, p. 6.)

At the present time the State Government of Texas levies occupation taxes upon the manufacture or production of the following natural resources at the indicated rates:

Carbon black.—Class A: 122/1200 of 1 cent per pound, or 4.1 per cent of value if value is over 4 cents per pound; Class B: 3/240 of 1 cent per pound, or 5.2 per cent of value if value is over 4 cents per pound.

Cement.—2½ cents per 100 pounds, or 9.4 cents per barrel of 375 pounds, amounting to 4.05 per cent of value.

Natural gas.—5.2 per cent of value.

Oil.—4⅛ per cent of value.

Sulphur.—$1.272 per long ton, amounting to 9.7 per cent of value.

These taxes are classified in the State Comptroller's reports as "gross receipts taxes," but as written into the laws of the State they are occupation taxes. Actually, the term "gross receipts tax" is correct in that the taxes are a direct levy upon the gross receipts of the producers. The production of natural resources other than those listed above is not at present subject to taxation on this basis by the State.

Oil, natural gas and sulphur—natural resources in the strictest sense of the term—are, in the order named, by far the leading producers of tax revenue to the State government. During the current fiscal year the producers of these three natural resources will pay, according to reliable estimates, a total of $98,732,655, or 34.82 of all State taxes, in production taxes alone.

OCCUPATION TAX ON OIL

(Reprinted from *Tax Laws of Texas*, Article 7057a.)

Section 1. (1) For the purpose of this Act "producer" shall mean any person owning, controlling, managing or leasing any oil well and/or any person who produces in any manner any oil by taking it from the earth or waters in this State, and shall include any person owning any royalty or other interest in any oil or its value whether produced by him, or by some other person on his behalf, either by lease, contract or otherwise.

(2) "First purchaser" shall mean any person purchasing crude oil from the producer.

(3) "Subsequent purchaser" shall mean any person operating any reclamation plant, topping plant, treating plant, refinery, and/or any kind or character of processing plant, or any one who purchases oil for any purpose whatsoever, when said oil is purchased from any person other than the producer.

(4) "Carrier" shall mean the owner, operator, or manager of any means of transporting oil or any instrumentality that may now be used or come into use.

(5) "Oil" shall mean crude oil, or other oil taken from the earth, regardless of gravity of the oil.

(6) "Report" shall mean any report required to be furnished in this Act or that may be required by the Comptroller in the administration of this Act.

(7) "Person" shall include any person, firm, concern, receiver, trustee, executor, administrator, agent, institution, association, partnership, company, corporation, and persons acting under declarations of trust as well as the trustees acting under such declarations of trust.

(8) "Production" or "total oil produced" shall mean the total gross amount of oil produced including all royalty or other interest; that is, the amount for the purpose of the tax imposed by this Article shall be measured or determined by tank tables compiled to show one hundred (100) per cent of the full capacity of tanks without deductions for overage or losses in handling. Allowance for any reasonable and bona fide deduction for basic sediment and water, and for correction of temperature to sixty (60) degrees Fahrenheit will be allowed. If the amount of oil produced has been measured or determined by tank tables compiled to show less than one hundred (100) per cent of the full capacity of tanks, then such amount shall be raised to a basis of one hundred (100) per cent for the purpose of the tax imposed by this Article.

(9) "Royalty owners" shall mean and include all persons owning any mineral rights under any producing leasehold within this State, other than the working interest, which working interest is that of the person having the management and operation of the well.

(10) "Comptroller" shall mean Comptroller of Public Accounts of the State of Texas.

(11) "Commission" shall mean the Railroad Commission of Texas.

(12) The tax herein imposed on the producing of crude petroleum shall be the primary liability of the producer as hereinbefore defined, and every person purchasing crude petroleum from the producer thereof and taking delivery thereof at the premises where produced shall collect said tax imposed by this Act from the producer. Every purchaser including the first purchaser and the subsequent purchaser, required to collect any tax under this Act, shall make such collection by deducting and withholding the amount of such tax from any payments made by such purchaser to the producer, and remit same as herein provided. This Section shall not affect any pending law suit in the State of Texas, or any lease agreement or contract now or that hereafter may be in effect between the State of Texas or any political subdivision thereof and/or The University of Texas and any oil producer.

(13) When it shall appear that a taxpayer to whom the provisions of this Act shall apply has erroneously paid more taxes than were due during any tax paying period either on the account of a mistake of fact or law, it shall be the duty of the State Comptroller to credit the total amount of taxes due by such taxpayer for the current period with the total amount of taxes so erroneously paid.

(14) The tax hereby levied shall be a liability upon the producer, the first purchaser, and/or subsequent purchaser or purchasers as herein provided.

(15) The tax hereby levied shall be paid by the first purchaser purchasing the same from the producer, who shall deduct the same from the amount paid producer, as aforesaid, provided, however, that the failure of first purchaser to pay said tax shall not relieve the producer from the payment of same, nor shall it relieve any subsequent purchaser from the payment of same, where the first purchaser does not account for and pay said tax, and the State shall have a lien on all of the oil produced in Texas in the hands of the producer, the first purchaser and any subsequent purchaser to secure the payment of the tax due, and it shall be the duty of every person purchasing oil produced in Texas to satisfy himself or itself that the tax on said oil has been or will be paid by the persons primarily liable therefor.

(16) If the oil produced by said producer is not sold during the month in which it is produced, then said producer shall pay the tax at the same rate and in the same manner as if said oil were sold during said month. In such case, however, the working interest operator may pay such tax and deduct it from the interest of the other interest holders.

Amount and Computation of Tax

Sec. 2. (1) There is hereby levied an occupation tax on oil produced within this State of four and one hundred twenty-five thousandths (4.12) cents per barrel of forty-two (42) standard gallons. Said tax shall be computed upon the total barrels of oil produced or salvaged from the earth or waters of this State without any deductions and shall be based upon tank tables showing one hundred (100) per cent of production and exact measurements of contents. Provided, however, that the occupation tax herein levied on oil shall be four and one hundred twenty-five thousandths (4.125) per cent of the market value of said oil whenever the market value thereof is in excess of One Dollar ($1) per barrel of forty-two (42) standard gallons. The market value of oil, as that term is used herein, shall be the actual market value thereof, plus any bonus or premiums or other things of value paid therefor or which such oil will reasonably bring if produced in accordance with the laws, rules, and regulations of the State of Texas.

(2) The tax hereby levied shall be a liability of the producer of oil and it shall be the duty of such producer to keep accurate records of all oil produced, making monthly reports under oath as hereinafter provided.

(3) The purchaser of oil shall pay the tax on all oil purchased and deduct tax so paid from payment due producer or other interest holder; making such payments so deducted to the Comptroller of Public Accounts by legal tender or cashier's check payable to the State Treasurer. Provided, that if oil produced is not sold during the month in which produced, then said producer shall pay the tax at the same rate and in the manner as if said oil were sold.

(4) The tax levied herein shall be paid monthly on the twenty-fifth day of each month on all oil produced during the month next preceding by the purchaser or the producer as the case may be, but in no event shall a producer be relieved of responsibility for the tax until same shall have been paid, and provided, in event the amount of the tax herein levied shall be withheld by a purchaser from payments due a producer and said purchaser fails to make payment of the tax to the State as provided herein the producer may bring legal action against such purchaser to recover the amount of tax so withheld, together with penalties and interest which may have accrued by failure to make payments and shall be entitled to reasonable attorney fees and court costs incurred by such legal action.

(5) Provided, that unless such payment of tax on all oil produced during any month or fractional part thereof shall be made on or before the twenty-fifth of the month immediately following, such payment shall become delinquent and a penalty of ten (10) per cent of the amount of the tax shall be added; such tax and penalty shall bear interest at the rate of six (6) per cent per annum from date due until date paid.

(6) The tax herein levied shall be borne ratably by all interested parties, including royalty interests, and producers and/or purchasers of oil are hereby authorized and required to withhold from any payment due interested parties the proportionate tax due.

NATURAL GAS PRODUCTION TAX LAW AS AMENDED TO JUNE 1, 1945

(Reprinted from Article 7047b, *Tax Laws of Texas.*)

Section 1. (1) There is hereby levied an occupation tax on the business or occupation of producing gas within this State, computed as follows:

A tax shall be paid by each producer on the amount of gas produced and saved within this State equivalent to five and two-tenths (5.2) per cent of the market value thereof as and when produced; provided that the amount of such tax on sweet and sour natural gas shall never be less than eleven-one hundred fiftieths (11/150) of one (1) cent per thousand (1,000) cubic feet.

In calculating the tax herein levied, there shall be excluded: (a) gas injected into the earth in this State, unless sold for such

purpose; (b) gas produced from oil wells with oil and lawfully vented or flared; and, (c) gas used for lifting oil, unless sold for such purpose.

(2) The market value of gas produced in this State shall be the value thereof at the mouth of the well; however, in case gas is sold for cash only, the tax shall be computed on the producer's gross cash receipts. In all cases where the whole or a part of the consideration for the sale of gas is a portion of the products extracted from the producer's gas or a portion of the residue gas, or both, the tax shall be computed on the gross value of all things of value received by the producer, including any bonus or premium; provided that notwithstanding any other provision herein to the contrary, where gas is processed for the liquid hydrocarbon content and the residue gas is returned by cycling methods, as distinguished from repressuring or pressure maintenance methods, to some gas producing formation, the taxable value of such gas shall be three-fifths (3/5) of the gross value of all liquids extracted, separated and saved from such gas, such value to be determined upon separation and extraction and prior to absorption, refining or processing of such hydrocarbons and the quantity of the products shall be measured by the total yield of the processing plant from such gas.

(3) All liquid hydrocarbons that are recovered from gas by means of a separator or by other non-mechanical methods, incidental to the production of said gas, shall be taxed at the same rate as oil as levied by Acts of 1941, Forty-seventh Legislature, Chapter 184, Article I, Section 1.

(4) The tax hereby levied shall be a liability of the producer of gas and it shall be the duty of each such producer to keep accurate records in Texas of all gas produced, making monthly reports under oath as hereinafter provided.

(5) The purchaser of gas shall pay the tax on all gas purchased and deduct the tax so paid from the payment due the producer or other interest holders, making such payments so deducted to the Comptroller of Public Accounts by legal tender or cashier's check payable to the State Treasurer; such monies so deducted from payments due producers for the payment of this tax shall be held by the purchaser in trust for the use and benefit of the State of Texas and shall not be commingled with any other funds held by said purchaser, and shall be remitted to the State Treasurer in accordance with the terms and provisions of this Act; and it shall be the duty of each such purchaser to keep accurate records in Texas of all such gas purchased.

(6) The tax herein levied shall be due and payable at the office of the Comptroller at Austin on the last day of the calendar month, based on the amount of gas produced and saved during the preceding calendar month, and on or before said date each such producer shall

make and deliver to the Comptroller a verified report on forms prescribed by the Comptroller showing the gross amount of gas produced, less the exclusions and at the pressure base set out herein, upon which the tax herein levied accrues, together with details as to amounts of gas, from what leases said gas was produced, the correct name and address of the first purchaser of said gas, and such other information as the Comptroller may desire; such report to be accompanied by legal tender or cashier's check payable to the State Treasurer for the proper amount of taxes herein levied. In no event shall a producer be relieved of responsibility for the tax until same shall have been paid, and provided, in the event the amount of the tax herein levied shall be withheld by a purchaser from payments due a producer and said producer fails to make payment of the tax to the State as provided herein the producer may bring legal action against such purchaser to recover the amount of tax so withheld, together with penalties and interest which may have accrued by failure to make such payment and shall be entitled to reasonable attorney's fees and court costs incurred by legal action.

(7) Provided, that unless such payment of tax on all gas produced during any month or fractional part thereof shall be made on or before the date due as hereinabove specified, such payment shall become specified, such payment shall become delinquent and a penalty of ten per cent (10%) of the amount of the tax shall be added; such tax and penalty shall bear interest at the rate of six per cent (6%) per annum from date until date paid.

(8) The tax herein levied shall be borne ratably by all interested parties, including royalty interests; and producers and/or purchasers of gas are hereby authorized and required to withhold from any payment due interested parties, the proportionate tax due and remit the same to the Comptroller.

Definitions

Sec. 2. (1) For the purpose of this Act "producer" shall mean any person owning, controlling, managing, or leasing any gas well and/or any person who produces in any manner any gas by taking it from the earth or waters in this State, and shall include any person owning any royalty or other interest in any gas or its value whether produced by him, or by some other person on his behalf, either by lease, contract, or otherwise.

(2) "First purchaser" shall mean any person purchasing gas from the producer.

(3) "Subsequent purchaser" shall mean any person who purchases gas for any purpose whatsoever, when said gas is purchased from any person other than the producer.

(4) "Carrier" shall mean the owner, operator, or manager of any means of transporting gas or any instrumentality that may now be used or come into use for such purpose.

(5) "Gas" shall mean natural and casinghead gas or other gas taken from the earth or waters, regardless of whether produced from a gas well or from a well also productive of oil, distillate and/or condensate, or other product.

(6) The term "sweet gas" shall mean all natural gas except sour gas and casinghead gas.

(7) The term "sour gas" shall mean any natural gas containing more than one and one-half (1½) grains of hydrogen sulphide per hundred (100) cubic feet, or more than thirty (30) grains of total sulphur per one hundred (100) cubic feet.

(8) The term "casinghead gas" shall mean any gas and/or vapor indigenous to an oil stratum and produced from such stratum with oil.

(9) "Report" shall mean any report required to be furnished in this Act or that may be required by the Comptroller in the administration of this Article.

(10) "Person" shall include any person, firm, concern, receiver, trustee, executor, administrator, agent, institution, association, partnership, company, corporation, and persons acting under declarations of trust as well as the trustees acting under such declarations of trust.

(11) "Production" or "total gas produced" shall mean the total gross amount of gas produced including all royalty or other interest; that is, the amount for the purpose of the tax imposed by this Article shall be measured or determined by meter readings showing one hundred (100) per cent of the full volume expressed in cubic feet.

(12) For the purpose of this Article, by the term "cubic foot of gas" is meant volume of gas expressed in cubic feet and computed at a base pressure of four (4) ounces per square inch above the average barometric pressure of fourteen and four-tenths (14.4) pounds per square inch, a standard base and flowing temperature of sixty (60) degrees Fahrenheit; correction to be made for pressure according to Boyle's Law, and for specific gravity according to test made by the balance method.

(13) "Royalty owners" shall mean and include all persons owning any mineral rights under any producing leasehold within this State, other than the working interest, which working interest is that of the person having the management and operation of the well.

(14) "Comptroller" shall mean Comptroller of Public Accounts of the State of Texas.

OCCUPATION TAX ON CARBON BLACK

(Reprinted from *Tax Laws of Texas*, Article 7047.)

46. Occupation tax on production of lamp (carbon) black. Section 1. (a) There is hereby levied an occupation tax on every person, agent, receiver, trustee, firm, association, or co-partnership manufacturing or producing carbon black in this State, such tax to be as follows:

(1) On "Class A" carbon black said tax to be one hundred twenty-two twelve hundredths (122/1200) of one (1) cent per pound on all such carbon black produced or manufactured where the market value is four (4) cents per pound or less, and shall be four and one tenth (4.1) per cent of the value of all such carbon black produced or manufactured where the market value is in excess of four (4) cents per pound.

(2) On "Class B" carbon black said tax to be thirty-one, two hundred fortieths (31/240) of one (1) cent per pound on all such carbon black produced or manufactured where the market value is four (4) cents per pound or less, and shall be five and two tenths (5.2) per cent of the value of all such carbon black produced or manufactured where the market value is in excess of four (4) cents per pound.

"Class A" carbon black as used in this Article means carbon black manufactured or produced by the use of less than two hundred (200) cubic feet of gas per pound of carbon black.

"Class B" carbon black as used in this Article means carbon black manufactured or produced by the use of more than two hundred (200) cubic feet of gas per pound of carbon black.

Should one (1) or more of the classifications herein be declared for any reason to be discriminatory or unconstitutional or for any reason invalid, there is hereby levied on all carbon black manufactured or produced in this State a tax of one hundred twenty-two twelve hundredths (122/1200) of one (1) cent per pound on all carbon black produced or manufactured where the market value is four (4) cents per pound or less, and a tax of four and one tenth (4.1) per cent of the value of all carbon black produced or manufactured where the market value is in excess of four (4) cents per pound.

The market value of a particular type or grade of carbon black shall be the average sales price of that type or grade of all bona fide sales made during the month on which the tax is being paid less the cost of packing, freight, and cartage. If no carbon black of the particular type or grade has been sold during the month for which the tax is being paid then the actual market value of the same shall be the average sales price of that type or grade of all

bona fide sales during the last preceding month in which a bona fide sale of that particular type or grade of carbon black was made, less packing, freight, and cartage.

(b) The tax herein imposed shall be due and payable at the office of the Comptroller at Austin on the 25th day of each succeeding month. On or before such date each person, agent, receiver, trustee, firm, corporation, association, or co-partnership manufacturing or producing carbon black in this State shall file with the Comptroller of Public Accounts a report on a form prescribed by the Comptroller which report shall show the amount of carbon black manufactured or produced during the preceding month by said person, agent, receiver, trustee, firm, corporation, association, or co-partnership. Such information shall be segregated according to grades and types of carbon black and the report shall show how much of each grade or type manufactured or produced by the person, agent, receiver, trustee, firm, corporation, association or co-partnership. Such information shall be segregated according to grades and types of carbon black and the report shall show how much of each grade or type manufactured or produced by the person, agent, receiver, trustee, firm, corporation, association, or co-partnership was actually manufactured or produced during the month on which the tax is being paid. The tax shall be computed on each grade or type reported separately by taking the rate of tax as imposed by Section (a) hereof after determining the actual market value as that term is defined therein of said grade or type and multiplying such rate against the amount of the particular type or grade of carbon black actually manufactured or produced during the month on which the tax is being paid. The tax is to be paid on all carbon black manufactured or produced during the month whether same has been sold or not. The reports provided for herein shall contain such other information as the Comptroller of Public Accounts shall require.

(c) A complete record of the business done, together with any other information the Comptroller may require, shall be kept by such distributor; which said record shall be open to the Comptroller, Attorney General, Auditor and their representatives; the Comptroller shall adopt rules and regulations for the enforcement hereof.

(d) In the event any person engaged in the business of producing or manufacturing carbon black in this State shall become delinquent in the payment of taxes herein imposed, the Attorney General may enjoin such person from producing or manufacturing carbon black until the delinquent tax is paid, and the venue of any such suit for injunction is hereby fixed in Travis County.

(e) If any person shall violate any of the provisions hereof, he shall forfeit to the State of Texas as a penalty not less than Twenty-five Dollars ($25) nor more than One Thousand Dollars ($1,000) for each violation, and each day's violation shall constitute a separate

offense. If any person shall fail to pay said tax promptly, he shall forfeit two (2) per cent thereof as penalty, and after the first twenty (20) days he shall forfeit an additional eight (8) per cent. Delinquent taxes shall draw interest at the rate of eight (8) per cent from due date. The State shall have a prior lien for all delinquent taxes, penalties, and interest, on all property used by the producer or manufacturer in his business of manufacturing and producing carbon black.

(f) The term "carbon black" as herein used includes all black pigment produced in whole or in part from natural gas, casinghead gas, or residue gas by the impinging of a flame upon a channel disk or plate, and the tax herein imposed shall reach all products produced in such manner. . . .

SULPHUR PRODUCERS

(Reprinted from Article 7047, Section 40b of *Gross Receipts Tax Laws*, Austin, Texas, May, 1943, pp. 14–15.)

Section 1. Sulphur Producers: Each person, firm, association or corporation who owns, controls, manages, leases, or operates any sulphur mine, or mines, wells, or shafts, or who produces sulphur by any method, system, or manner within this State shall make quarterly, on the first day of January, April, July and October of each year, a report to the Comptroller in this State, or if such person be other than individual, sworn to by its president, secretary, or other duly authorized officer, on such forms as the Comptroller shall prescribe, showing the total amount of sulphur produced within this State by said person during the quarter next preceding, and at the time of making said report shall pay to the Treasurer of this State an occupation Tax for the quarter ending on said date an amount equal to One Dollar and Twenty-seven and Two-Tenths Cents ($1.272) per long ton, or fraction thereof, of all sulphur produced by said person within the State of Texas during said quarter.

Each person subject to the payment of this tax shall cause to be made, kept, and preserved a full and complete record of all sulphur produced in this State by it, all of which record shall be open at all times to official inspection and examination by the Comptroller or the Attorney General, or any employee of or representative of the Comptroller or the Attorney General. Said records may be destroyed after three years from the last entry appearing in any such record. Any person failing to keep such record, or records, as herein required, shall forfeit to the State of Texas as a penalty any sum not less than Five Hundred Dollars ($500) nor more than Five Thousand Dollars ($5,000), payable to the State of Texas, and each ten (10) days of failure to keep such records shall constitute a separate offense and subject the offender to additional penalties for

each such period of failure to keep such records. Any person subject to the payment of said tax on sulphur failing to pay the tax levied in this Article within thirty (30) days after same is due and payable shall pay to the State as a penalty an additional amount equal to ten (10) per cent of the taxes due, and such tax and penalty shall draw interest at the rate of six (6) per cent per annum from the due date until paid. The Attorney General or any district or county attorney at the direction of the Attorney General shall bring suit in behalf of the State to recover the amount of taxes, penalties, and interest past due and payable by any person affected by this law. The word "person" as used in this law shall include persons, firms, partnerships, companies, corporations, associations, common law trusts, or other concerns by whatever name or howsoever organized, formed, or created.

The Comptroller may require such other information and such additional reports as he may deem advisable.

OCCUPATION TAX ON CERTAIN SERVICES IN CONNECTION WITH OIL WELLS

(Reprinted from Article 7060a of *Gross Receipts Tax Laws*, Austin, Texas, May, 1943, pp. 17–19.)

Section 1. (a) The term "person" shall for the purposes of this Article mean and include individuals, partnerships, firms, joint stock companies, associations, and corporations.

(b) Every person in this State engaged in the business of furnishing any service or performing any duty for others for a consideration or compensation, with the use of any devices, tools, instruments, or equipment, electrical, mechanical, or otherwise, or by means of any chemical, electrical, or mechanical process when such service is performed in connection with the cementing of the casing seat of any oil well or the shooting or acidizing the formations of such wells or the surveying or testing of the sands or other formations of the earth in any such oil or gas wells, shall report on the 20th of each month and pay to the Comptroller, at his office in Austin, Texas, an occupation tax equal to two and two-tenths (2.2) per cent of the gross amount received from said service furnished or duty performed, during the calendar month next preceding. The said report shall be executed under oath on a form prescribed and furnished by the Comptroller.

Section 2. A complete record of the business transacted, together with any other information the Comptroller may require shall be kept by each person furnishing any service or performing any duty subject to said tax, which said records shall be kept for a period of two (2) years, open to the inspection of the Comptroller of Public Accounts or the Attorney General of this State, or their authorized

representatives. The Comptroller shall have the authority to adopt rules and regulations for the enforcement of this Article and the collection of the tax levied herein.

Section 3. If any person shall violate any provision of this Article, he shall forfeit to the State of Texas, as a penalty, the sum of not less than Twenty-five Dollars ($25), and not more than Five Hundred Dollars ($500) for each violation, and each day's violation shall constitute a separate offense, and in addition thereto delinquent taxes shall draw a penalty equal to one (1) per cent per month from due date. The State shall be secured for all taxes, penalties, interests and costs due by any person under the provisions of this Article by a preferred lien, first and prior to any and all other existing liens, contract or statutory, legal or equitable, and regardless of the time such lien originated upon all the property used by said person in his business.

Section 4. If any section, subsection, sentence, clause, or phrase of this Article is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this Article. The Legislature hereby declares that it would have passed this Article and each section, subsection, sentence, clause, and phrase thereof irrespective of the fact that any one or more of the sections, subsections, sentences, clauses, or phrases be declared invalid or unconstitutional. Acts 1941, 47th Leg., p. 269, ch. 184, Art. XVI.

CEMENT DISTRIBUTORS

(Reprinted from Article 7047a, Section 41a of *Gross Receipts Tax Laws*, Austin, Texas, May, 1943, pp. 10–12.)

(a) There is hereby imposed a tax of two and one-half (2½) cents on the one hundred (100) pounds, or fractional part thereof, of cement on every person in this State manufacturing or producing in and/or importing cement into this State, and who thereafter distributes, sells or uses; provided, however, no tax shall be paid except on one sale, distribution or use. The person liable for said tax is hereby defined as a "distributor," to be allocated as hereinafter provided.

(b) Such tax shall be due and payable at the Office of the Comptroller, at Austin, on the 25th day of each succeeding month based on the business done the preceding calendar month, and on or before said date such distributor shall also make and deliver to the Comptroller a report, sworn to, showing all cement distributed, used and sold, upon which a tax accrues as well as all produced within this State, and imported into or exported out of this State, and such other information as the Comptroller may require.

(c) A complete record of the business done, together with any other information the Comptroller may require, shall be kept by each distributor; which said records shall be open to the Comptroller, Attorney General, Auditor, and their representatives. The Comptroller shall adopt rules and regulations for the enforcement hereof.

(d) No person shall act as distributor in this State who shall be delinquent in the payment of said taxes, and the Attorney General may enjoin his acting as such and may enforce the provisions hereof by suit instituted in Travis County, or other county having venue.

(e) If any person shall violate any of the provisions hereof, he shall forfeit to the State of Texas as a penalty not less than Twenty-five Dollars ($25.00), and not more than One Thousand Dollars ($1,000.00) for each violation, and each day's violation shall constitute a separate offense. If any person shall fail to pay said tax promptly, he shall forfeit two per cent (2%) thereof as a penalty, and, after the first twenty (20) days, he shall forfeit an additional eight per cent (8%). Delinquent taxes shall draw interest at the rate of eight per cent (8%) from due date. The State shall have a prior lien for all delinquent taxes, penalties and interest on all of the property used by the distributor in his business of distributing, selling and/or using cement.

(f) One-fourth (¼) of the taxes imposed herein, unless otherwise provided, shall be placed to the credit of the Available School Fund. No tax shall be imposed upon any interstate sale or transaction, nor upon any sale, distribution or use exempt under either the State or Federal Constitutions, and no other like occupation tax shall be imposed by any municipal corporation on cement. Acts 1931, 42nd Leg., p. 355, ch. 212, § 1; Acts 1941, 47th Leg., p. 295, ch. 184, Art. XII.

MOTOR FUEL TAX LAW

(Reprinted from *Motor Fuel Tax Law*, Chapter 184, Article XVII, Section 2 (a) Regular Session of the 47th Legislature, Austin, Texas, September 1, 1943, pp. 3–4.)

There shall be and is hereby levied and imposed (except as hereinafter provided) upon the first sale, distribution, or use of motor fuel in the State an occupational or excise tax of Four (4) cents per gallon or fractional part thereof so sold, distributed, or used in this State. Every distributor who makes a first sale or distribution of motor fuel in this State for any purpose whatsoever shall, at the time of such sale or distribution, collect the said tax from the purchaser or recipient of said motor fuel, in addition to his selling price, and shall report and pay to the State of Texas the tax so collected at the time and in the manner as hereinafter provided. Every such distributor shall also be liable to the State of Texas for the said tax of Four (4) cents per gallon on each gallon of motor fuel or fractional part thereof used or consumed by him and shall

report and pay said tax as hereinafter provided. In each subsequent sale or distribution of motor fuel upon which the tax of Four (4) cents per gallon has been collected, the said tax shall be added to the selling price, so that such tax is paid ultimately by the person using or consuming said motor fuel for the purpose of generating power for the propulsion of any motor vehicle upon the public highways of this State.

It is the intent and purpose of this Article to collect the tax levied herein at the source of said motor fuel in Texas or as soon thereafter as the same may be subject to being taxed. No person, however, shall be required to pay a tax on motor fuel brought into this State in a quantity of thirty (30) gallons or less in a fuel tank, with a capacity of not more than thirty (30) gallons, when said fuel tank is connected with and feeds the carburetor of said motor vehicle and the motor fuel contained therein is used in the operation of said motor vehicle and not otherwise.

JESTER WILL SEEK INCREASE IN FUNDS FOR RURAL ROADS

By Ray Osborne, Austin Bureau of *The News*

(Reprinted from *The Dallas News*, June 6, 1948.)

Austin, Texas, June 5.—Gov. Beauford Jester Saturday pledged his support in getting Texas more rural roads.

He announced he would recommend to the next Legislature an appropriation of twenty million dollars from the surplus in the State's general revenue fund to bolster the farm-to-market program.

The Governor indicated he would oppose additional taxes for rural thoroughfares and pointed out the progress made in the last three years and construction planned for the next three.

"Two or three years ago a study revealed that if approximately 25,000 miles of farm-to-market roads were added to our present system, we would reach the point where the State system would be carrying 85 per cent of the total traffic," the Governor said.

"The remaining 15 per cent of the traffic would be handled on gravel or dirt roads as provided by the county commissioners courts from their revenue.

"So we set out to construct those 25,000 miles of rural roads. A total of 8,600 miles are now built or are in the process of development.

"By the end of the next three years, 16,200 miles will have been developed by the State Highway Department with federal and county assistance, without additional taxation."

Jester pointed out that Texas is leading the nation in construction of rural roads.

The Governor said that an additional appropriation may be necessary because of a lag in 1949 of federal-aid funds.

Only Texas, California and Tennessee have made full use of funds provided by the Federal Government in a 3-year program which ends this year. A new 3-year federal-aid program may be delayed until 1950 to allow the other states to catch up.

GOVERNOR EXPLAINS HIS HIGHWAY PROGRAM

(Reprinted from *The State Observer*, June 14, 1948.)

Last week Governor Jester explained his proposal that the next Legislature appropriate $20 million for farm-to-market road construction. This is planned as a means of taking full advantage of the expected federal-aid program, he said.

"Our goal (3 years ago)," explained the Governor, "was to build 25,000 miles of rural roads, thus practically doubling the mileage of the State highway system. We now have 16,200 miles of rural roads. That leaves another 9,000 miles of rural roads which should be put under construction without delay. I pledge the people of Texas to help them get these roads."

FARM-TO-MARKET NEEDS

(Reprinted from editorial column, *The Dallas News*, June 6, 1948.)

Nothing should be allowed to halt the program of building farm-to-market roads in Texas. These are the side roads that will lift the farmer and his family out of the mud, that will make it possible for school busses to get his kids to and from improved schools. Texas will have built 8,600 miles of paved rural roads by the end of this year. But this is only a little more than a third of the 25,000 miles scheduled for completion by the end of 1952.

The Texas Good Roads Association is correct in urging highest priority for this rural highway construction program. Ike Ashburn, executive director, indicates that the next Legislature may be asked to add as much as $20,000,000 toward this end. This money would come out of surplus funds now in sight. The dip into the State Treasury may be all the more necessary since federal funds for farm-to-market may taper off sharply by 1949.

Texas is proud of its system of through cardinal highways. These are the magnificent main routes which millions of out-of-state tourists use and enjoy each year. Our State Highway Department has not only planned well but also built well. These federal and state highways are well placed for both use and for displaying our countryside. But the time has come to pay more attention than ever to improving the little lanes and by-ways on which most of the farms and ranches of Texas are located. These, too, are arteries of our economic and social life, no less than the major intercity routes.

TEXAS LEADS STATES IN NUMBER OF OLD-AGE ASSISTANCE CHECKS

By Richard M. Morehead

(Reprinted from *Texas Tax Journal*, Austin, Texas, December, 1947–January, 1948, p. 8.)

Nearly 200,000 Texans drew old-age assistance checks in November, 1947, leading all other states.

There is little prospect for reducing the roll. As a matter of fact, the increasing lifespan of all persons points toward ever-higher needs for this form of charity.

The Texas Department of Public Welfare this month paid $30.09 average to 199,002 aged citizens, about half the whole population over sixty-five years old. It paid $42.80 average to 15,731 families with 39,554 needy, dependent children, and $33.55 each to 5,474 blind persons.

Counting federal aid, the whole bill totaled $6,792,000 this month. Administering the welfare program costs about $275,000 a month more.

Ten years ago, when the program was in its second year, Texas paid 114,881 oldsters $13.70 each. It cost $1,584,344 in November, 1937. The dependent children and blind-aid programs started in 1941.

Oklahoma Average High

Texas ranks first in the number on its old-age list, but California spends more, $9,945,945 a month compared with Texas' $5,988,716. Oklahoma has 58 per cent of its citizens over 65 on state aid, the highest proportion in the nation. Texas has 47 per cent. Oklahoma distributed $4,085,697 in checks averaging $42.21 each.

The average assistance check in the United States was $36.39, and Texas' $30 placed it thirty-eighth last August.

It is about as easy to get an old-age assistance check in Texas as anywhere in the nation, according to Welfare Director John E. Winters. As a matter of fact, it is easy to get off the rolls, or to get back on. The State Welfare Board passed rules during the war to encourage people to take jobs, assuring them of quick return to state help when they need it.

"Of course, we make out checks just once a month, but a person can be reinstated in three minutes upon a declaration of 'apparent need'," Winters said.

Old-age rolls dipped 183,000 in 1943 to 170,000 in 1945, the only notable change in the upward trend which started with issuance of the first checks.

People Live Longer

Because of this trend toward longer lives, there seems little chance that the State can reduce its old-age assistance spending, unless it alters basic policies.

The Legislature bars consideration of a child's ability to support his parents, and even well-to-do Texans occasionally are willing to have their parents put on charity. The law also prohibits consideration of a homestead, although income from it does count.

A recent case involved an East Texan owning 200 acres of nonproductive land, who refused to sell 100 acres for $5,000 because it would remove him from the relief roll. The prospective buyer critized the welfare department, but under the law it could not make the man sell even part of his homestead.

In 1900 there were 74,000 persons in Texas aged 65 or more. It was 163,000 in 1920 and 347,000 in 1940. Now the group is estimated at 405,000. By 1960, the total will be 656,000 if this trend continues —and there's no reason to believe it will not.

Director Winters believes that the list will continue to grow unless the Federal Government expands its Social Security program to cover farm and domestic workers and other low-income groups now excluded.

GASOLINE SALES UP AS CARS HIT ROAD

(Reprinted from *The Dallas News*, June 6, 1948.)

Austin, Texas, June 5.—Texans are riding the roads at a record rate this year.

They are traveling in 1,500,000 automobiles, 500,000 trucks and commercial vehicles, and more than 200,000 motorcycles, trailers and miscellaneous licensed conveyances, according to E. J. Amey of the State Highway Department.

Last year 2,200,000 vehicles were registered and Amey estimates the total for 1948 will be 2,350,000. The prewar record was 1,830,000 in 1941.

Comptroller George H. Sheppard reports that Texas refiners are making gasoline at a rate of nearly one billion gallons per month. Production for the year ended August 31, 1947, reached a high of 10,011,173,000 gallons.

Taxes Gain

Texans bought about one gallon in every five this State produced. Sales within the State last year totaled 1,974,502,609 gallons. They now are buying gasoline at a rate of 2,140,000,000 gallons annually, which will produce $85,700,00 in taxes.

Last year gasoline taxes amounted to $78,721,600, including $14,102,941 refunded to purchasers who did not use it on the highway. Refunds this year are expected to reach $17,000,000, leaving a net income below $70,000,000. One-fourth of this money goes to public schools and three-fourths for roads.

Gross revenue from gasoline taxes in 1938–39 was $51,642,725, while refunds deducted only $7,226,156. The refunds have more than doubled, reflecting the heavy wartime mechanization of Texas farms.

Shortage Seen

Texas A&M College experts reported this week that 180,000 tractors are being used in the State. They urged fuel conservation, in view of a prospective fuel shortage at some places next fall.

The only decrease in Texas gasoline consumption since the war ended occurred during February, when travel was difficult because of icy highways, Sheppard's tax records reveal.

The magnitude of Texas' refinery output is shown by his annual statement. In 1947, Texas sent 6,936,228,738 gallons of gasoline to other states, 825,899,218 gallons to foreign countries, and sold 274,542,511 gallons tax-free to the Federal Government.

While government purchases now are above the prewar rate, they are far below gallonage produced for fighting World War II. The biggest month recently was 58,599,000 gallons in March.

THE RESOURCES OF THE CONTINENTS

By Kirtley F. Mather, Professor of Geology, Harvard University

(Excerpts from the article "The Resources of the Continents" in *Science*, August 7, 1942, pp. 126–127.)

For the overwhelming majority of basically important minerals, each continent may be expected to have domestic sources, adequate when properly developed, to supply most of the needs of its inhabitants when the standards of living and the way of life everywhere attain the characteristics of modern industrial civilization. Mother Earth provides equality of opportunity; it is man that differs in responding to opportunity.

But this is not to say that nature favors continental isolation or regional self-sufficiency as the pattern for world organization. There are several significant exceptions to this glittering generality of equalized distribution of mineral wealth, continent by continent. Even when we remember that, for many purposes, molybdenum may be substituted for tungsten, coal for petroleum, and magnesium for aluminum, we find that at present and probably for a long time in the future, the inhabitants of no continent and therefore of no one country can "live to themselves alone," without sacrificing many of the benefits of modern civilization.

Outstanding among these exceptions is tin. Nature has played a strange trick in making tin ores scarce in the highly industrialized regions where the tin can is an essential item. There are practically no ores of tin in all North America, and the puny deposits of that metal in all Europe are competent to meet only 5 per cent of the needs of Europeans.

Much the same can be said about the ores of nickel and of radium. These are found in only a few rare localities in only two or three of the six continents.

Even this hasty survey of the resources of the continents therefore leads us unerringly to the conclusion that if man is to make full use of the available mineral wealth, his social, economic and political organization must be on a planetary rather than a continental basis. Each continent has sufficient stores of raw materials to give it a place of equality with every other continent. From the geological point of view there is no basis for rating any continent as inferior to any other. But no continent can provide sufficient amounts of every ingredient of modern civilization to satisfy the needs of man. Only as each contributes freely and without hindrance to the welfare of all mankind can the resources of any be utilized to the best advantage.

The geologist can not escape the conclusion that the earth is far better adapted for occupation by men organized on a world-wide scale with maximum opportunity for free interchange of raw materials and finished products the world around, than for occupation by men who insist upon building barriers between regions even so large as entire continents.

PETROCHEMICALS

By Gustav Egloff

(Excerpts from *Oil and Gas Journal*, April 1, 1948, pp. 179–252.)

The business of "petrochemistry" is advancing daily in its scope. Already it runs the gamut from producing stocks for face creams and lotions—through hundreds of useful synthetic organic compounds for manufacturing purposes—to detergents, special soaps, synthetic rubber, and even nylon. This article has been specially prepared to cover various current phases of this rapidly growing industry.—Editor of *Oil and Gas Journal.*

Petroleum and natural gas furnished 3.5 billion pounds of raw materials for synthetic organic chemicals in 1946. Of particular significance is the increase in proportion of chemicals produced from petroleum compared with other sources. Before 1940, petrochemicals accounted for less than 5 per cent of the total organic chemical production whereas 24.5 per cent was based on petroleum and natural gas in 1946. Although the skyrocketing growth came as a result of war emergencies, the petrochemical industry is now permanently established.

Future Trends

In predicting the future for chemicals from petroleum and natural gas, it is necessary to summarize present allocations. Butadiene accounts for about 30 per cent of the present production of raw materials for synthetic organic chemicals. It is being used for the production of synthetic rubber which has been curtailed since the end of the war. The availability of ample supplies of natural rubber, however, probably will not cause a drop in petrochemical consumption for two reasons.

Butadiene is made from butylene which is in high demand for other products. Secondly, it is certain that a synthetic rubber industry will be maintained in the interests of national security. Over 1.3 billion pounds of C_3 and C_4 hydrocarbons other than butadiene are being produced annually for chemicals. An increase in production of these compounds can be expected as almost any organic chemical known can be made from them. The present ethylene production is not sufficient to meet requirements. Inasmuch as ethyl alcohol is becoming increasingly dependent on ethylene as raw material, demand may be expected to exceed supply for a number of years. Aromatics represent about 600 million pounds of the petrochemical production with greater demand ahead.

Examination of the outlets for these products also indicates a growing industry. The principal products based on petrochemicals are rubber, plastics, resins, detergents, and chemical intermediates. Although 1946 production of synthetic rubber had dropped from 1945, plastics, resins, detergents and the principal chemical intermediates from petroleum had increased.

New Research for Synthetic Rubber

Synthetic rubber is yet in its primary stages from a technical standpoint. Increasing research will doubtless open new markets for special products. Butyl rubber provides an execellent example of the potentialities. As material for tire inner tubes it is far superior to natural rubber because diffusion of air is about one-tenth of that through natural rubber and it has superior age and tear resistance. Research also indicates that butyl rubber is excellent material for tractor tires where deterioration from oxidation and light are important factors.

Bulk of the 1.7 billion pounds of elastomers produced in 1946 for synthetic rubber was derived from petroleum and natural gas, and it is probable that an increasing percentage of total production will come from these sources.

Plastic and Resin Industries Growing

The plastics and resin industries comprise one of the largest markets for petrochemicals. In 1946, plastics and resins production was 994 million pounds and estimates for 1947 indicated a 13 per cent higher demand.

The present shortage of urea and melamine resins can be overcome by increased production of formaldehyde from petroleum. Over 200 million pounds of phenolic resins and plastics were produced in 1947. Over 60 per cent of the total phenol production was required for resins, and phenol demand for all uses is much greater than supplies. Both raw-material sources and plant capacity must be expanded. The present benzene situation indicates that petroleum sources will necessarily become a growing factor in phenol production.

Petroleum also supplied large quantities of the material for the 180 million pounds of vinyl resins produced in 1947, and demand is not yet satisfied in this field. The greatest problem is a shortage of plasticizers, many of which are petroleum products. The 1948 production of polyethylene is anticipated to be 50 million pounds. Other petroleum-derived plastics and resins will be produced in high tonnage as source material becomes available and plant capacity is increased.

The detergent field is in a state of rapid growth. Indications are that this industry will double production in less than a decade. Much of the 240 million pounds of surface-active agents produced in 1946 was based on petroleum and a larger potential market is assured.

The production of oxidation products from petroleum and natural gas promises a growing market. Present requirements can be seen from the quantities of some of the more important oxidized chemicals (those in over 100 million pounds per year production) made in 1946 and 1947.

THE TIMBER INDUSTRY IN EAST TEXAS

By Andrew W. Hunt

(Lacy H. Hunt Lumber Co., Inc., Manufacturers, Wholesalers and Exporters, Nacogdoches, Texas.)

In many East Texas counties where cotton used to be king, the situation has now changed and the timber crop has taken over the throne. Timber now covers the greater amount of acres in practically all East Texas counties. The annual timber crop has become two or three times as valuable in dollars as the cotton crop.

At the present time, timber in East Texas is largely being used by sawmills to make lumber. But other demands are growing: Pulp wood for the paper mills, railroad ties, telephone poles, posts, etc. Automobile tires are being made from pine stumps, and experimentation is underway for making cellulose from pulp. New uses are being discovered every day through new chemical processes.

More acreage is devoted to growing trees in East Texas today than there was ten years ago. This has been occasioned by the new developments that have been made in planting pine trees that mature in 7 years. This rapid growth has convinced owners that there is profit in timber, and many thousands of small seedlings are being planted every year by far-sighted farmers, lumbermen and timber-land owners.

The City of Nacogdoches has a 70-acre community forest which was planted with 70,000 pine seedlings in January, 1945, on poor sandy land. This project has proved to be a 95% success. These small seedlings have grown to young trees that are five to fifteen feet in height in just three years.

In 1948 there are more small saw mills in East Texas than ever before. As a result the drain on the timber indicates that it is being cut at a rate of about 3% more than is being grown. If such continues, some sections may have to cease production for from seven to ten years to permit the forest to catch up with the log-sized timber. Actually, the timber industry is growing more timber than it is cutting, but the lag comes in that a certain growth interim is demanded for the timber to reach saw-stock size. Most of the big mill producers already have their timberlands on a sustaining yield basis, and the small producers are fast getting in line with the conservation program.

East Texas has a multimillion dollar industry in its forests. Its destiny is certain to be greater from now on, with the various educational campaigns for timber conservation and with the awakening of the forest and timber-land owners to the real value of growing trees as a long range crop.

The worst menace to the forests is the forest fire. The Forest Service is doing a splendid job in protecting the forests from fires, insects and other damaging influences. But the Forest Service is limited in what it can do because the funds for operation are limited. Since the timber industry has grown to be one of the major industries of Texas, the Legislature should see to it that the Forest Service should grow proportionately. This can be done only through more money apportioned for the Forest Service.

20-YEAR TEXAS GAS CONTRACT IS SIGNED

(Reprinted from *The Austin American*, June 9, 1948.)

New York, June 7 (AP).—Contracts have been signed for 235,000,000 cubic feet of natural gas to be sent from Texas each day for 20 years.

The Texas Gas Transmission Corporation announced Sunday it had signed the contracts with subsidiaries of Consolidated Natural Gas Company and the Columbia Gas System, and with Texas Eastern Transmission Corporation.

The gas will be used in the Appalachian and other Eastern areas.

NATURAL GAS

By Frederick F. Blachly and Miriam E. Oatman

(Excerpt from Chapter I, "Introductory Analysis," of *Natural Gas and the Public Interest.* Washington, D.C. Granite Press, 1947, pp. 1–4.)

Natural gas, next to atomic energy, is the wonder product of modern times.

In the oil fields where it is found, its expandability and flowing nature make it useful in driving petroleum through the porous sands and raising it to the well head.

As a fuel, natural gas can be used for practically any purpose: but it is of prime importance for domestic use, because of its cleanliness and the ease with which it can be handled and controlled. It is a pre-eminent fuel for supplying heat uniformly, when, where and as needed. Hence it is of great importance in certain metallurgical and ceramic operations.

As a raw material, natural gas can be converted into thousands of important every day products, such as fuels for cutting and welding, solvents, insecticides, disinfectants, resins, fire extinguishers and so forth. It can be made to supply carbon black for the manufacture of synthetic rubber, and can be readily converted into gasoline.

The cost of natural gas is very low. At present it is the cheapest of all fuels and sources of chemical materials.

The two factors, superiority of use for nearly all purposes, and low cost, within the past twenty-five years have created such a demand for natural gas that today it is consumed in vast areas of the United States. Many regions which enjoy its use are far removed from its sources of production; and there is constant pressure upon regulatory authorities to extend the areas of use, so that it may furnish heat, light, and power to certain densely populated industrial sections of the United States which have depended hitherto upon coal, oil, artificial gas or water power to provide those facilities.

Exhaustion of Natural Gas Possible

Although the supply of natural gas in the United States is large, ranking second only to the coal supply, it is by no means inexhaustible. The consensus of expert opinion holds that if physical waste of natural gas is not prevented, if the areas of use are greatly extended, and if the types of use are not controlled, this valuable resource will be entirely exhausted within the next 30 or 40 years, if not sooner. Unless natural gas is produced, distributed and utilized in a scientific and economical fashion, many of the following undesirable conditions are sure to arise:

1. There may be great physical waste.

2. The owners or lessees of lands which produce natural gas may have to sell the gas at a very low price to the company which has a monopoly of gathering, processing and transportation facilities.

3. The state may obtain little revenue from the gas, and within a relatively few years will find the source of even this revenue dried up.

4. Certain producing states, such as Louisiana, may soon find themselves without the fuel needed for their own industrial development.

5. A state without coal, such as California, may find that its own oil and gas resources have run dry, and that the natural gas from another state (e.g. Texas) upon which it has depended to supplement its own supply, has been diverted to states which possess great resources of coal.

6. States which produce vast quantities of coal, such as West Virginia and Pennsylvania, may be injured, not only in their coal industry but also because of the unemployment and relief made necessary by the substitution of natural gas for coal.

7. The coal mining industry may be crippled by the substitution of natural gas in regions where coal has been the predominant fuel. It is estimated that if all the certificates of public convenience and necessity now before the Federal Power Commission were granted, natural gas might well displace 50,000,000 tons of coal per year or nearly one twelfth of the annual production.

8. Since the gas that is substituted for coal is carried by pipe lines, all substitution will likewise decrease the freight tonnage of the railways. It is estimated that the amount of gas which can be carried by the Big and Little Inch pipe lines alone, will take the place of 16,000,000 tons of coal traffic.

9. Of somewhat less effect, but still important, will be the reaction upon other industries, such as the production of artificial gas, coke manufacture and the operation of coal docks, oil tankers, and dealers in fuel oil and coal.

10. Many employees of all these industries will be thrown out of work. These workers cannot be absorbed by the gas industry, for once its wells are drilled and its pipes are laid, it requires a minimum of labor.

11. If this disruption of industry would end in a permanent readjustment, it might well be allowed to run its course. However, since the supply of natural gas is definitely limited, within a few years it will be necessary to go back to coal and to try to revive the industries ruined by the competition of natural gas. In fact, more than revival may be required. The coal industry will not only have to produce in present quantities, but also expand so that fuel will be available in

regions which now use natural gas and oil. A similar task must be faced by the railways and the waterways which now transport coal.

12. The world is far from an era of peace today. From the standpoint of national defense it might be suicidal to shut down many of the facilities producing coke and coal, to injure the transportation system thereby, and to disperse their employees.

13. It is no answer to the problem to say that natural gas is synthetically replaceable. Although this is true as a fact of chemistry, it does not counterbalance the extra cost of the synthetic product, or its lower efficiency.

14. From an economic standpoint it is foolish to pipe natural gas long distances from its source into coal fields, and later to send synthetic gas back there. It is little comfort to a man from Louisiana to know that after large sales to regions rich in coal have exhausted the gas produced in his state, he may have the privilege of paying for the synthetic process and for the cost of shipping synthetic gas from the coal fields where it is developed, to his home state.

15. The transportation of natural gas into the manufacturing areas of the East will cause a further concentration of population in this section. If natural gas could be transported only into regions near the area of production, the industries which would spring up in these less densely populated regions would draw workers there.

The proper handling of the natural gas situation involves great questions of public policy. The solution of these questions cannot be left to the decisions of companies engaged in the natural gas business, or merely to the law of supply and demand, since both may run counter to the long range interests of the general public.

This has been recognized by the gas producing states, which have established authorities to deal with this resource, and have entered into an Interstate Compact to conserve oil and gas, designed to prevent some of the evils of unrestrained competition in natural gas. The Federal Government has established the Federal Power Commission, which serves to protect the public interest in certain respects, when natural gas is transported and sold as an article of interstate commerce.

There are four chief mechanisms of control: (1) The police power of the state; (2) price control by both the State and Federal Governments; (3) *the power of taxation by both the state and Federal Governments;* (4) and various types of authority exercised by the Federal Power Commission, especially the granting of certificates of public convenience and necessity.

TEXAS NATURAL GAS

I

By Stuart McGregor

(Reprinted from *The Dallas Morning News*, February 12, 1948.)

This is said to be the "Age of Billions," succeeding the "Age of Millions" which had its advent in the Gay nineties and lasted through the first generation of the present century. By this is meant that we now do our own statisticking principally at the level of billions—billions in production, billions in values and, yes, billions in debt.

In one statistic Texas has hit the "Age of Trillions." It produced over two trillion cubic feet of natural gas in 1947, according to unofficial estimate. (This axiomatically puts the United States in the same class-old whole-is-sum-of-its-parts axiom.) It was a big gain over the 1,776,148,000,000 cubic feet produced in 1946 and the seventh year the Texas figure has been above the one trillion mark. These figures apply to commercial production. In addition about one trillion cubic feet are repressured annually and a half trillion wasted. Known Texas underground reserves are estimated at sixty to seventy trillions, more than half the reserves of the United States. [Ed. Note: 1948 production is 3 trillion cu. ft.]

Unit Out of Proportion

Admittedly, the principal reason for the trillionous nature of gas statistics is the small unit of measurement. Development of production has been so rapid that the statisticians have not had time to get togeher on some unit comparable to ton or mile. This peewee-sized unit of measurement for a colossus-sized resource production is very characteristic of the whole development of the natural gas industry. Unlike iron, coal, silver, stone and other major minerals, it had no beaten path—no accumulation of experience—when the great discoveries came. Even its not-very-old kin mineral petroleum was much better fixed empirically.

Rapid expansion of the new mineral industry has not been the only problem. Gas is the most different of the major minerals. It is highly fugitive. It can not be hauled around in a rail car or tank like coal, iron ore or oil. It can be stored only by repressuring into its own underground reservoir. It must be kept in iron or steel strait-jacket from production to consumption—and production and consumption must be constantly in proportion. If one stops, the other must. No ever-normal granary for gas.

Once production is under way, highly fugitive, gravity-defying gas pretty nearly takes care of its own output. Compressors must be kept going along the distribution lines, but there are no John L. Lewis troubles in the gas-mining business. (Reversely, natural gas is said to be about the biggest trouble for John L. Lewis.)

Gas Travels Alone

Even in financing, the gas industry had to tread a lone path in its early development. Investment capital did not know much about it, and would not venture into it. It grew largely on its own financial accumulation and was a local industry in nature even after Pennsylvania–Ohio interests set up in Texas. Not until the middle twenties did it become a nationally integrated industry with the building of the first long interstate pipelines out of the Monroe, La., and Texas Panhandle fields.

The result of all these factors is that some peculiar problems have arisen. Once an investment is made, a producing-distributing concern can afford to sell any excess above normal demand at very low price to get the new market. Hence we find natural gas selling at the wells in Texas at an average of 4 cents a thousand cubic feet which is the equivalent of about 65 cents a ton for an average grade bituminous coal.

Yet, gas is the world's finest fuel. It is the most convenient of domestic fuels. It creates no smoke nuisance. It is an essential fuel in many of the great new chemical industries and is an essential raw product in some of them. On a BTU basis it should bring the highest price on the entire fuel market.

Another peculiar characteristic of gas is the obviously limited supply as compared with demand. There is a 30-year supply of gas in the United States on basis of present consumption, or a 12-year supply on basis of a continuation of the recent increasing consumption. In contrast, there is a 2,000 year supply of coal. Known reserves of most important minerals are sufficient for fifty to a thousand years.

Yet the anomaly of the finest fuel bringing the lowest price is producing still another paradoxical situation. It is being argued that the way to cure this sinful situation is to use the gas more rapidly—decrease the known reserves more rapidly—so that prices will rise. This is one of the principal arguments for the building of more big pipelines out of Texas to regions which have a 2,000-year supply of coal.

And Then Politics

Politics has seeped into this economic problem, of course. Something was said above about gas being the biggest worry of John L. Lewis. Embarrassed government officials are not very hesitant to give John L. the gas treatment—with Texas gas.

And that's the point for serious consideration by us Texans. This colossal young paradox among the world's resources—this most valuable intrinsically of all the known fuels and probably the most valuable intrinsically of all the world's future raw materials for the chemical manufacturing industries—is very largely the heritage of Texas by geographic distribution. Just how much heritage there

will be in actual materialization will possibly be measured by how Texans handle the heritage of the perplexing problems that were left along with the valuable resource.

II

(Reprinted from *The Dallas Morning News*, Thursday, February 19, 1948.)

Fiction writers are straining our imaginations with pictures of the post-Atom War world. Here's New York, for example: Silent debris-filled streets, twisted steel, a few ghostly houses, the shattered framework of Empire State Building leaning like Pisa's tower. Life? A few skulking dogs, singed cats, an occasional rat. But mostly just silence, death and destruction. Terrible, but it could happen unless we use our gray matter.

We shouldn't give up hope. In fact, we should be optimistic enough to continue trying to make it a better world in which to live. To this end we might exercise our imaginations on some less dismal contingencies than atom destruction, that could happen, but shouldn't. Take, for example, Texas after its natural gas resources may have been exhausted (by piping it to the Pennsylvania-Ohio coal fields, where they have 2,000 years of fuel supply); sooty air and dingy walls in our once crisply clean cities, our once-bright skies veiled with smoke, householders rigging up coal furnaces, and bins in homes built for gas heating, long trains bringing coal from Ohio at twice the cost on BTU basis of present gas.

Of course the smoke nuisance would be somewhat less than might be expected because most of our present industries would be closed—as ghostly as atom-hit New York. They were built in Texas primarily because of the great gas supply in a surprisingly large number of instances. They could not operate on the high-priced, imported coal or the still higher priced few remaining cubic feet of Texas gas.

This is no exaggeration. Most people will tell you that petroleum is Texas' greatest mineral resource. Assessed in terms of direct economic benefits, this is correct. If we look at the long range, direct and indirect benefits, natural gas is of greater potential benefit. An abundance of natural gas has done more to facilitate Texas industrial development than any other factor. Upon the conservation of Texas natural gas reserves for regional use, in an area that is lacking in a good quality of coal, depends Texas' industrial future.

Some Texans do not realize it but the character of Texas industry has been molded largely by the presence of ample gas resources. From the beginning of steam power until a few years ago, it was held by economists that any great industrial region had to be founded upon the "industrial trinity" of coal, iron and limestone. The coming chemical industry has changed all that. The new "industrial trinity" consists of a variety of vegetable and mineral raw materials and, specifically, natural gas.

A survey of Texas' recent permanent industrial development is proof. The following are only a few of the individual industries that have come to Texas wholly or largely because of the great availability of natural gas: The great alkali works at Corpus Christi, the $100,000,000 Dow plant at Freeport which extracts magnesium, bromine and more than a hundred other minerals from sea water; the great Monsanto plant at Texas City which is being rebuilt on a greater scale than before the disastrous explosion of April 16, 1947; the $25,000,000 Du Pont nylon salt plant at Orange, the big Owens-Illinois glass factory at Waco, the synthetic rubber plants at Borger, Houston and Port Neches which are to be kept in operation as a part of national defense, and such brand-new industries as the big plant at Brownsville which will turn natural gas into gasoline and other products in amazing quantities by an amazing new process.

The availability of gas as the fuel essential to their industrial processes is the primary reason for most of these plants being in Texas. The use of gas as a raw material is a newer development in the chemical industries—one of astounding proportions and of great implications for Texas' future economic growth.

There is the big Celanese plant which rises from the coastal prairie on the outskirts of the little town of Bishop. It is a bright, clean structure with hardly a sign of smoke. As one approaches, the earth trembles with a manmade earthquake, caused by operation of the powerful compressors. It uses gas as fuel. It uses gas as a raw material—nothing more. It turns out a wide array of chemical products.

The type of employment is of the new chemical age also. "Rather high-educational level required to run this plant?" one asks a handsome, tousled-haired young fellow, a department head.

"Well, yes. We have some new processes here, and we've got to keep abreast of things."

"What're your own educational qualifications?"

"Well, Bachelor's and Master's degrees from The University of Texas, and Ph.D. from Chicago."

"Interesting work?"

"Most interesting in the world."

That's the type of new industrial worker, the worker in the new industrial age, the chemical-industrial age in which natural gas is the No. 1 essential. The more one looks into it the more one is impressed with its potentialities for Texas—if the gas supply lasts.

Yes, long-suffering, King Cotton-oppressed Texas discovered its greatest economic heritage in natural gas, its greatest opportunity for economic and social progress.

"But we'll have enough gas even after we've built the big pipelines to the great coal regions," someone will contend. "The short expectancy estimated by the geologists does not take into account the constant discovery of new fields."

The right answer is that the export of gas (to states from California to New York and from Monterrey, Mexico to the cities of Canada) is far outdistancing the new discoveries. It is progressing geometrically—by the square and by the cube. And the end is not in sight. Just this hint from a Federal Power Commission bulletin of Feb. 10, 1948: "Authorized and pending gas pipeline projects from July 1, 1945, to Jan. 1, 1948, aggregated 20,893 miles at an estimated cost of $1,500,000,000, calling for 4,944,155 tons of steel." A large portion of this is to pipe gas from Texas.

The forthcoming event has already begun to cast its shadow over Texas' industrial prospects. Recently a Texas industry announced postponement of a big building program because of "high costs" and "for other reasons." Other reasons included fear of exhaustion of the gas supply.

III

(Reprinted from *The Dallas Morning News*, Thursday, February 19, 1948.)

The last article in this series closed with the statement from the Federal Power Commission that gas pipeline projects authorized, completed and pending during the eighteen months preceding Jan. 1, 1948, aggregated 20,893 miles at a cost of $1,450,000,000.

Even during this brief space the trend was sharply upward. During the last six months of 1947, the FPC authorized facilities to increase the capacity of natural gas pipelines in the United States by over one and a quarter billion cubic feet daily. Of the total cost of $303,218,392 for these authorized projects, more than 80 per cent was for facilities tapping Texas' natural gas reserves. Still greater increases are in prospect during 1948, if one may calculate from FPC bulletins and the national financial journals.

Texas is now sending its natural gas to twenty-seven states, plus two foreign countries, Mexico and Canada. These exports doubled from 1941 to 1946. Authorizations since Jan. 1, 1947, indicate a tripling of the 1946 figure. A scarcity of steel for pipeline manfacture is the principal restraining factor.

Advocates of this profligate export of Texas' most valuable industrial resource contend that discovery of new fields will take care of the situation. The highest estimate of newly discovered resources is far behind the ratio of increased pipeline exports. Furthermore, any estimate on such basis overlooks the over-all aspects of the situation. Natural gas now constitutes less than 1 per cent of the national fuel consumption. Because of its superior quality, it would displace half the coal consumption if it could be made available at anything

like comparable cost. The market is practically limitless. If unrestricted pipeline building is to go on, then the only basis for estimating the life expectancy of the Texas gas fields is to compute the amortization expectancy of pipeline financing.

The anomaly of it is that this most precious of all fuels is bringing about 4 cents per thousand cubic feet to the Texas owners. This is equivalent to about 65 cents a ton for bituminous coal. And this direct value of gas is the smallest part of it. In the hearing on the application for the extension of a line from South Texas to Mexico, it was stated by the pipeline builders that the gas would give employment to 15,000 people in Monterrey. Counter inquiry developed that fewer than 100 would be employed in Texas.

Ineffectual efforts have been made in Texas, Louisiana and one or two other gas-producing states, to limit exports. But a peculiarly difficult problem is presented. There is a well-founded principle that the owner of mineral properties has the right to find a market where he can. Again, there is the constitutional injunction against interstate barriers in commerce. There is soundness in both of these contentions, yet it is a fact that both the individual and the states are affected today by multiple interstate barriers in the form of taxes, motor truck limitations, quarantines and other measures.

Evidence of waste of billions of cubic feet of gas is presented with telling effect at each hearing on an application for a new pipeline. Yet the big pipelines take very little of this "flare" gas. The public does not generally understand the difficulty in conserving the "wet," isolated and intermittently produced gas from oil wells.

Opponents of natural gas export have suggested a tax on the outgoing product. Previous rulings of the Supreme Court indicate that this would be held unconstitutional as an interstate barrier. A higher state tax on all gas production has been suggested, since gas is now taxed relatively much less than petroleum. This might have a slight restraining effect on exports, since the tax would be pyramided upon the higher outside distribution cost, but the principal virtue would be getting more revenue for the state while the getting is good—and getting it in increasing proportion out of the pockets of taxpayers beyond our border.

Members of the FPC have tentatively suggested that, if that body were given greater "end use" control, it would exercise authority with a view to the industrial needs of the regions without coal resources. But state officials have feared that, in the end, the result would be the conservation of Texas gas resources primarily for the use of consumers in the politically powerful pivotal states of the North and East. While FPC authority for complete control to such an end is taken for granted, it is also taken for granted that any attempt by the states themselves to prevent export of gas on the same principle would be turned down by the Supreme Court.

Any realistic view can comprehend only the stark fact that Texas' gas resources will soon be reduced at least to the point where they will not be practicable as industrial fuel. It will be the greatest blow imaginable to Texas' industrial progress. There is a direful national aspect, too. It would reverse the present healthful tendency toward national industrial decentralization. Industry would recentralize in the coal region. Decentralization as a national defense measure would be impracticable except as a tax-supported development.

What to do? The Railroad Commission, which is handicapped by a personnel divided in opinion on this issue, might be partly effective by stoutly resisting every application before the FPC. The Fifty-first Legislature should give the matter immediate attention upon convening early next year. It can take at least some measures to strengthen resistance. In the meantime, the issue would be kept constantly before the people by the press, educational institutions and the state agencies. The force of public understanding, opinion and thought might find a way, even though state officials have not.

TEXAS GAS OUTPUT RISES TO ASTRONOMICAL FIGURE

By William M. Thornton, Chief of *The Dallas Morning News*, Austin Bureau.

(Reprinted from *The Dallas Morning News*, March 24, 1948.)

Austin, Texas, March 23—Three trillion, six hundred billion cubic feet of natural gas will be released from reservoirs in Texas during the next twelve months.

Not all of this gas will be forever lost, as a comfortable percentage is returned underground in cycling operations.

A heavy percentage of the casinghead gas produced in Texas will be wasted in flares. The loss is now estimated by engineers at 47.17 per cent. This is an increase and is attributed to the tremendous upping in oil production and consequent casinghead gas outlet.

William J. Murray, Railroad Commission member, is authority for these figures computed by him and other commission technicians in advance of Wednesday's Fort Worth convention of the Natural Gasoline Association of America. Murray will present a paper on ultimate hydrocarbon recovery.

Murray explained that it is difficult, even for the experts, to arrive at total natural gas production, net and gross, because of the variable and flexible factors that enter into it.

According to Murray's tables all gas produced in Texas is 9,872,576,000 cubic feet daily with 2,349,132,000 feet returned underground in cycling operations.

This leaves net gas produced daily at 7,523,444,000 cubic feet. These figures were for December and they since have increased.

Net gas production for the next twelve months will approximate two trillion, seven hundred fifty billion cubic feet, based on the December figures.

How long can Texas natural gas last at this rate of withdrawal? Murray said:

"The experts tell us about twenty-five years—if the demand does not grow too great."

With 73,059,410 barrels of crude oil produced in December, Murray's data reaches an average of 1,325 cubic feet of gas to each barrel of oil brought out.

This ratio made a total of 96,803,718,000 cubic feet of casinghead gas produced in December or 3,122,701,000 feet daily average.

A total of forty-six new casinghead gas conservation projects have been completed since September, 1945, according to Murray, with approximate volume involved of 571,900,000 feet daily.

Cycling plants returned 52,333,333,000 cubic feet to underground reservoirs in December. However, Murray said he was not proud of the 47.17 per cent waste in flaring casinghead gas.

SYNOPSIS OF FACTS AND DISCUSSION ON DISTRIBUTION AND PRICE OF NATURAL GAS PRESENTED AT THE SOUTHWESTERN REGIONAL CONFERENCE, FEBRUARY 20–21, 1948.

(Excerpt from the "Progress Report" of the State Legislative Council of Oklahoma, March, 1948, p. 2.)

Representatives of the several oil and gas producing states in attendance at the conference were interested in learning how their states might benefit more substantially from their natural gas resources, either through a higher price for the product to the producer and royalty owner, and/or through increased taxation on natural gas.

From certain papers presented (copies of which are available), and as the result of questions from the floor, the following essential facts were brought into the open for discussion and further consideration:

The value (price) of natural gas at the mouth of the well in the Southwest, where approximately 75% of the nation's reserves are located, has consistently averaged less than 5 cents per 1000 cu. ft. for many years, and will probably continue to remain low relative to its value at the points of consumption, and relative to its intrinsic b.t.u. value as compared to coal and oil, for the following principal reasons:

Gas Under Long-Term Contracts

A. Much of the nation's reserves of dry gas (perhaps as much as 50%) are held under long-term purchase contracts by gas-distributing companies, at existing low prices, so that there is little prospect of substantial upward price adjustments in the immediate future. In some instances, gas purchase contracts run for the "life of the lease."

Chemical Products from Natural Gas

B. Technological advances have now made possible the manufacture of synthetic natural gasoline and many other chemical products from natural gas (e.g., the multi-million dollar Stanolind plant recently announced to be built at Garden City, Kansas); but much of this will be carried on by companies which have their own gas reserves and production, hence this new use for natural gas may have only a minor effect, if any, on the price of natural gas.

Rates on Gas Controlled

C. Gas distribution is a public-regulated industry and, as in the case of other public utilities, is subject to control and regulation of rates by the Federal Power Commission as to interstate carriers, and by the several state utility boards or commissions as to intrastate pipeline carriers. As a consequence, the increasing of prices to consumers is a tenuous process and this tends to hold down the price paid at the mouth of the well. The price of gas, unlike the price of oil, is not determined in a free market.

Reserves Not Included in Investment Costs

D. Another factor tending to hold down the price of natural gas at the point of production is that Federal Power Commission rules do not permit the inclusion in the investment costs of interstate gas distributors of any value for reserves owned by these companies. Consequently, they are not permitted to include in their gas rates any element for the return of cost of such owned reserves. In this connection, it was reported that some members of the FPC are now favorable to a change in this rule.

Reasons Given for Long-Term Contracts

E. Members of the natural gas industry made the significant point that the interstate distribution of gas entails the expenditure and investment of many millions of dollars, and that before such investments can be made they must be fully protected and assured of a supply of gas sufficient to last for many years. This necessity has been mainly responsible for long-term gas purchase contracts. The companies made the further point that their investments in pipeline

facilities have been responsible for converting natural gas from a resource lying dormant, without value, into a usable resource, giving it the utility of place.

Severance Tax Suggested

The tax discussion at the conference served to disclose the impracticability of uniform types of taxation among the several gas producing states, because of constitutional and other impediments; but indicated that perhaps a greater uniformity of burden might be possible, if the states so desired, by the use of a severance tax or other form of tax, in addition to those presently employed, as a means of adjusting or equalizing the burden. However, there was no indication that the several states would do so, and in the last analysis the question of taxing natural gas will be, as always, a matter for the legislature of each state to decide based upon the facts and circumstances peculiar thereto.

There was limited discussion on certain details of tax legislation, including the necessity for exemptions being allowed for certain economic uses of gas, such as for repressuring or recycling operations, underground storage, and perhaps the processing of casinghead or wet gas (containing liquid hydrocarbons), which too often in the past has been wasted. To the extent that taxation may contribute to conservation of natural gas, the consensus appeared to be that it should be so oriented.

The question was raised also as to the proper point of impact of any tax on natural gas—whether it should be on the act of severance, as in Mississippi, or at some point farther down the line. The answer to this would determine whether the tax would be borne primarily by the producer and land or royalty owner, or passed on to consumers throughout the nation. It was, of course, made clear that any tax imposed on this product must of necessity apply equally to gas consumed within the producing states as to gas exported therefrom. The commerce clause of the Federal Constitution would prevent the laying of any state tax burden solely on gas moving in interstate commerce.

Production Costs Differ

An argument advanced by industry representatives present against the feasibility of uniform regional taxation of oil or gas was that other costs of finding and producing these resources are by no means uniform. Production is at much greater depth in some states than in others; in some instances large volumes of water must be handled along with the oil produced, which increases cost; and there are a multitude of factors which operate to increase costs in one area over another. In times of great demand and advancing prices cost differentials may not be noticed, but when demand slackens and prices fall

these cost factors may tend to influence decisions as to where exploration and production will take place. State taxes might also become a factor.

Industrial Uses Advocated

A conclusion apparently reached by common consent of those present was that the interests of these producing states will be best served by encouraging the greatest possible industrial utilization and processing of gas and oil within the producing states. It was reported at the meeting that numerous large natural gasoline and gas processing plants are in process of construction adjacent to natural gas fields in Oklahoma and other states; that these plants must of necessity be located close to gas fields (unlike oil refineries, which may be constructed close to the centers of population, with the crude delivered to those points by pipeline or tanker); and that state tax policy should take account of these industrial possibilities based on natural gas within this region, and encourage, or at least not discourage such new industrial development.

TEXAS GAS PRODUCTION TRIPLES IN 10 YEARS

(Reprinted from *The State Observer*, June 14, 1948.)

Three times as much natural gas from Texas wells is being consumed over the nation as was used during 1939, according to reports to the Railroad Commission. There are 17 major pipelines now in operation or planned, carrying gas from this state to various points in the North and East. Another pipeline carries gas to Monterrey, Mexico, and a new line to California has just been completed.

Gas production in Texas last year totaled more than two trillion cubic feet, and members of the Railroad Commission believe that the production will be nearly five trillion cubic feet a year by 1950.

REFINERS TOLD NATURAL GAS QUICKEST SYNTHETIC SUPPLY

(*Dallas News*, April 8, 1948.)

Galveston, Texas, April 7 (AP).—Synthetic gasoline from natural gas is approaching economic competition with crude oil gasoline, an Oklahoma oil company engineer said here Wednesday.

R. C. Alden, Phillips Petroleum Company, Bartlesville, speaking before the Western Petroleum Refiners Association convention, said indications are that gasoline from natural gas can be made available at only 3 cents per gallon over the cost of crude petroleum gasoline.

An investment of $5,200,000,000 would be required for a plant capable of producing 650,000 barrels of synthetic gasoline daily from coal, he said, as compared to $2,600,000,000 for construction of a natural gas synthesis plant of similar capacity.

Such expenditures, he estimated, would push gasoline from coal to from 4 cents to 9 cents per gallon over prevailing crude oil gasoline prices.

Coal also is less efficient as a raw material in that it would require 160,000,000 tons of coal a year (about 28 per cent of the 1945 United States coal production), to maintain a synthesis plant producing 650,000 barrels of liquid fuels a day, Alden stated.

He estimated that natural gas reserves of today would make approximately 25,000,000,000 barrels of gasoline, which, on the basis of current demands, would last approximately thirteen years.

Coal reserves suitable for the process were estimated at 3,200,000,000,000 tons, or the equivalent of approximately 4,700,000,000,000 barrels of gasoline, a supply sufficient for several thousand years.

"It is therefore obvious that any long-range liquid fuels program must be based on coal," the Oklahoma engineer said.

MINERAL RESOURCES—PRODUCTION

(Reprinted from the *Texas Almanac*, 1947–48, pp. 252–253.)

The tradition of Texas maintains it in the minds of most people, including Texans themselves, as a predominantly agricultural State. Texas was a cow State and then a cotton State. Today its diversity of crop and livestock production makes it one of the world's greatest and most diversified producers of agricultural materials. But Texas has become predominantly a mineral-producing State, as measured by either the amount of income derived or by the wide economic effect of that production.

Since 1935 Texas has been the first ranking State in annual total value of mineral production. Few other areas of comparable size anywhere in the world have a greater mineral production value. Possibly none has a production of more widespread consumption and significance. World War II demonstrated the vital value of Texas petroleum.

Texas' Rank

About 66 per cent of the annual mineral value of Texas is from petroleum, and approximately 85 per cent is from oil and gas. Yet Texas has the greatest diversity of mineral production of all of the states, with one possible exception, and, even without the annual value of both oil and gas, Texas' rank among the states would be tenth or eleventh.

Following is the rank in mineral production value of the ten leading states, according to figures for 1945, latest available:

Rank and State	Value
1. Texas	$1,361,436,346
2. Pennsylvania	930,113,000
3. California	627,306,000
4. West Virginia	597,377,000
5. Illinois	332,489,000
6. Louisiana	298,842,000
7. Oklahoma	282,859,000
8. Kentucky	273,259,000
9. Kansas	210,187,000
10. Ohio	196,633,000

Diversity of Production

During the last five years, Texas has produced about 16 per cent of the total mineral values of the United States, which have averaged approximately $8,000,000,000 annually. Texas produces on an appreciable commercial scale more than thirty different kinds of minerals, and an additional thirty or forty minerals have been produced in commercial quantities from time to time. Because of the relatively undeveloped state of Texas industry, many of its minerals are in the marginal field of development. The number fluctuates from year to year but the trend has been upward in recent years.

The diversity of Texas minerals comes naturally. Above the varied and intricate geologic structures are found a diversity of soils that have produced a varied native plant and animal life and a varied agricultural industry. Likewise the varied geologic structures with their folds, faults, intrusions and irregularity of formation have brought many valuable minerals together in natural underground reservoirs and in storehouses of gaseous, liquid and solid material.

Increase in Production

The story of the expansion of the mineral industries of the State is best told by the tabulation of total mineral values at the end of this article. Mineral production value has expanded far more rapidly than crop, livestock or manufacturing values. From a production value of $5,316,222 in 1900, the State's mineral output jumped to a value of $18,383,451 in 1910 and a decade later was $371,250,979, though this latter figure was due in part to the inflated value of petroleum during 1920, when it went to a level more than twice as high as the average of recent years. The figure of $382,676,504 in 1930 represented oil and other mineral values that were considerably deflated from 1920 prices, and hence a larger increase in physical production volume than is apparent in the value. The increase to

a total value of $714,905,731 in 1940 represented an increase in physical volume that was approximately equal. The jump to $1,361,436,346 in 1945 was in some degree because of price rises but it represented in part an increase in physical volume.

The distribution of mineral production within the State is very wide. About 230 of the counties out of the 254 have some mineral production. Practically all of them have minerals of potential value. This wide distribution characterizes Texas' greatest mineral resource, oil, which is produced in approximately 160 counties.

Mines, Wells, and Pits

Another interesting thing about the development of Texas mineral resources is the fact that Texas has jumped to the first rank among the states, yet has very little mining in the older sense of the word. The mineral production of Texas very largely belongs to the modern processes made possible by power and heavy machinery—tapping the earth's mineral reserves via the drilled well and the stripping process. More than 9/10 of the minerals, as measured in value, come to the surface through drilled wells. These minerals include petroleum, natural gas, natural gasoline, sulphur, a portion of the salt, not to mention the great supply of underground waters, which, while seldom mentioned as a mineral, actually constitute the greatest of Texas' underground mineral assets.

Grand Total Production Value—Trends

The dependable record of Texas mineral production extends through sixty-five years, 1882–1946, inclusive. The grand total of value of minerals produced during this period is $17,074,129,220. Because of the fluctuations in the real value of the dollar, this is only an approximate estimate of the value as measured by present standards. Yet there is accuracy enough in the figure to give significance to the fact that 34.4% of the 65-year value was produced in the last five years, 1942–46, inclusive, and that 58% of it was produced in the last ten years.

The principal reason for this rapid acceleration of the annual value of Texas minerals, of course, is found in the rapid increase in oil production as field after field has been discovered, and to less degree in the increasing production of natural gas to go to market through the rapid extension of intrastate and interstate gas pipelines. A considerable contribution has been made, however, by the upbuilding of the industries to consume, and transportation systems to carry, a large number of the heavier mineral products. For a long period these heavier minerals were exclusively the kind that went to the construction industry as building materials—stone, cement, brick and tile, gypsum products—but latterly the expansion

of the chemical industries in Texas and elsewhere has greatly stimulated the production of other heavy minerals.

While the chemical industries as yet do not consume a large proportion of Texas minerals, the promise is more than considerable, according to mining and industrial engineers, the great deposits of salt, clays, limestone, lignite and other minerals will be added to sulphur as raw materials for the chemical industries.

Texas Mineral Values—1944–1946

1944	$1,338,060,404
1945	1,361,436,346
1946*	1,425,000,000

TEXAS NATURAL GAS RESOURCES—PRODUCTION

(Reprinted from the *Texas Almanac*, 1947–48, pp. 263–265.)

Natural Gas Value

Calculations of the value of natural gas production vary according to the basis upon which made. Average Texas value at points of consumption including domestic, commercial, and industrial uses, in 1945, was 14.8c a thousand cubic feet, indicating a total value of about $253,000,000, according the the U.S. Bureau of Mines. However, the value at the well was only 2.6c a thousand, indicating a total value of only about $64,400,000. Value at points of consumption varies widely according to the extensiveness of the pipeline transportation and distribution systems needed. The Texas average was 64c for domestic fuel, 36.8c for commercial (small business concerns), 6c at industrial plants, including electric utilities and petroleum refineries, and approximately 3c when used for pumping, drilling and other power purposes in oil and gas fields.

Average price at the well varies greatly among the states. As against the average of 2.6c in Texas in 1945, it was 6.1c in Illinois, 13.2c in Michigan, 24.5c in Pennsylvania and 28.5c in New York. As against the Texas average point-of-consumption price of 14.8c, the corresponding price was 17.3c in Illinois, 67.9c in Michigan, 52.4c in Pennsylvania, and 64.3c in New York.

Texas Gas Exports and Imports

During 1945, Texas exported by pipeline, 406,444,000,000 (billions) cubic feet of its production of 1,711,401,000,000 (1 and ¾ trillions) cubic feet of natural gas, or about 24%. These exports went to 25 states and one foreign country. Texas' imports of natural gas during 1945 according to the Bureau of Mines totaled 43,183,000,000 cubic feet, which was equivalent to about 4% of the Texas production. The imports of Texas gas were from Louisiana, Oklahoma and New Mexico.

*Estimated.

Natural Gas Waste

Estimates of natural gas waste in Texas vary widely. The U.S. Bureau of Mines estimated that, in 1945, the gross production of gas in Texas was 3,060,000 million cubic feet. (The production figure of 1,711,401 millions cubic feet refers to production for all kinds of consumption, *i.e.*, the commercial production.) The gross production estimate of 3,060,000 millions cubic feet was broken down as follows: consumed, 1,711,401 millions cubic feet; repressured, 767,100 millions; wasted and lost in transmission, 572,430 millions. In 1946, it was testified by experts in a hearing on conversion of the Big and Little Inch pipelines to gas transmission that the average waste in Texas was about a billion cubic feet a day or 365,000 millions annually. This was about 64% of the waste estimate made by the Bureau of Mines for the preceding year, 1945. During 1945, the Railroad Commission of Texas, after a survey, issued an estimate much under either of the two mentioned above. Possibly the most definite thing that can be said is that the waste is very large and a considerable percentage of the amount consumed. The estimate of the Bureau of Mines placed waste in the entire United States at 896,208 millions cubic feet. At 64%, the Texas percentage of the national waste was considerably higher than its 43.7 percentage of production.

There are two primary causes of the waste of gas in Texas, one physical and one economic. The physical factor lies in the fact that 29% of Texas natural gas is produced from oil wells. In 1945, 900,000 million cubic feet were produced from oil wells and 2,160,000 millions from gas wells. The waste is almost entirely from the gas produced from oil wells. (Petroleum in its native state contains in solution from 25 to 600 cubic feet of gas per barrel of oil.) The marketing of this gas frequently is commercially impracticable. Where marketing is impracticable, "flaring" (burning to prevent discharge of inflammable and explosive gas into the atmosphere) or repressuring (forcing back into the underground reservoir) are the alternatives. And sometimes repressuring is not practicable. In 1945 a total of 767,140 million cubic feet were repressured, including both gas from oil wells and "wet gas" from gas wells, which was processed for natural gasoline.

The economic factor is the high ratio of reserves and production to available market which keeps the price of Texas gas at the well, considerably below the heat-unit equivalent of coal and other commercial fields. The prevailing price of gas at the well in Texas in 1946 was equivalent to a price of somewhat less than $1.00 a ton for a good grade of bituminous coal at the mine, on basis of equal calorific values.

Early conservation laws of Texas prevented waste of natural gas resources, including severe restrictions against the manufacture of

carbon black. In 1933, however, the so-called "sour gas law" was passed by the Legislature, opening the way to waste of gas during the following two years. The law was repealed in 1935 but court decisions rendered the new decisions partly ineffective. More recently, however, effective enforcement of law combined with scientific methods and new industry projects have resulted in the utilization of large quantities of gas which were formerly wasted.

A process that has greatly facilitated conservation is the recycling of natural gas by plants producing natural gasoline, butane, and other products. The processed gas is returned under pressure to its underground reservoir. Formerly, where no immediate market was available, the only alternative was to discharge the gas into the air or to burn it in the production of carbon black.

Natural Gasoline

Natural gasoline is obtained by processing "wet" natural gas by compression or other methods. Production in 1945 amounted to 1,439,069,000 gallons, valued at $66,590,000. It is also called casinghead gasoline and natural gas gasoline. Two-thirds of the Texas gas production is processed, and "wet" gases are found in nearly all parts of the State.

Carbon Black

Most of the nation's carbon black comes from Texas where it is produced by burning gas, largely by the channel process. Production in 1945 was 721,438,000 pounds, valued at $30,198,000. This was the highest production on record and about 70% greater than the prewar production. The wartime and postwar need for tires furnished the principal demand for the expanded production.

The burning of gas for the production of carbon black is restricted to sour gas and to some other gases that would be wasted unless burned for this purpose. Recovery usually amounts to about 1.5 pounds for each thousand cubic feet burned.

SULPHUR

(Reprinted from the *Texas Almanac*, 1947–48, p. 270.)

Over a period of years Texas produced an average of approximately 80 per cent of the sulphur supply of the United States and an appreciable percentage of the world supply.

TEXAS TIMBER GROWTH AND CONSUMPTION

(Reprinted from the *Texas Almanac*, 1947–48, p. 168.)

During the past ten years there has been an over-all reduction of only 3 per cent in the pine and hardwood sawtimber volume in East Texas. In other words, the amount of timber cut has only slightly

exceeded the amount grown. However, experts point out that the balance has been dangerously close and that there has been a reduction in the average size and quality of the pine timber. In an average year, the drain of timber cut for all forest products runs almost 1,750,000,000 board feet.

Timber Growth, 1946.....Total 1,649,000,000 board feet.

WATER RESOURCES OF TEXAS—CONSERVATION

(Reprinted from the *Texas Almanac*, 1947–48, p. 178.)

Usually Texans have appraised their mineral resources by the estimated reserves of oil, coal and lignite, iron, sulphur, mercury, stone and other products of mine, well and quarry. Recently there has been an awakening to the fact that Texas has, in an economic sense, more oil than water. A water supply, which was taken for granted by the early Texans, has become an object of search and conservation. This applies to both ground water and surface supplies.

Surface Waters

Precipitated upon the surface of Texas annually is an average of 30.25 inches of water, varying from less than 10 inches in the extreme west to about 55 inches in the extreme east. Under physiographic and climatological conditions in many parts of the world this would be sufficient for even the great demands of modern living standards and industrial consumption. But the warm climate and clear skies of Texas maintain a high rate of evaporation, and the rolling terrain, nature of soils and lack of heavy forests in most areas contribute to rapid runoff. The problem is to conserve these surface waters by impounding along stream channels and by storing moisture in the soil. Considerable progress has been made. There are eighty-five reservoirs in Texas, including Lake Texoma on the Texas-Oklahoma border, having each a storage capacity of more than 1,000 acre-feet, with a total of 12,417,000 acre-feet. Most of this total capacity has been developed during the last fifteen years and the percentage would have been much greater had it not been for the stoppage of work during the war years.

TEXAS SOILS—SOIL CONSERVATION

(Reprinted from the *Texas Almanac*, 1947–48, p. 182.)

Texas cultivated acreage, including fallow and crop failure land, totaled 30,241,228 acres, according to the census of 1945. There were 108,524,480 acres classed as pasture land, an undetermined percentage of which could be converted to cultivation. The soils of this vast area constitute Texas' greatest economic resource. Mineral resources have produced in greater value in recent years but mineral

resources are exhausted by the process of production. Properly handled, agricultural soils are permanently reproductive.

On the surface of Texas are 130 soil series with about 500 soil types, according to Dr. W. T. Carter of the Texas Agricultural Experiment Station. This is the greatest variety of soils possessed by any state. It comes naturally from the diversity of geologic strata beneath, and it results logically in the great diversity of crop and livestock production.

Several natural and economic factors, however, have contributed to a decline in Texas soil productivity—one-cropping in the cotton areas, overstocking of livestock ranges and pastures, and water and wind erosion. Surveys by the U.S. Soil Conservation Service indicate that about 11,000,000 acres, largely croplands, have been badly damaged and that an additional 50,000,000 acres of crop and livestock lands have lost approximately 25 per cent of their topsoil.

THE SEVERANCE TAX

By A. E. Moody

(Excerpts from the book *A Severance Tax for Ohio*, Miller Printing Company, Bedford, Ohio, 1941, pp. 2–5.)

Definitions

In this discussion local taxing district means any taxing unit smaller than the state. The general property tax is the direct ad valorem tax laid on real and personal property. The view of authorities in economics is that all wealth is the result of the interaction of land, labor and capital. Each of these may be taxed separately or in combination. In theory, at least, the general property tax reaches land and capital. The occupation tax, as in Texas, may be made broad enough to reach every form of productive activity thus taxing all three sources of wealth. It is fundamental in a discussion of the severance tax to keep in mind the distinction between things and actions. The general property tax is a tax on things. The general occupations tax is levied on actions or pursuits. It is the price exacted by sovereignty for the license or privilege of lawful pursuit.[1]

Occupation tax, license tax, franchise or privilege tax, severance tax—these are synonymous terms differing in diminishing extension or connotation in the order given, and consequently, increasing in logical intention or denotation in the order given. All are taxes on pursuits as distinguished from things. Any of them may be made the genus of a logical definition of any of its successors in the order given above.

[1]See Words and Phrases, Legal Dictionary, any edition.

Severance Tax

The word severance comes from the old French word *sevrer*, meaning to separate or divide. It, in turn, comes from the Latin *separare*, meaning to separate. In the English Common Law severance means division of the provisions, rights, liabilities, or the like, arising under or in something; *e.g.*, the destruction of the unity of interest in a joint estate. It is thus seen that the word itself is a familiar one in the vocabulary of the law. Its use as the name of a tax, however, is distinctly recent. Its legal definition is to be found in the statutes of the states where such tax is levied. An Arkansas report has the following paragraph:

"The severance tax by that name was first adopted by the state of Louisiana with the principal object of conserving natural resources. Later it was developed into a leading revenue measure and has been very productive in that state. It has a counterpart in the gross receipts tax of Texas, the gross production tax of Oklahoma, the occupation iron ore tax of Minnesota and like levies in other states."

The Arkansas law of 1923 contains the following paragraph:

"There is hereby levied a privilege or license tax to be known as 'The Severance Tax' . . . upon each person . . . engaged in the business of mining, cutting, or otherwise severing from the soil or water for commercial purposes natural resources; including minerals and ores, pearls, diamonds, and other precious stones, bauxite, fuller's earth, phosphates, shells, chalk, cement, clay sand, gravel, asphalt, ochre, oil, gas, salt, sulphur, lignite, coal, marble, stones and stone products, timber, turpentine and all other forest products and all other natural products of the soil or water of Arkansas."

The Louisiana law levies:

". . . a tax upon all natural resources severed from the soil or water; including all forms of timber, turpentine, and other forest products; minerals, such as oil, gas, sulphur, salt, coal, lignite, and ores; also, marble, stone, gravel, sand, shell, and other natural deposits."

The Minnesota law contains the following paragraph:

"Every person engaged in the business of mining or producing iron ore or other ores in this state shall pay to the state of Minnesota an occupation tax equal to six per cent of the valuation of all ores mined or produced, which said tax shall be in addition to all other taxes provided by law. . . ."

It is seen from the preceding quotations that the severance tax is a privilege, license or occupation tax levied against those who are engaged in the production of economic goods for commercial purposes from natural resources. It applies to all economic goods mined from the earth, severed from the soil, or taken from the water. It may include water and water power. It has never been applied to crops, sowed, cultivated and garnered by agriculturists.

History

Occupation taxes reach back to the dawn of civilization when rulers dimly perceived that occupation was a source of wealth and accordingly exacted tribute for its safe pursuit. Privilege taxes reach back to the times when monarchs farmed out their kingly prerogatives to court favorites for a portion of the *usus fructus.* But the severance tax in America followed in the wake of the great agitation for conservation of natural resources in the first decade of this century and the name was first used in the law of Louisiana quoted above.

The writer has been unable to find a severance tax as such in operation in any European country. The replacement coal tax of France passed in 1925 was called a sales tax and was levied at the mines and on imported coal. It levied a tax of 1.8 per cent on all coal mined in France or imported. This tax took the place of the "turnover tax" levied on the retail coal dealers of the country. 1.65 per cent of the tax goes to the state and .15 per cent goes to the "local-finances fund." The advantages seem to be chiefly administrative as the new law dealt with only 330 taxpayers while the old sales tax dealt with 12,000 taxpayers. There was no appreciable increase in income for the government over the old "turnover" sales tax which existed before 1925. Shoup states that there has been no concerted opposition to the tax in business circles. There was much legal evasion on the part of the large commission men of the old retail sales or "turnover" tax but none of the present "replacement" sales tax.

In this connection it might be said that a sales tax, which taxes the right to sell, comes nearer a severance tax on the right to produce than any other type of tax. As a mere revenue producer unconcerned with conservation, the sales tax could be made to supplant the severance tax.

Need of Such a Study

The depletion of the wonderful natural resources of this country calls for information that will set the present status clearly before the people, and the great need of increased revenue by state and local taxing units calls for an earnest investigation of all possible sources of revenue. Both conservation and taxation are live issues today.

. . . If it is argued that the tax is too high the answer is found in the fact that less revenue cannot supply present needs and build up a reserve that compensates for surrendering the natural resources of a community. The future as well as the present must be provided

for. Ten or twenty years of exploitation may completely remove resources which required millions of years for nature to develop and which can never be restored to the thousands of generations yet unborn.

. . . Does the severance tax tend to conserve natural resources? What is meant by conservation? Surely it must mean to restrain the use of. Wastefulness should be avoided. Radical or intemperate use is inconsistent with conservation. Indeed, radical has been the antonym of conservation for time immemorial. It might almost be taken for granted that sane people would refrain from wasting goods on which they were required to pay a tax in proportion to the quantity wasted. Accordingly, the writer views it almost as a commonplace to say that the proposed rates would tend to conserve natural resources. These rates would indeed cause people to stop and ponder before committing waste. But the problem is not so simple as that. The reward for devastating a country for some particular product may be so great as to induce that devastation unless a restraining hand is laid. Frankly, the severance tax must partially justify itself by being the restraining hand. The individual who happens temporarily to have the right of possession and use of land which for a million years might produce goods for the satisfaction of man's wants should pay dear indeed for devastating that land so that it could no longer provide for the wants of man. Immediate good is indeed worth considering but ultimate good must also be considered in a scale of values. There would not be a great decline in production at the rates proposed but producers would check carefully against waste, if the tax were also assessed on waste. The great good that may be hoped for this measure is that it definitely sets up the principle of conservation and makes the rates as high as they could probably be made by a legislature exposed to the pressure of strong business interests. The set-up is a compromise. We must consider not merely what is right but what is expedient. The tax is large enough at the start to make the producing counties free from being the wards of the state in the matter of schools. It is also thought by the writer to be large enough to create a permanent endowment fund to guarantee to the future citizens of the producing counties independence in the support of their common schools. That is enough to hope for at present. Besides it must not be forgotten that there are other ways of compelling some sort of restitution than the severance tax. Its virtue is not so much in putting its beneficiaries "in statu quo" as in supplying a "quid pro quo."

TAXES OTHER THAN THE GENERAL PROPERTY TAX IN TEXAS

By Richard Gonzalez

(Reprinted from the investigation made by members of the TSTA Committee on Financing Public Education in Texas, October 12, 1932.)

The gross receipts taxes on the production of petroleum, sulphur and natural gas are in effect severance taxes. The basis of these charges is the privilege of severing natural resources. The basis of this tax is the privilege of doing business in the State. The list of products specially taxed in other states includes coal, iron ore, marble, stone, sand, shells, gold, silver, copper, lead, zinc, turpentine, timber, and water power derived from public streams. The severance taxes in Texas are in addition to the general property tax, so there still remains the difficult problem of the valuation of mineral properties. The difficulty of assessing mineral property is illustrated by the experience of one county in valuing a new sulphur property. The sulphur company made a rendition of $11,000,000, a committee of citizens urged that the value be fixed at $50,000,000, and the board of equalization placed the assessment at $32,000,000. The valuation finally determined was practically an average between the other figures. The problem of valuing property producing natural resources has been eliminated in some states by making the severance tax a lieu tax.

LETTERS FROM OTHER STATES

EDITOR'S NOTE: A questionnaire was sent to the governors and commissioners of taxation in some 20 states; a total of 16 states answered, and of this group only 9 expressed an opinion on the severance tax. These replies are reprinted here.

The questions asked in the questionnaire were:

1. Does intelligent public opinion support your severance tax on natural resources (if you state has such a tax)?
2. Is there agitation to increase, decrease or repeal these taxes?
3. What do you personally think about such a tax?

Alabama

Dear Sir:

In answer to your Question No. 1, there has been no expressed desire on the part of the taxpayers to take off any of the taxes from mineral and oil sources.

As to Question No. 2, there is certainly no agitation to increase these taxes (and I might say any other taxes) but no attempt was made to repeal it at the 1947 session of the Legislature. In addition to the duties as Legal Adviser to the Governor, I am also a Member

of the Legislature and I do not think there will be any lobby to decrease or repeal this tax.

In answer to your Question No. 3, the Governor fully agrees with me that a severance tax is a fair and just tax and those who pay this tax to the State are making no particular complaint, and it is believed that such a tax will be continued in our State.

Ira B. Thompson
Legal Adviser to the Governor
Montgomery, Alabama

Arkansas

Dear Sir:

In response to your questions relating to the collection of a severance tax, please be advised that

(1) It is my opinion that intelligent public opinion does support the collection of a severance tax;
(2) At the present time there is no agitation to change the existing severance tax law; and
(3) I am personally in favor of the collection of a severance tax in Arkansas.

Governor Laney's 1947 legislative program called for the abolition of the ad valorem tax as a source of income for state purposes; and an upward revision in the rates of certain other taxes, including the severance tax, to absorb the loss of ad valorem taxes. For your information, during the revenue year ended May 31, 1948, severance tax collections totaled $3,135,000, or only about 4% of the total revenues of the state. Of the severance taxes collected, one-fourth is returned to the county in which the natural resources were severed, and the other three-fourths is retained by the state.

F. A. Storey, Jr., Secretary
State Board of Fiscal Control
Little Rock, Arkansas

Idaho

Dear Sir:

Idaho does not have a severance tax on mineral resources. As it never has had a severance tax, there does not appear to be a great deal of opinion either for or against it.

However, I do believe that a severance tax on our timber and timber products would bring greater revenue to the State than does our ad valorem tax.

Louise Shadduck
Executive Secretary
Office of the Governor
Boise, Idaho

Illinois

Dear Sir:

The State of Illinois has no production or severance tax upon minerals. A law imposing a tax upon persons engaged in the business of producing petroleum was enacted in 1941 but was declared unconstitutional by the Illinois Supreme Court in 1944. During the 1945 session of the General Assembly two bills were introduced seeking to restore this tax, but neither made any progress. No further effort was made to enact this tax at the 1947 session.

Dwight H. Green
Governor
Springfield, Illinois

Kentucky

Dear Sir:

Kentucky has a production tax on oil. To my knowledge there has been no recent agitation against this tax. Due to the competitive nature of the coal mining industry, there is a fear that a severance tax on coal might give producers in other states an advantage over Kentucky producers and opinion is probably divided on this tax.

There has been some talk of a severance tax on coal, but no real drive or support for it.

The state administration or the Department of Revenue has not taken a definite stand on these taxes.

D. M. Magill
Acting Director
Division of Research
Department of Revenue
Frankfort, Kentucky

New Jersey

Dear Sir:

The State of New Jersey does not include a severance tax on mineral resources, and I doubt whether our experience would be particularly pertinent to the debate topic chosen by the Texas High Schools. For what it may be worth, however, I might answer your questions as follows:

1. We have no production tax on minerals or other natural resources in New Jersey, and I believe that public opinion would not support such a tax here.
2. There is no agitation to impose such a tax.
3. In those states having very substantial natural resources of a depleteable character, it is my personal opinion that a severance

tax of a reasonable amount is justified. Such a tax not only produces revenue for the support of government on a current basis but may well aid the state to foster a continuing exploration and development of its natural resources. Where the extractive industries represent a key factor in the economy of a state, this kind of revenue—and the programs that might be supported with it—seem very much in the public interest as well as in the interest of the extractive industries themselves.

While the severance tax may be paid by users of minerals and petroleum all over the country, it must be recognized that the problems of providing governmental services for the industry is a local one and that the tax is a fair charge upon those using a mineral or petroleum output of any one locality.

I hope that the debates will produce a worthwhile exchange of opinion and an understanding of the whole subject.

Alfred E. Driscoll
Governor

Oklahoma

Dear Sir:

1. In our opinion, there is no doubt that intelligent public opinion in Oklahoma supports our gross production tax on oil, gas and other minerals. The tax in Oklahoma is levied in lieu of ad valorem taxes from the production of such resources, unlike the situation in your state where you have both a production tax and a property tax thereon.

2. There is some agitation to increase the tax on natural gas at this time but this agitation comes principally from the Parent-Teacher Association and other groups interested in increased support for the common schools of the state. It is questionable, however, whether this demand will be sufficient to bring about the increase in tax rate on natural gas. The question involves a consideration of many factors touching not only the need of schools for additional revenues but also its effect on industrial and domestic consumers of natural gas within the State of Oklahoma. Any tax increase imposed on gas exported from the state into northern and eastern industrial areas must be borne also by consumers within the state. It is a question of balancing the possible benefits and injury to the state, which will be for the legislature to determine. Demand for an increased tax on natural gas arises largely because of the arbitrarily low price of this product at the point of production, and the better solution would be, if possible, to bring about an increase in the price of natural gas at the mouth of the well, commensurate with its actual thermal value as compared with competitive fuels. The average price of natural gas both in Oklahoma and Texas is probably less than 5c per cubic foot. If it were valued in proportion to

coal and other fuels, based on its B.T.U. content, its price should be between 15c and 20c per 1000. This would, of course, increase state gross production taxes thereon, as the gross production tax is 5% of the value, and would benefit not only the state tax-wise but also the producers of such gas and land and royalty owners.

3. It is our view that mineral resources should certainly be taxed in one form or another. A number of states impose severance taxes on such resources. It is a question for the legislature of each state to determine the form of tax that should be employed therein with respect to this last problem.

L. D. Melton, Director
State Legislative Council
Oklahoma City, Oklahoma

West Virginia

Dear Sir:

The State of West Virginia does have a privilege tax which places a tax upon those engaging within this state in the business of producing for sale, profit or commercial use any natural resource product, and the basis of the tax is the value of the natural resource produced as shown by the gross proceeds derived from the sale thereof, or the measure of this tax is the value of the entire product in this state. This tax is accepted by the public generally as an equitable tax, but a production tax or a severance tax would no doubt meet with considerable resistance.

C. H. Koontz
State Tax Commissioner
Charleston, West Virginia

Wyoming

Dear Sir:

1. Wyoming does not consider that it has a production tax on minerals, oil, etc. The statutes of Wyoming set forth the manner in which mineral lands shall be assessed in lieu of a tax upon the land. In other words, the value of the production is the basis for the value of the land from which the production is taken. In Wyoming we assess mineral production, particularly oil and gas, on a 100% value at the mouth of the well or mine as the case may be.

In the case of oil, we assess the production at the value per barrel or posted field price and in turn exempt from tax the 40 acres of land from which the production is taken. This value is then certified to the various county assessors and they in turn place it upon the tax rolls, the same as any other property and the rate of tax is dependent upon the mill levy in the particular school district from which the production is taken.

2. So far as this office has learned there is no agitation to increase, decrease or repeal this particular method of taxation.

3. This office feels that Wyoming is in fact taxing mineral production on a severance tax basis. Most states have a fixed rate of production tax, while in Wyoming, as before explained, the rate of tax is dependent upon the value of the oil and the mill levy in the district in which it is taken.

Wyoming is particularly proud of its taxing statute in this regard, in that in the lean or depression years the production is usually down and the price is usually lower, thus, making the over-all taxes to the producing companies less, while in the better years, such as the present time, the production is up, the value is likewise up and the taxes, therefore, increased. Thus, in good times Wyoming receives a large portion of its tax moneys from mineral production and the companies do not find it difficult to pay these taxes, while in depression times, the tax burden is likewise light.

Ray T. Emery, Secretary
Board of Equalization and
Public Service Commission
Cheyenne, Wyoming

THE SEVERANCE TAX

(Taken from *Willacy's Facts and Fiction*, October, 1930.)

It has been but a matter of a few years, comparatively speaking, since conservation of natural sources of wealth first began to appeal to the minds of political economists, legislators and others in authority. Since then what was at first but a growing sentiment has ripened into conviction. The theory that a grant of land carried with it an exclusive title extending from the center of the earth to the dome of the sky has been superseded by a more modern doctrine to the effect that minerals and other elements of natural wealth are properly to be considered as a common heritage. So far as concerns the sovereignty, the old-fashioned doctrine of "finders keepers" no longer obtains.

The doctrine itself is gradually but surely widening. Once persuaded that a generous Providence never intended these stores of natural wealth for the benefit of the few, it is but a short step to the conviction that they were destined for the benefit of all. And so firmly has this conviction become rooted that in most American states minerals may not be severed from the soil except upon conditions prescribed by the sovereignty itself. Nor will the sovereignty permit waste of natural wealth, mineral or non-mineral. The owner of a forest for example will not be permitted wantonly to destroy standing timber. Under Conservation laws the state steps in and declares, "Thou Shalt Not!" Ownership of a tract of land, even though inclosed, does not

clothe the owner with authority to hunt, trap or kill the wild game found thereon, except upon conditions prescribed by the state. Neither may the owner of the land abutting on a stream take of its waters except upon authority of the State.

It appears to be generally accepted, that irrespective of the verbiage, or terms, of a grant of land from the sovereignty, the grantee acquires no rights as against paramount needs of civilization. And particularly is this true of minerals fugitive in character which although severed upon one tract of land may, due to its fugitive state, be drawn from under adjacent or distant tracts. Nevertheless, the principle extends to all sources of mineral wealth. The courts, both State and Federal, while differing at times upon methods are agreed upon the principle involved. In Pennsylvania a per ton charge is imposed upon the priviliege of severing anthracite coal. In Minnesota, in addition to an ad valorem tax imposed on ore in place, a severance charge is made against production. In Louisiana the severance tax is imposed against all natural resources including oil, gas, sulphur, salt, coal, lignite. In Texas against oil, gas, sulphur, and cement only.

At first blush it might appear that a levy of a severance tax in addition to ad valorem taxes means double taxation. As a matter of fact there is no relation between the two. One is a tax upon the value of property acquired and held under the protection of the sovereignty. The other is a charge for the privilege of taking and thus depleting the state's economic wealth. This charge we impose in the form of a tax although precisely stated, it is not in fact a tax but rather a transaction; the state conveying whatever claim it may have, or contend to have, against the mineral in place. Manifestly, unless imposed at the point and at the time of severance, there would be no way of determining either the value or the volume of the substance involved.

With no thought of criticising the State's public policy, yet, nevertheless it would but be the part of wisdom for those in authority to reflect upon the vast stores of natural gas and other minerals, other than oil and sulphur, underlaying the surface of the soil. Neither of them endowed one whit less with the character of common heritage. Severed from the soil they partake of a distinct and separate being both commercially and as a taxable entity. That they possess value is an established fact. They are here today yet they may be gone tomorrow. Certainly the more we draw upon them in the present the less remains for the future.

In fixing the charge for severance, the State should, of course, be governed by the rule of reason, keeping in mind fluctuating elements usually attendant upon hazardous enterprises. A given rate today may be the equivalent of five per cent of net earnings. Tomorrow the same rate may be the equivalent of ten or twenty per cent. If means could be derived whereby differences in cost of production

could be taken into account, the charge might be made to bear more uniformly.

WARTIME STATE TAX LEGISLATION AND POSTWAR SCHOOLS

(Reprinted from *The Journal of the National Education Association*, November, 1944, p. 197.)

Experts agree the peak of war production was reached late in 1943. This will mean a decline in state tax yields in 1945 or 1946. Opposed to this is the outlook for increased state expenditures in postwar years. In education both the physical plant and the instructional staff of the schools must be built up. A recent estimate by the National Education Association places the cost of an acceptable nationwide postwar school program at $4,592,000,000. For the states to provide their share of this sum would require important readjustments in state tax systems, particularly if the yield of existing taxes in state general funds fails to hold to present levels. On the whole, however, state revenues have never failed to respond to the need for increased governmental services. Considering the healthy condition of state treasuries today, prospects are good that the necessary adjustments can be made.

THE WEST AGAINST ITSELF

By Bernard Devoto

(Reprinted from *Harper's Magazine*, January, 1947, pp. 1–13.)

I

Economically the West has always been a province of the East and it has always been plundered.

The development of the mineral West began in 1849. Mining is the type-example of Western exploitation. Almost invariably the first phase was a "rush"; those who participated were practically all Easterners whose sole desire was to wash out of Western soil as much wealth as they could and take it home. Few made a stake. Of those who did practically everyone carried out his original intention and transferred Western wealth to the East. The next and permanent phase was hard-rock mining or mining by placer or dredge on so large a scale that the same necessity held: large outlays of capital were required and the only capital that existed was Eastern. So the mines came into Eastern absentee ownership and control. They have always channeled Western wealth out of the West; the West's minerals have made the East richer. (The occasional Westerner who fought his way into the system—called a "nabob" in his era—became a part of the system, which is to say an enemy of the West.)

Mining is liquidation. You clean out the deposit, exhaust the lode, and move on. Hundreds of ghost towns in the West, and hundreds of more pathetic towns where a little human life lingers on after economic death, signalize this inexorable fact. You clean up and get out—and you don't give a damn, especially if you are a stockholder in the East. All mining exhausts the deposit. But if it is placer mining, hydraulic mining, or dredging, it also kills the land. Nothing will come of that land again till this geological epoch has run out.

Oil and Gas

Oil and natural gas follow the pattern of the mines. Because their development is comparatively recent the national government is able to exercise some control over them in the common good, by using the lease system instead of the patents which it must issue to miners. But just because that development is recent, Eastern capital has been able to monopolize oil and gas even more completely than ever it monopolized mining. The wells, pipelines and refineries belong to Eastern corporations. They pump Western wealth into Eastern treasuries. It is possible for a Western independent to make a mineral discovery, finance it, and maintain his local control in defiance of the absentee system; it has happened occasionally in the past and it happens occasionally now. But the Wildcatter in oil, the independent, has no chance at all except to submit to the system. He may find oil without its assistance; in fact the system hopes he will. But he cannot refine or transport or sell oil except to the system, on the system's terms.

Western psychology prevents him from desiring to do anything else. Last summer I talked with the manager of a small locally owned refinery which, with much good luck but mostly because the necessities of war had set up exactly the right conditions, had cleared its debts, secured contracts which seemed to guarantee it permanent independence and built up an impressive surplus and reserve. It was a minute item of fulfillment of the West's great dream, the dream of economic liberation, of local ownership and control. And what has been done with that surplus and that reserve? They had invested in Standard Oil of New Jersey. The West does not want to be liberated from the system of exploitation that it has always violently resented. It only wants to buy into it, cumulative preference stock if possible.

The Cattle Business

So we come to the business which created the West's most powerful illusion about itself, and though this is not immediately apparent, has done more damage to the West than any other. The cattle business.

Two facts about the cattle business have priority over all the rest. First, the Cattle Kingdom never did own more than a minute fraction of one per cent of the range it grazed: it was national domain, it

belonged to the people of the United States. They do not own the range now: mostly it belongs to you and me, and since the fees they pay for using public land are much smaller than those they pay for using private land, those fees are in effect one of a number of subsidies we pay them. But they always acted as if they owned the public range and act so now; they convinced themselves that it belonged to them and now believe it does; and they are trying to take title to it. Second, the cattle business does not have to be conducted as liquidation but throughout history its management has always tended to conduct it on that basis.

You have seen the Missouri River at Kansas City, an opaque stream half saturated with silt. . . . These plains rivers are depressing and rather sinister to look at, and they always have been helping to carry the mountains to the sea.

The Cattle Kingdom overgrazed the range so drastically—fed so many more cattle than the range could support without damage—that the processes of nature were disrupted. Since those high and far-off days the range has never been capable of supporting anything like the number of cattle it could have supported if the cattle barons had not maimed it. It never will be capable of supporting a proper number again during the geological epoch in which civilization exists.

Lumber

There remains lumbering. It perpetrated greater frauds against the people of the United States than any other Western business—and that is a superlative of cosmic size. It was a business of total liquidation: when a tree is cut, a century or two centuries may be required to grow another one and perhaps another one cannot be grown at all. Also it killed the land. A logged-out forest does not take so much geological time to come back as a place where a gold dredge has worked but during the generations of men it is even more evil. The effects of denuding a forest extend as far as fire may go and beyond that as far as any of the streams on the watershed it belongs to may be used for human purposes or are capable of affecting life, property, or society.

Lumbering, however, shows several deviations from the Western pattern. First, though the greater part of the timber came into Eastern ownership, with the consequent disregard of Western interests and the usual transfer of wealth out of the West, nevertheless, an important fraction of it came into the hands of Westerners. Second, the national government got on the job in time to protect vast areas of forest from liquidation—and to protect the heart of the West from geological extinction. Third, a good many of the big operators got the idea in time and it is mainly they who are now trying to maintain privately owned Western forests as a permanent source of wealth, whereas the drive to liquidate all forests comes most vociferously

from small operators, who have neither the capital nor the timber reserves for long-term operation. But with lumbering as with the cattle business we see revealed the psychic split that impels the West to join its enemies against itself.

These then, with power and irrigation which we may skip for the moment, are the businesses founded on the West's natural resources. While these businesses were developing, the rest of the West's economic structure, the parts which are like similar businesses everywhere, was also developing. There came to be in the West agriculture, transportation, wholesale and retail distribution, all the multifarious activities necessary to society. As I have already said, they are in sum much more important to the East than the basic businesses it owns—so long as it can control them in its own interest.

II

We lack space to describe the system by which the East maintains the West as an economic fief. It has been described many times and several recent books discuss it in relation to the current Western hope of breaking it up. Mr. A. G. Mezerik's *The Revolt of the South and West* is sound but is in some contexts emotional rather than factual and commits the fallacy of assuming that the modern Far West can have the same relation to the South that the Midwest had before the Civil War. Mr. Wendel Berge's *Economic Freedom for the West* is more analytical and much more realistic. Mr. Ladd Haystead's *If the Prospect Pleases* is less comprehensive than either but Mr. Haystead deals with the Western psychology that imperils the Western hope, as Mr. Mezerik and Mr. Berge do not.

The bases of the system are simple. In a startling analogy to eighteenth century mercantilism, the East has imposed economic colonialism on the West. The West is, for the East, a source of raw materials for manufacture and a market for manufactured goods. Like the colonies before the Revolution the West is denied industry. Natural evolution concentrated industry and fianancial power in the East but the same evolution gave all other sections but the West a sizable amount of both. By the time the development of the West began it was possible to control the evolutionary process—to finance the West in such a way that the growth of locally owned industry became all but impossible.

Control of Capital the Basic Process

The control of capital is, of course, the basic process. There is an amazing spread of interest rates between the East and the West. For such purely individual financing as real estate loans the West pays from two to three times as high a rate as the East. For the ordinary conduct of business it pays exactly what the East cares to charge and always enough to constitute a handicap in competition. But also

as Western business becomes large enough to compete the Eastern financial network can either dictate to it absolutely or destroy it. This at the simplest level. Above it is the interconnected structure of finance; the monopolies, cartels, inter-industry agreements, control of transportation, the many other instruments of power.

Take freight rates. They are devised so that the East pays lightly for the transport of Western raw materials but the West pays heavily for the transport of Eastern manufactured goods—and it is prevented from manufacturing its own goods. The cowpoke on a ranch fifty miles from Sheridan, Wyoming, does not wear boots made at Sheridan. He wears boots made of leather from hides shipped from Sheridan to Massachusetts, processed and manufactured there, and then shipped back to Sheridan. The business man of an Oregon town does not buy a desk made where the lumber is made, but in Grand Rapids whither the lumber is shipped and whence the desk is returned to his home town, paying two freight charges where he should pay none at all. The wheat rancher in Washington or Montana has to buy agricultural machinery made not in rational proximity either to his ranch or to Western deposits of iron and coal but in Illinois, Ohio, or Pennsylvania—and is mentioned here because he pays not only that tax to Eastern control of business but another one, the tariff that protects the manufacturer but builds no wall around the wheatgrower. Finally, the business man who erects an office building in Denver or the county commissioners who build a bridge in northern Utah may indeed use steel produced within a hundred miles of the operation—but they pay on it, for the maintenance of the system, a tax assessed by the "basing point" principle that makes a satisfactory substitute for the outlawed "Pittsburgh plus."

The West is permitted to engage in preliminary operations that reduce the bulk of raw material so that the East can save freight costs in transporting them to the mills where the finishing operations are performed. It is not permitted to perform those finishing operations, to manufacture finished materials into consumers' goods, or to engage in the basic heavy industries which would give it the power to blow the whole system wide open. So far as the West is industrialized, it has a low-level industry. But there are necessarily loopholes in the system: kinds of industry which cannot be prevented from developing in the West. Such loopholes do not disturb the Eastern masters. Control of credit enables them to buy them out or dictate the terms on which they may be operated. Or they manipulate patent rights or trade agreements to the same end. Or they establish a branch plant of their own which cuts the throat of the Western-owned plant. Or they merely mention these possibilities and the Western industrialist, a fiery secessionist in his oratory, joins the system.

Economy Bound to the East

The result is an economy altogether bound to the industrial system of the East even where it is not in fact owned and managed by that system. That is to say, the West is systematically looted and has always been bankrupt.

There has never been a time when the West did not furiously resent all this nor a time when some elements in the West were not trying to do something about it. All the furious agitations that have boiled out of the West and terrified Eastern *rentiers* (but have seldom caused the actual engineers of plunder to turn a hair) have had the sole purpose of securing for the West some factional control over its economic future. None of them have ever succeeded except when they could perform an ancillary service to the absentee system—like the permanently inflated price of silver, as outrageous a robbery of the American people as any ever devised by the steering committee of a patent pool. At most they have got the West an occasional tip amounting to a nickel or a dime, tossed back out of the millions drained eastward. There was never a chance that they could accomplish more. That is, there was never a chance till recent years. But now there is.

New Deal Brings Changes

The New Deal began it. New Deal measures slowed the liquidation of resources and substituted measures of permanent yield. They operated to rehabilitate depleted resources, halt and repair erosion, rebuild soil and restore areas of social decay. They eased credit, opened small gaps in the master system, and created much local prosperity. Such things improved the economic system and more important measures widened its base. Rural electrification dented the power monopoly which I have not touched on here but which is a basic tool of the system. A great expansion of reclamation projects increased agricultural wealth and, what is more important, made a start toward the production of surplus electric power. Finally, with such enterprises as the Central Valley Project and the stupendous, integrated plans for the development of the Columbia River basin and the Missouri Valley, the New Deal laid the groundwork for a fundamental attack on the system.

The West greeted these measures characteristically; demanding more and more of them, demanding further government help in taking advantage of them, furiously denouncing the government for paternalism, and trying to avoid all regulations. But the measures began to make possible what had not been possible before. They would provide electric power so cheaply and in such quantity that great industrial development must follow in the West. The Western economic structure

must be revolutionized and reintegrated—which would imply tremendous changes in the national economic structure. And for the first time the West had a chance to seize control over its own economic destiny.

War Accelerates Process

The war came and the process begun by the New Deal was telescoped and accelerated. Factories of many kinds sprang up everywhere. (Except in Montana, the private fief of Anaconda Copper and Montana Power, which succeeded in preventing any serious threat to their control of labor and production.) Mr. Berge has shown how, even in the stress of war, the absentee Eastern masters were able to direct much of this development in the old pattern, to restrain it to plants that performed only preliminary or intermediate processes. But not altogether. The West got airplane plants, shipyards, plants that manufactured such complex things as tanks and landing craft, heavy machinery, packing plants, innumerable processing plants. At Fontana in California and Geneva in Utah it got basic and partly integrated steel production. The war also produced something else the West had never had, a large body of skilled industrial labor. Also, by building landing and modern airports everywhere it made at least a fissure in the monopoly of transport and took out of transport much of the handicap of time which the West has always had to carry. Finally it exhausted the new surplus of electric power and so hastened the already contemplated production of more power.

In short, the West now has an industrial plant and the conditions for its use are favorable—and certain to become more favorable. That is the fact on which the reinvigorated dream of economic liberation rests. The plant is too heavily concentrated along the Columbia, Puget Sound, the Willamette Valley, and the Pacific Coast—more so than it would have been if the development has been more gradual—but it does extend through most of the West. And with the production of, for instance, ingots and rolled steel and aluminum, heavy industrial goods, and many kinds of finished consumers' goods, and with the certainty that the production of power will increase, the terms are changed forever. The West can at last develop a high-level economy with all that that implies: stability, prosperity, rising standard of living, successful competition with other sections, a full participating share in an expanding national economy.

Realization that the dream can be fulfilled has made the West all but drunk. It is looking forward to the future with hope and confidence. I cannot list here the sectional and interstate associations and committees engaged in implementing the dream, the plans they are working out, the measures they are preparing, or any other specific details that have been born of a strange wedlock—the dynamics of boom which any trigger whatever has always been able to release in the West and the unique opportunity which the last few years have

brought about. Enough that the West understands the opportunity, understands the possibilities of success and of failure that are inherent in it, and is taking every conceivable measure to avert failure and insure success.

III

Some doubts will occur to anyone. Thus if the upheaval should merely transfer financial power from Wall Street to Wall Street's California branch office, the basic system would be changed no more than it was years ago by the entrance of Chicago finance into the Western exploitation that had previously been monopolized by New York and Boston. A coastal dictatorship would merely be substituted for a trans-Mississippi one.

The oil refinery that invested its surplus in Standard Oil was hardly warring on absentee control and the same thing is to be seen throughout the West. The Wolfville Chamber of Commerce which is campaigning almost rabidly for local investment, local manufactures locally owned, integration of the local commercial system—all surcharged with violence about Wall Street, "foreign" corporations, the freight rates, and the East as such—that Chamber of Commerce is also campaigning by advertisement and paid agents to bring Eastern corporations to Wolfville. At the moment when its rhapsody of insurrection is loudest, its agents are spreading out their charts on the desks of Eastern industrial managers. Look, we've got this cheap power at Wolfville and a labor surplus, too. The unions are feeble in Wolfville and in fact throughout the state—it's not Patterson, it's not Akron, it's a setup. We'll give you a site free and build your spur. Now as for tax abatement, just what do you need? Just what additional advantages do you need, that is, over the locally owned business of Wolfville we are trying to build up in order to break the stranglehold of the East?

West Wants Federal Aid

One image of the West that the East accepts is that of the West not as economic peon but as pensioner of the East, as beggar. The West with its hat held out beseeching the expenditure on its behalf of federal money which must be raised from Eastern corporation and income taxes. Considering how much of that income is plundered from the West, the image is both comic and profundly ironical. But, there are ways in which it is also true. You can hardly find an editorial page in the West that is not demanding as Western right, as compensation for the West, and as assistance toward Western liberation, the expenditure of more federal funds. More government money for public health, hospitals, inspection, treatment; for schools; for service by the Bureau of Mines to the mining industry; for the improvement of Western agriculture, the replenishment of soils, the

instruction of farmers; for the instruction and protection of cattle and sheep growers, the improvement of stock and range, quarantine, research; for fire protection in the logging business; for drainage; for reseeding and reforestation of private lands; for roads; for weather service; and always for dams, canals, and the whole program of reclamation.

But at the same time: hands off. The West has been corrupted, its press believes all but unanimously, by a system of paternalism which is collectivist at base and hardly bothers to disguise its intention of delivering the United States over to communism. The second column of the editorial page is sure to be a ringing demand for the government to get out of business, to stop impeding initiative, to break the shackles of regulation with which it has fettered enterprise, to abjure its philosophy of suppressing liberty, and to stop giving money to people who will only fill the bathtub with coal. The editorial is certain to have a few lines about bureaucrats in desk chairs, impractical theorists, probably professors and certainly long-haired, who are destroying the West by interfering with the men who know how. Also, it is certain to be horrified by the schools, which the bureaucrats are using to corrupt our young people with Russian propaganda.

It shakes down to a platform: get out and give us more money. Much of the dream of economic liberation is dependent upon continuous, continually increasing federal subsidies—subsidies which it also insists shall be made without safeguard or regulation. This is interesting as economic fantasy but it is more interesting because it reveals that the Western mind is interfusing its dream of freedom with the economic cannibalism of the post-Civil-War Stone Age. It is still more interesting as it reveals the West's attitude toward the federal intervention which alone was powerful enough to save Western natural resources from total control and quick liquidation by the absentee Eastern ownership.

West Is Its Own Worst Enemy

For that preservation the West is grateful to the government. But there was and still is a fundamental defect: federal intervention has also preserved those resources from locally owned liquidation by the West itself. *So, at the very moment when the West is blueprinting an economy which must be based on the sustained, permanent use of its natural resources, it is also conducting an assault on those resources with the simple objective of liquidating them.* The dissociation of intelligence could go no further but there it is—and there is the West yesterday, today, and forever. It is the Western mind stripped to the basic split. The West as its own worst enemy. The West committing suicide.

Everyone knows that the timber of the United States is being cut faster than replacements are being grown, that the best efforts of the

government and of those private operators who realize that other generations will follow ours have not so far sufficed to balance the growth of saw timber with logging. Everyone knows that regulation of grazing is the only hope of preserving the range. Open the public reserves of timber, the national forests, to private operation without government restriction and not only the Western but the national resources would rapidly disintegrate. (And presently the government, on behalf of our society as a whole, would have to wipe out private property in forests altogether.) Turn the public range over to private ownership or even private management, and within a generation the range would be exhausted beyond hope of repair.

Stripping the Land Causes Damage

But that is, by a good deal, the least of it. Most of the fundamental watersheds of the West lie within the boundaries of the Taylor Act lands, the National Forests, and the National Parks. And overgrazing the range and liquidating the forests destroy the watersheds. In many places in the West today property in land, irrigating systems, and crops is steadily deteriorating because the best efforts of the government to repair damage to watersheds—damage caused by overgrazing the ranges and overcutting the forests—had not been enough.

Stream beds choke with silt and floods spread over the rich fields on the slopes and in the bottoms, always impairing and sometimes destroying them. Dams and canals and reservoirs silt up, decline in efficiency, have to be repaired at great expense, cannot be fully restored. Fields gully, soil blows away. Flash floods kill productive land, kill livestock, kill human beings, sometimes kill communities.

Less than a month before the joint committees met in Salt Lake City this summer, a hundred and twenty-five miles away in the little town of Mt. Pleasant, Utah, the annual parade was forming for the celebration of July 24, the greatest Mormon feast day. That parade never got started. A heavy summer storm struck in the hills and gulches above town and what marched down Mt. Pleasant's main street was not a series of decorated floats but a mud flow that, in a town of twenty-five hundred people, did half a million dollars' worth of damage in ten minutes. The range above town had been overgrazed and the storm waters which would have been retained by healthy land could not be retained by the sick, exhausted land. They rushed down over Mt. Pleasant, bringing gravel, stones, and boulders with them, depositing several feet of mud, damaging many buildings and much of the town's real estate, leaving much of the grazing land above town ruined and much more damaged and dangerous.

This destruction had been predictable—and predicted; in a small way it had happened before. The government had been working for many years to restore that range but had not been able to begin the

infinitely slow process soon enough. It knew and had repeatedly said that such a catastrophe might happen just as and where it did.

Groups Work to Destroy West

A few groups of Western interests, so small numerically as to constitute a minute fraction of the West, are hellbent on destroying the West. They are stronger than they would otherwise be because they are skillfully manipulating in their support sentiments that have always been powerful in the West—the home rule which means basically that we want federal help without federal regulation, the "individualism" that has always made the small Western operator a handy tool of the big one, and the wild myth that stockgrowing constitutes an aristocracy in which all Westerners somehow share. They have managed to line up behind them many Western interests that would perish by their success. And they count on the inevitable postwar reaction against government regulation to put their program over.

To a historian it has the beauty of any historical continuity. It is the Western psychology working within the pattern which its own nature has set. It is the forever-recurrent lust to liquidate the West that is so large a part of Western history. The West has always been a society living under threat of destruction by natural cataclysm and here it is, bright against the sky, inviting such a cataclysm.

But if it has this mad beauty it also has an almost cosmic irony, in that the great dream of the West, adult economic development and local ownership and control, has been made possible by the developments of our age at exactly the same time. That dream envisions the establishment of an economy on the natural resources of the West, developed and integrated to produce a steady sustained, permanent yield. While West moves to build that kind of economy, a part of the West is simultaneously moving to destroy the natural resources forever. That paradox is absolutely true to the Western mind and spirit. But the future of the West hinges on whether it can defend itself against itself.

AFFIRMATIVE READING MATERIAL

SEVERANCE TAXES

(Reprinted from pamphlet, *Tax Policy*, published by the Tax Policy League, New York, N.Y., February, 1940, pp. 1–3.)

Despite the fact that over one-third of the states levy severance taxes and that some states raise 15% or 20% of the state tax revenues in this way, the layman frequently appears puzzled at their mention. The term does not convey any immediate meaning to his mind as is the case in connection with property, sales, chain store, gasoline and other taxes in general use. Had such levies been labeled natural resources taxes they would have been more easily recognizable. For the severance tax is levied upon natural resources at the time of production, or severance from the earth.

Severance taxes are relative newcomers in the tax field, their development and spread having taken place largely within the last two decades. Some of the earlier experiments were in Michigan (1846), Pennsylvania (1874), Minnesota (1881), West Virginia (1907), Texas (1907), Oklahoma (1908), Louisiana (1910), Kentucky (1917), and Alabama (1919).

Reasons for Severance Taxes

Severance taxes have proved to be productive sources of revenue in several states, but their main justification is to be found on other grounds.

The waste of our natural resources is now generally recognized and sober-minded persons are seeking ways whereby the remaining resources may be conserved as wisely as possible.

Until recently mineral reserves, active mineral properties, growing timber and other resources were subject to the general property tax and they still are in a number of states. The difficulties of accurately assessing such property are in some instances almost insuperable. Moreover, the necessity for current funds out of which to pay annual taxes tended to speed up resources production in a manner that is frequently highly wasteful.

In its 1934 report, the National Resources Board stated: "Of all taxes on minerals, the one which is most likely to be anti-conservational is the ad valorem tax. The effects of this tax are cumulative, and some of them are only beginning to be recognized. . . .

"Owners of mineral resources are driven to open mines in order to provide income enough to meet their taxes, and the ad valorem tax has been one of the causes of overdevelopment of mine capacity, especially of coal mines. It has a tendency to force selective mining

with attendant loss of low-grade material. It handicaps the development and extraction of the miscellaneous grades to be found in most mineral districts. It puts a premium on the use of methods of extraction which cost the least, regardless of the fact that these methods often involve the permanent destruction or locking up of important reserves costing more to extract."

With respect to the effect of the general property tax as applied to timber, a special Senate Committee investigating reforestation in 1924 declared: "A tax paid annually on growing forests which yield no income for 30 or 40 years is equivalent to the taxation of farm land with its growing crops 30 or 40 times between seeding and harvest. Such taxes not only consume a large part of the possible returns but compel the grower of timber to advance them long before they are realized. Unless extremely moderate, the yearly taxation of growing forests may debar the investment of funds in such enterprises."

Specialists Say Severance Tax Superior

It is felt by tax specialists that the method of taxing natural resources at the time of production, or severance, and in proportion to the amount or value of the product, is highly superior to the method of levying annual property taxes on the estimated value of the total resources. In a study of *Taxation in Minnesota,* Roy G. Blakey declares: "The figures seem to indicate that some mine owners, or the lessees, have paid taxes for rather long periods on iron ore that never existed. We cannot be sure of this, however, until the mines in question have been exhausted. It seems also that some mine owners or lessees have escaped paying taxes on large tonnages as a result of an underestimate of tonnage."

A tax on resources levied at the time of yield obviates the difficulties and inaccuracies involved in assessing the property. Moreover, it has no tendency to force uneconomic and socially wasteful utilization of resources, as is the case for example when the burden of paying annual taxes forces the cutting of timber prematurely or the unneeded development of other resources.

A further argument has been advanced for severance taxes. The natural resources are the heritage of the state. When this patrimony is used up the state would share in the profits therefrom and should utilize them for developing other economic resources to the end that the state's economic position may not be impaired.

Future Generations Should Share Wealth

The Assessment and Taxation Commission to the Constitutional Convention in Louisiana declared in its 1931 report: "The Commission has endeavored to confine itself to recommendations which are calculated to bring about a more equal distribution of the bur-

den of taxation, and has not undertaken to suggest, to any considerable degree, the manner of apportionment of the state's revenue among its several institutions and activities; but owing to the public nature of the severance or production tax, and in view of the fact that this tax can be collected only but once from the same source or commodity, and considering that the production from which the tax is derived necessarily depletes the natural wealth and capital assets of the State, we think it would be well for the Legislature to adopt the policy of reinvesting the revenue, thus derived, in something of a substantial and permanent character; thereby giving back to the public for the enjoyment of future generations, as well as the present one, in so far as possible, compensation for that which has been destroyed and consumed, and which in no other wise can be replaced."

In a study of *Severance Taxation in Louisiana*,[1] by T. N. Farris, the following conclusion is reached in this respect: "It seems to be clearly demonstrated that the state's natural resources are being depleted and that no comprehensive, definite and continuing plan or policy has been adopted to assure a permanent and satisfactory patrimony from the severance revenues. . . .

"The conservationists might recommend the marginal and submarginal lands of Louisiana as eligible claimants for a considerable portion of severance revenues. These lands, properly administered, would be expected to prevent soil erosion, serve for recreational advantages, assume some importance as revenue producers, and enable the state of Louisiana to remove the stranded and ill-provisioned population to more advantageous localities and occupations."

Another reason for severance taxation, according to the National Resources Board,[2] is that "so many of the large mineral properties are in absentee ownership. The taxation trend reflects in some cases an indirect effort to reacquire natural wealth which has passed into private ownership."

CONSERVATION POLICIES DEMAND A STIFF SEVERANCE TAX

By David Heath, Dallas Attorney at Law

In the Petroleum Data Book for 1947, the special source of information for the world's oil and gas industry, are found basic statistics on the oil and gas industry.

Even a casual perusal of its pages will reveal an excellent reason for the levying of a severance tax on oil and gas in Texas. According to Texas Oil and Gas '47, an industry publication, the petroleum industry is the source of half of our tax revenues and of a very

[1]Louisiana State University Press. 1938.
[2]Report in 1934.

large proportion of the income of its citizens. When the oil and gas are gone, Texas will be more seriously affected than any of the other states that have depleted their oil resources.

The oil of Texas is vital to the State's economy, but conversely the oil of Texas means much to the nation's and world's economy.

Since the beginning of the commercial production of oil in 1859, Texas has produced 20% of all the oil the world has used. Texas alone, in that length of time, has produced more than half as much oil as all the other nations of the world combined.

Texas' reserves are given in this year book as eleven billion six hundred forty-six million (11,646,000,000) barrels, while the rest of the world, excluding the United States, has reserves of forty-seven billion, five hundred fifty-one million (47,551,000,000) barrels.

Texas is using up her reserves five times as fast as the rest of the world.

Texas produces more oil than all of South America, Saudi-Arabia, Irak and Iran, Russia, Rumania and the Far East, yet these nations have five times the known reserves of Texas. Texas has been the most intensively explored area on earth, while the surface has only been scratched in the middle East. In February of this year, Terry Duce, Vice-President of the Arabian-American Oil Company said proven reserves in the middle East has reached thirty billion (30,000,000,000) barrels, or 50% more than the reserves of the entire United States, including Texas.

This State has passed the half-way mark in the production of her oil. We should take stock of our situation and intelligently and realistically appraise our future.

Pennsylvania has produced over 90% of her original oil reserves, but Pennsylvania has two thousand years' supply of coal to fuel her industries and can look forward to a healthy and prosperous future, with a high standard of living for her citizens if she never produces any more oil.

Ohio has produced 95% of her oil, but Ohio too has tremendous industries. With the coal of Pennsylvania and West Virginia available at the low rates afforded by water transportation, Ohio likewise can look with assurance at her future.

Oklahoma, our sister state, has produced 85% of the vast amount of oil that nature placed beneath her soil, and the remaining 15% will be produced in gradually diminishing quantities, so Oklahoma must face a bleak future unless her remaining reserves of natural gas are conserved for the use of Oklahoma industry.

Income from oil found on lands belonging to The University of Texas and on our public school land has built our State University's plant and endowed it with what will soon be a hundred million dollar endowment, and our public school system will net even more from its land holdings, but these great sums did not come from taxes.

Our gasoline taxes, paid by Texans on the gasoline they purchased, have built most of our billion dollar, 27,000-mile State Highway system, but there remain 171,000 miles of rural and county roads that should be built while we have a source for funds with which to build them.

Our school system has recently progressed from among the poorest in the Union to the upper one-third of the states on the increased yield of our taxes on oil and gasoline, but the proceeds of oil tax monies go to current expenditures instead of going into permanent improvements or permanent funds.

A decade from now, allowing for a gradually declining yield, Texas will have produced 80% of her original reserves of crude oil, and the rest will mostly be produced from wells already drilled by that date, and processed through facilities already built. Employment in oil production will have declined greatly, and exploration expenditures will have practically vanished, and the income from lease payments, rentals, bonuses and royalties will be much smaller than it is today.

When these eventualities shall have occurred, Texas will have to turn to industry and agriculture for a livelihood for its citizens and profits for its capital.

Unless, in the meanwhile, we have managed somehow to limit the flow of gas from beneath our feet to the industries of the North and East, and to have stopped the criminal waste of gas that is now being vented at a rate of a billion and a half feet a day (gas that the coal rich East would pay $150,000,000 a year for, and that we will eventually pay many times that to replace) unless we have saved for our next few decades some of this gas, there can be no industry in Texas worthy of the name. We have no other fuel for industry's use. We have no nearby source of coal, our waterpower potentialities are very limited indeed, and industry cannot survive without power at competitive prices.

We will then be dependent on agriculture. Our soil is wasting or washing away at a dreadful rate, and the mechanized farming operations tend to reduce rather than increase the number of agricultural workers.

When this day arrives, unless we have been foresighted enough to save for our future use some of the proceeds from our diminishing reserves of oil and gas, our future will be ghastly indeed.

We had better build the roads, schools and hospitals our people will need, and lay up capital to maintain them, or future generations will label our generation the most wasteful, prodigal and gullible in history.

It is too late to do anything about the billions of dollars worth of gas we have wasted or burnt into carbon black, or to recapture the oil that has been forever lost through wasteful production practices, but we can do something about the remaining oil and gas.

In my opinion, a stiff severance tax, the proceeds of which should be devoted to improvements and facilities of a permanent type, such as an adequate rural road system, schools for our hard-pressed cities, as well as for our common schools, hospitals for all people, and physical plants for our eleemosynary and penal institutions, should be built and provision made for maintenance, and equal amount should also be placed in permanent funds for the benefit of our schools for if we do not educate and train our youth, they are going to have a hard time making a living in an industryless and fuelless State.

NATURAL RESOURCES AND THE SEVERANCE TAX

By W. H. Kittrell

(Editor's note: The following special articles were written by W. H. Kittrell in July, 1948. Mr. Kittrell is a public relations consultant with offices in Dallas, Texas. He has served with The Department of State, and with the Organization Committee for the United Nations.)

Has Texas Oil Been Profitable to Its Producers?

The statement is frequently made that the cost of the oil wells drilled in Texas nearly equals their yield. Therefore, say the oil producers, oil has been a poor investment and should not be further taxed.

According to the *Petroleum Data Book for 1947*, since the discovery of oil in Texas through 1946, 235,103 wells had been drilled in Texas; 67,717 of these wells have been dry holes; 8,000 or so were gas wells; and 158,769 producing oil wells had been drilled.

Of the producing wells, 103,309, or about two-thirds, were still producing at the beginning of 1947, and they were yielding over 750 million barrels of oil annually.

The wells now drilled and producing have paid for themselves and a small profit. The average operating costs per barrel are given in the *Petroleum Data Book for 1947* (E-104) as about 30c per barrel, which leaves over $2.50 per barrel operating profit. These 100,000 wells now producing at the rate of 750 million barrels per year have a life expectancy of several years. If they continue to produce for an average of 5 years, a conservative estimate, their owners will *net* out of $2.85 oil over 9 billion dollars from these wells, and will still have salvageable equipment left worth a billion dollars, making a total of 10 billion, a very splendid additional return on their investment.

When the oil producing industry closes its books on its Texas adventure, it will have had a very profitable experience.

Can Oil and Gas Stand More Taxes?

Spokesmen for the oil industry say that it cannot and should not pay any more taxes, as present taxes are excessive, duplicated, and out of proportion, and are higher than those of other states.

It is natural that the taxes on oil and gas should yield Texas more than other states, as nearly half the nation's fast depleting reserves of oil and gas are found in Texas. The exhaustion of these reserves which, according to industry sources, borne out by the State Comptroller's statement, account for 35% of the total amount of taxes paid in Texas and provide employment for ⅙ of the State's workers, is going to create economic havoc in Texas if we do not take steps to cushion the blow. The question arises as to how long they will last, and on what date Texas will have to face a fuelless future, with her tax income reduced, unemployment far greater than the ⅙ of her working-men engaged in the petroleum industry, as with the vanishing of gas all other industry will likewise decline and finally vanish.

According to the petroleum industry's accepted sources, reserves presently discovered amount to 11 billion, 777 million barrels at the end of 1947, according to the American Petroleum Institute. The production of the preceding year exceeded 750 million barrels. New discoveries and extensions were only a little more, leaving the known reserves only 1.13% more than at the beginning. Should these reserves be produced evenly at this rate, they would last about 15 years. Our gas will last a little longer at the present rate of production, but pipelines planned or approved will add 2 billion, 800 million cubic feet daily to the present drain, and it is reasonable to expect that our production will begin to decline during this decade, and within 20 years it will have shrunk to a fraction of our present production.

Texas, then can expect before the high-school students now studying this question have reached their mid-thirties, to be stripped bare of the source of her present wealth and be faced with a future bleak indeed. It will be scarcely less than criminal if this generation permits its sons and daughters to face this calamity without taking some steps to avert or soften it.

It would seem that our responsible officials and institutions should begin at once to take such action as is possible to lengthen our enjoyment of the priceless advantage of our deposits of oil and gas, and to establish a tax policy that will permit us to make in the next decade the improvements we can't make in the succeeding one, and to build up for the future a great permanent fund that will contribute its yield to the maintenance of public services such as education and road construction.

ARE ANY NEW TAXES NEEDED?

With a 75,000,000 dollar surplus in the State Treasury the statement that no new taxes are needed is a very persuasive one, particularly in view of the unpopularity of taxes.

The trouble with this concept is that this 75 million dollars has not been taken out of earnings or income, but from the liquidation of our greatest non-renewable capital assets.

Texas has produced about 12 billion barrels of oil and 25 trillion cubic feet of gas since the discovery of Spindletop. A considerable portion of this has been produced on State lands, the royalties from which are required by the Constitution to be placed in permanent funds, but the taxes on this production have been spent for current needs. While they have contributed greatly to maintenance of public services on a scale more generous than those of other southern states, they leave nothing permanent to offset the terrific loss we suffer in the depletion of capital values.

I would not urge additional taxes on oil or gas to be expended as quickly as they come in. In fact, I think a diversion of some of the current receipts to permanent funds or permanent improvements would be in order, and I think taxes on oil and gas should be equalized as oil is paying far more than gas on its hydrocarbon content or fuel value.

The grievous error in our tax policy is the expenditure of all the production tax receipts as fast as they come in on our current needs.

In another decade, when most of the natural gas and three-fourths of the oil we originally had have been produced, and as we face a decline in industry, in employment, and in tax revenues, we are going to be up against a very ugly situation.

It is too late to do anything about the oil that is gone forever, or the gas we have produced, given away or wasted, but there is still time to build a large permanent fund from the remaining reserves of these two invaluable commodities.

If we had had in effect a 5% severance tax on oil and a 5% tax on gas for permanent funds or uses, we should have built up by now almost a billion dollars, on which we would be drawing 30 million or so per year in interest, or if we had used half of it on capital expenditures such as roads and schools and have retained the other in reserve, we should have had a school and road system of great value that would pay dividends in usefulness to the people of the State.

With the present high prices of oil and natural gas, which can be confidently expected to remain high and eventually go much higher, such a program would build for our State an inheritance that will insure high educational standards and reasonable living standards after the natural resources have been entirely exhausted.

Wouldn't it be a good idea if those who support the affirmative in this case would urge that the proceeds of additional severance taxes be placed in permanent funds or expended on permanent improvements?

WHAT WILL OIL AND GAS TAXES AMOUNT TO TEN YEARS FROM NOW?

The developers of our natural resources, naturally reluctant to paying, in taxes, a great proportion of the proceeds of their production, have long answered those who ask for more taxes for permanent or current funds by saying that for a quarter of a century it has been claimed that we were running out of oil, but despite the claim our known reserves are always increasing.

Twenty-five years from now, they say, we will still have more oil in sight than we have today. This argument has been effective, too, for the increasingly large sums spent in the diligent search for oil has uncovered reserves year by year which have kept our known supplies at an increasingly high level. But in the meanwhile, at an enormous cost, using the skills and equipment of the most technologically advanced science in the modern world, geophysics, our potentially productive areas have been searched almost microscopically for favorable structures, and it is not reasonable to believe that our shrinking deposits are going to continue to make prospecting as profitable in the next decade as it has been in the past one.

In a detailed article, dismal indeed to Texans, in the May 18th issue of *Mining and Metallurgy*, the eminently dependable publication of the American Institute of Mining and Metallurgical Engineers, Kirtley F. Mather, Professor of Geology at Harvard University, gives his forecast of our petroleum future, basing his conclusions on trends illustrated by a series of graphs depicting exploratory drilling (wildcatting is a better word) and its results. Dr. Mather says (page 320, col. 3) that the tendency of the known petroleum reserves in the oil producing states to increase each year has begun to level off. There is little doubt, he says, that the peak will be reached in 1950, and thereafter it will begin to decline to zero.

These words, written by a scientist of great eminence, are particularly ominous to Texans who want to see their State continue to prosper. When we weigh and understand their meaning, all the complaints of the oil producers, who are feverishly searching the last remaining deposits of our once unparalleled natural wealth, become less important.

As the realization grows on us that already our doom as a producer of oil and gas is right around the corner, as it were, the petty calculations of the school district taxes, the county taxes, and the license taxes become paltry indeed. We are letting our heritage get away

from us as we barter and haggle over the pocket change on the person of a dying man.

The oil industry has been saying for a long time (a) that taxes are constantly increasing (an accurate statement) and (b) that the industry can bear no more of this unjust and ruinous burden. That has been its theme always, but for the past decade it has been incessant and increasing. In that same decade, crude prices have, except for the period of enforced price controls, risen gradually until they are now at a quarter of a century peak, and the oil companies profits are at an all-time high.

At the last session of the Legislature, spokemen for oil and gas interests were insistent that any increase at all in the price of oil would be disastrous to the industry, and therefore it would be unjust and unwise to increase production taxes. Not too long after the Legislature adjourned, the price of oil began to climb to its present high level without any let-up in demand. Indeed, premiums are being paid for much of the present production, indicating that yet another price increase is more than likely in the offing. It seems logical to deduce that an additional levy of 5% or so would not have discouraged the consumption of oil.

If the State were to levy a tax equalling that now levied in Louisiana, which reaches 26c per barrel, and retain the additional proceeds in our permanent funds, or spend it on improvements of a permanent type, by the time our now leveled off production begins to decline we will have begun a policy that will enable us to establish and subsequently maintain institutions for public use that we will find hard to build or to keep up, once our natural resources and the revenues from them have declined to where they no longer play an important part in our tax policies.

OUT ON A LIMB?

An Editorial

(Reprinted from *Senior Scholastic*, March 11, 1946, Vol. 48, No. 6, pp. 3.)

A man was sawing a limb off a tree. He was so happy about the speed with which he was sawing the limb that he forgot he was sitting on it.

Former Secretary of the Interior Harold L. Ickes tells this story to describe the way our country handles its valuable deposits of minerals and metals. We speak proudly of the millions of guns, tanks, bullets, and other war essentials we produced. We brag about our giant factories—the speed with which everything from bobby pins to automobiles rushes off the assembly lines.

Yet we forget that the more we produce, the more we must dip into our natural resources. We forget that Mother Nature did not supply us with enough of these essential materials to last forever.

We forget that like the man in Mr. Ickes' story, we are sawing off the limb on which we are sitting.

According to a recent report of the Interior Department, the United States has supplies of only nine major minerals that will last 100 years or more. There are 22 other materials of which we have supplies for 35 years or less.

What does this mean in terms of American influence on the rest of the world? Will our country become less important in international life as our cupboard of natural resources grows barer?

Coal, iron ore, petroleum, lumber and other resources are really a measure of our military and industrial strength. These materials have enabled us to become the most powerful nation on earth. They are also the basis of our high standard of living. Without them, we would be a "have not" rather than a "have" nation. "Have not" nations are too puny to be world powers.

By using up our resources at such an extravagant rate, we are not being considerate of our grandchildren and great-grandchildren. The peppery-tongued Mr. Ickes has pointed out that the United States they will live in, can "become a pushover for other countries . . . our standard of living will be greatly reduced . . . and we shall all become farmers."

In view of such a dire warning, it is important that we take stock of our natural resources. On the shelf of minerals plentiful enough to last 100 years, we can list iron ore, nitrates, magnesium, salt, bituminous coal and lignite, phosphate rock, molybdenum, anthracite coal, and potash.

It is reassuring to see coal on this list, since it is the nation's chief asset. Coal is essential in making steel. Without coal and steel, we could not have our industrial life. The United States has the world's largest coal reserve. Our known supply of bituminous coal and lignite is huge enough to last until the year 6246! . . . .

Our Dwindling Oil Supply

Of the 22 essential minerals of which we have less than 35 years' supply, the case of petroleum is perhaps the most alarming. Oil, often called black gold, ranks third in importance among the nation's resources. Its value in warfare can be judged from Lord Curzon's remark at the end of World War I. "The Allies floated to victory on a sea of oil," he said.

In World War II, the United States furnished approximately 60 per cent of the petroleum used by the Allies. Compare this figure with the fact that the United States contains 36 per cent of the world's known oil reserves. Our known or proved reserves now equal 20 billion barrels, according to the American Petroleum Institute. When you divide this amount by our prewar rate of consumption, your answer is a petroleum supply for only 18 years.

The Mead Senate Committee had these figures in mind when it said in a recent report "we cannot oil another war."

In peacetime years, however, discoveries of new oil fields have balanced our consumption. There is no guarantee, of course, that this will continue to be the case. But one source that may prove to be a rich reservoir of oil is the Continental Shelf.

Last September (1945), President Truman issued a proclamation claiming for the United States all food and mineral resources on this underwater plateu which slopes from our shores. Some experts estimate that in the Gulf of Mexico alone, our share of the Continental Shelf may contain as much as twenty-two billion barrels of petroleum. This is more than the total of our present proved reserves. Engineers are already drilling for this underwater oil off the California coast. There is now a controversy over whether the Federal Government or the State of California should control these submarginal lands.

Part of the Answer is Substitutes

Substitute materials might prove to be the answer in time. During the last 100 years, 70 per cent of our production was based on minerals that could not be replaced. Plastics (made from coal, air, and water) and synthetic rubber (made from grain alcohol) are examples of substitutes. It will be many years, however, before scientists provide adequate substitutes for all of our scarce minerals.

In the same way, atomic energy may some day replace coal and oil as a source of fuel. But it would be foolhardy to stake our country's future on that possibility. If we are going to remain a "have" nation for many more years, we must be more thrifty with the resources we now have.

HALF OF TEXAS SCHOOL CHILDREN GET INADEQUATE EDUCATION

(Reprinted from *The Austin American*, June 16, 1948.)

Conditions in Texas public schools improved slightly this year, but nearly half the State's children are still getting inadequate education.

A survey released Tuesday by the Texas State Teachers Association indicated 46.7 per cent of the children are being taught in badly overcrowded classrooms due to a shortage of teachers and buildings.

Texas needs a minimum of 2,500 additional teachers and thousands of additional classrooms to relieve the heavy congestion, according to Joe Humphrey of Abilene, vice-president of the teachers' association.

The increase in teacher pay granted by the last Legislature was not sufficient inducement for young people to prepare for a teaching career, he said. Colleges are not training enough teachers to take

care of the usual replacement needs, let alone add to staffs, Humphrey stated.

As for the building problem, he said, many schools do not have enough money to construct additions or new buildings. Others have voted bonds but are reluctant to build with the current high costs.

Classes with as many as 65 pupils were found in a survey conducted by Miss Willie Mae Floyd of Abilene, representative of the National Education Association. Thirty pupils per class is the maximum for efficient teaching, according to the NEA.

Some 58 per cent of grade school pupils were found to be in classes of more than 30 pupils. Fifty per cent of junior high pupils are overcrowded and 32.9 per cent of senior high students.

"All educators recognize the fact that it is impossible for pupils to get the attention they need and adequate instruction in classes of more than 30 students," Humphrey stated.

SLASH IN FEDERAL AID WRECKS BLIND PROGRAM

(Reprinted from *The Austin American*, June 17, 1948.)

Rehabilitation of blind Texans, acclaimed the most outstanding program in the nation, was "wrecked in its entirety" this week by a reduction in federal funds of $42,000.

Director Lon Alsup of the State Commission for the Blind told newsmen here late Wednesday that, although the total federal grants for this work remains the same for the coming fiscal year, Texas' share has been severely crippled by a "malappropriation."

"Work for the blind in Texas has been set back ten years," he said. "There is no basis for this cut in funds for Texas, as all states recognize that the work of rehabilitation of the blind here is the most outstanding in the nation."

Alsup left Austin shortly after the interview for Washington to make a personal appeal for help to officials there. He said that this slash in federal funds means that the number of State districts under the commission will be reduced by half.

"Four will attempt to do the work of the present eight districts," he asserted. "As a result, the 12,000 blind in this State will receive inadequate service."

Alsup said the man with the visual limitation who is capable and willing to work will not be given the opportunity to rehabilitate himself. "That is simply because the agency created to help him will not have adequate personnel to insure the necessary training and supervision to place these deserving and qualified blind individuals in remunerative employment."

The director added, "The visually handicapped man who needs help will not find it."

"Despite the fact that the national appropriation for rehabilitation remains the same for the coming fiscal year," Alsup said, "the Texas State Commission for the Blind has received this drastic cut which will wreck in its entirety the blind rehabilitation program in Texas."

During the past four years, over 700 blind Texans have been rehabilitated into wage-earning and tax-paying citizens. Already this year, 229 blind persons have been trained and put in useful employment, but the funds run out July 1. This rehabilitation record exceeds that of any other year, and far outstrips the efforts of any other state.

NEW SCHOOL BUILDINGS NEEDED FOR TEXAS' GROWING POPULATION

(Reprinted from *The Christian Science Monitor*, June 11, 1948.)

Texas educators, embarking on a comprehensive survey of the State's school needs, estimate that in six years the number of students will be too great to handle in present school buildings.

The growing birth rate and an influx of population from other states is responsible for the portending crisis, say members of the Gilmer-Aiken Legislative Committee, authorized by the last Legislature to probe into the entire school problem and bring back recommendations for action to the Legislature that will convene in 1949.

In 1954, as a direct result of the increased birth rate, the first grade class throughout the State will be double that of the current year, says Dean L. D. Haskew of the School of Education at The University of Texas.

Dean Haskew, a member of the committee, cites as an example the 1,000-per day increase in the population in the South Texas Gulf area centered around Houston.

The committee estimates Texas will need from $500,000,000 to $1,000,000,000 in new school buildings in the next decade. One possible solution that is being studied by the group is a State contribution toward building expenses incurred by county school districts.

Another is raising the school district tax ceiling to permit the floating of additional bond issues by districts that have already reached the bond limit but face even greater school populations.

Another problem under study by the committee is the failure of many children to attend school. One-fifth to one-third of the eligible children do not attend school in Texas, the committee estimates. Another 40 per cent drop out at about the 10th grade.

A subcommittee has been appointed in every Texas county to survey the local situation and forward recommendations to the Gilmer-Aiken group, which then will report to the Legislature.

TEXAS SHOULD PROVIDE HOME FOR OLD FOLKS

By Fred Williams, *The Austin American Staff*

Texas provides no old folks home. But through its various mental institutions, such as the Austin State Hospital, old people are sent in for a so-called 90-day "observation" period. After that time, they are brought into County Court, judged "insane and in need of further treatment" and then committed. There they live and die.

Texas is now paying millions, along with federal assistance for old folks. But when it boils down to individuals, they are receiving only from $5 to $45 a month. Thus arises the point—why not provide just an old folks home which could be operated on a basis of $45 per month per individual?

But there the federal statutes come into conflict. They require no federal aid shall be given any "inmate of a state institution." That outlaws old folks' home, according to John Winters, State welfare director.

One answer, however, is for the State to buy the surplus areas of Camp Swift which could handle hundreds and hundreds of old folks. The 2,500 acre hospital area, including 124 fireproof constructed buildings, can be bought for something like $196,000, where it cost the government $1,960,000. The boiler house and hospital equipment, costing $162,044 can be thrown in for $16,200. But these are War Asset Administration "market values." If these facilities are used for an old folks home, there'll be an 80 per cent discount, or just something like $40,000.

State officials admit that the mental institutions are overcrowded already, with the situation worsening year by year. Old folks are growing older and since only 10 per cent of them are ever discharged as "cured," the mental institution population continues to grow heavier.

It appears the State would not only provide ample space for those really mentally ill, but could provide a home for old folks merely by spending a few thousand dollars. Temporary measures are being taken at various places in the State in the form of private homes, but it is up to the Legislature to provide suitable facilities for old people.

No one involved in the commitment of the old people—from the judge to the star witnesses, the doctors, believe that over 10 per cent of these inmates are mentally ill. They're just old and that's the only place they have to go.

So everyone is caught in the system—a system which can be corrected fairly easily by the Legislature; a situation now that is practically a public scandal.

JESTER ASKS PEOPLE RULE ON PENSIONS

By William M. Thornton, Chief of *The News* Austin Bureau

(Reprinted from *The Dallas News*, June 9, 1948.)

Austin, Texas, June 8.—Gov. Beauford H. Jester asked again Tuesday that the next session of the Legislature give the people a chance to lift the $35,000,000 annual ceiling on Texas social security expenditures.

Submission of such an amendment to the State Constitution is a part of Jester's program for continuing down the "People's Path."

The Governor pointed out that living costs are far higher now than when the ceiling was adopted. The proposition of submitting a ceiling-removal amendment to the people failed at the last session to receive the necessary two-thirds vote.

Coincident with Jester's statement, the Welfare Department Tuesday revealed that June payments will go to 204,221 old age pensioners. That is a net increase of 943 over May. The average amount will be $31.40, a raise of 9 cents.

Assistance will go to 5,623 needy blind, an increase of thirty-seven, and the amount will be $34.82 each, an increase of 11 cents.

A total of 17,909 families will receive $35.89 each as aid for 45,680 dependent children. As in May, this payment is only 84 per cent of the established grants. These grants did not meet the maximum need uncovered, Jester said.

The present $35,000,000 annual ceiling is apportioned as follows: Old age assistance, $31,000,000; needy blind, $1,000,000; and dependent children, $3,000,000. The Federal Government matches these amounts.

UNITED STATES FACES OIL SUPPLY PINCH

By Richard M. Morehead, Austin Bureau of *The News*

(Reprinted from *The Dallas News*, June 6, 1948.)

Austin, Texas, June 5.—Get ready for a shortage of gasoline and/or heating oil in the United States, Railroad Commissioner William Murray, Jr., warned Saturday.

"It's time for the public to face the facts," Murray said. "There will be local shortages of gasoline this summer, and insufficient heating oil next winter."

Texas will feel the pinch less than other sections, he predicted. "It is natural to assume those closest to the source of supply will get along best, although the oil companies try to distribute supplies over the whole country," Murray explained. "We could drown Texas in gasoline made in this State."

Comptroller George H. Sheppard's figures show Texas refineries are making gasoline at the rate of nearly one billion gallons a month. About one-fifth of this gallonage stays in Texas.

"Before next winter, somebody ought to dispel the myth that we have plenty of oil," Murray continued. "They're still installing oil burners up East."

The commissioner was amazed that some Congressmen on the Wherry committee think Texas and the Southwest could produce more crude, if needed. If supposedly well-informed officials have such a false impression, Murray said, the public must have it too.

Murray urged the Wherry committee studying the allocation of steel to investigate claims that states are withholding oil production.

"We can't produce any more, without waste, until we drill more wells," said Murray. "Oil is vital to the economy of Texas and the security of the nation, and I don't think we ought to produce fields wastefully to get a temporary slight increase in supply.

"I believe the Wherry committee would find we are following a wise conservation policy in Texas."

Secretary of Interior J. A. Krug this week estimated supply will exceed demand by 312,000 barrels daily during July, August and September; but would drop 145,000 to 170,000 barrels daily below demand during the next six months.

Demand for the third quarter of 1948 was estimated at 6,130,000 barrels daily and supply at 6,442,000 barrels. Supply includes 415,000 barrels of natural gas liquids and 500,000 barrels of imported crude daily. Demand for the first quarter of 1949 is estimated at 6,735,000 barrels daily, compared with a supply of 6,565,000.

Ernest O. Thompson, chairman of the Railroad Commission, expressed pleasure that Krug reported it will be unnecessary to ration gasoline this summer. Government controls might hamper, rather than help, efforts to balance supply and demand, the report added.

To meet next winter's anticipated demand for fuel oil, Murray said, 57,000,000 to 60,000,000 barrels must be added to storage this summer. Meanwhile, gasoline consumption is expected to be 6 per cent above last summer, without a comparable increase in supplies. Some filling stations in the Chicago area and Western states were temporarily without gasoline last summer.

"The oil required to meet this demand is greater than the estimated supply," Murray continued. "A mild winter would help, but a severe winter might make it rough.

"Maintaining gasoline consumption this summer and heating oil consumption next winter, at the present rate of increase, will bring shortages."

Murray said there is no bottleneck in refining or transportation.

The Texas Railroad Commission is revising its maximum production rates for all fields. Murray does not believe the revised figures—state-wide—will permit any increase in production although some fields may gain.

A tug-of-war between gasoline and fuel oil customers will face refiners this summer. Shortages of gasoline would bring demands for greater production, which could be met only by diverting it from heating oil channels, Murray said.

"It will be hard not to hold gasoline production high," he declared. "Nevertheless, the industry will need to run heating oil into storage all summer if it meets requirements for next winter."

Murray noted that petroleum economists, basing their predictions on past performances, have underestimated demand consistently since the war ended. Besides heavy domestic usage, military requirements remain large, he said.

LET'S ENCOURAGE WILDCATS

By Merryle Stanley Rukeyser

(Reprinted from *Nation's Business*, June, 1943, pp. 96–100.)

America has always lived on the fat of the land and has had reason to believe that it could always live that way. But war speeds up consumption. Anyone who hopes to make workable economic plans for the postwar period should keep that in mind. He should keep in mind, too, the late Ogden Mills' admonition:

"In dealing with the paradox of want amidst plenty, let's make sure not to abolish the plenty."

With the whole nation engaged in total warfare, the American people have turned their energies and their facilities toward victory. Determined to spend what it takes to lick the enemy in the shortest possible time, the American people have given Mars for the duration a first mortgage on the nation's productive power. Last year Donald M. Nelson, WPB chairman, estimated that the Government in 1943 would take 60 per cent of all the goods and services produced. If the Federal Government fully expends its authorizations, it may take even a larger ratio.

But this is a short-term trend. A more fundamental question relates to our national capacity to get back to the main highway after the war. American material well-being year by year is based on using up natural resources (depletion), using and wearing out of tools and machinery (depreciation) and expenditure of energy (human labor). In spite of battle casualties, it is to be expected that we will emerge from the war with a satisfactory and competent labor supply. In addition, the "know-how" will be available for replacing worn and obsolete tools with new and better labor-aiding machinery.

Assuming that we adopt economic and political policies which will assure the survival of the American system of free enterprise, we can then set about restoring our depleted national assets and improving our standards of living.

That is, we can expect to do so, provided our basic resources are not exhausted. Today we are using up basic natural resources at a much greater than customary rate. Some of these resources are irreplaceable, at least, in short periods. The resources of mine, quarry and forest are God-given and, in many instances, replacement proceeds at a snail-like pace over eons of time.

My survey of current war-time depletion of our principal basic resources shows that, unless present known geological resources can be supplemented by new discoveries, new substitutes, and more effective technology in using what is available, including lower grade raw materials, the future may portend backsliding in living standards, rather than universal advancement.

In the circumstances, it is futile for politicians to make long-term plans for dividing the spoils without more accurate knowledge of the raw material supply, which must constitute the base of any economic pyramid of prosperity. The threat of eventual shortages of basic metals and other fundamental resources belies the assumption that the national economy, having matured, can now readily be administered by routine bureaucrats, instead of by pioneering, venturesome and resourceful individuals.

Encourage Wildcats

Since a new age of discovery is needed, it is essential to keep alive the incentives which will encourage new wildcatting, new pioneering and new exertion of the inventive talents of scientists and engineers. In these circumstances, the tax laws, the aspersions on the profit motive, and the whole overweighting of the enterprise system through excessive ante-ing up for the ever-rising cost of government need to be re-examined.

Unless we compensate for the tremendous cost of the war with prudent and constructive collaboration between government and business, dire necessity may force us away from natural economic independence and relative self-containment.

Four Horses Per Worker

Of course, such "freedom from want" as we have thus far attained in the United States has been facilitated by rising productivity made possible by supplementing human work with mechanical energy. In 1880 we reinforced the average worker with six-tenths of a horsepower; by 1940 this was raised to 4.5 horsepower. Meantime, per capita output rose from five tons of product in 1880 to some 20 tons in 1940.

In war and in peace, gasoline is of growing importance. The present usage of 4,000,000 barrels a day represents about the pre-war consumption. Civilian usage has been drastically curtailed to make petroleum products available for military requirements. Even so, experts in the oil industry indicate that present known reserves in the United States would support the current rate of consumption for only between 18 and 48 months.

In the past, the industry has always met the ever-normal crisis of expanding demand through discoveries of new wells on the one hand, and through better utilization of crude oil, on the other. Present war-time restrictions on manpower and materials have noticeably reduced wildcatting, and experienced men in the industry tell me that discoveries result only through the drilling of many exploratory wells. At this time, there is interest in new wells in West Texas. Though this field has not yet been proven, it could potentially add ten to fifteen per cent to our oil reserves.

Practical geologists in the industry believe that price and general economic policies can result in a revival of oil discovery within the United States. They point out that American supplies can also be supplemented by imports and, eventually, in case of a general shortage, they foresee that oil can be extracted from shale, or manufactured through hydrogenation of coal, which is abundant, through a process known in this country and already in use in Germany.

As offsets to the current prodigious depletion of raw material assets, we should remember that not all of the products are gravitating to destructive uses. Some are being detoured into stockpiles, and a large amount will eventually return to the nation's inventory in the form of scrap.

Nevertheless, in dreaming about the future, we should recognize that, if we begin to approach exhaustion of any of our basic mineral resources, an important ingredient for national prosperity will have been removed.

REPORT ON BIG INCH LINE

(Reprinted from an editorial of *The Dallas News*, December 17, 1946.)

It may well be that the House surplus property committee is right in scouting the idea that sale of the Big Inch and Little Inch pipelines for transmission of gas would perpetuate a monopoly. It may well be that the report made to W. Stuart Symington, advising against transmission of gas in these lines, was from an inexperienced source. The people of Texas and the Southwest are not interested in these issues.

The thing that they are really interested in is best illustrated by relating a conversation between a Texan and an up-North advocate of export of natural gas a year or two ago. Said the Texan: "But we have only thirty or more years' supply of natural gas and you

have 2,000 years' supply of fuel in your coal. What will we do when our gas runs out?" "Easy," said the gentleman from the coal region, "we'll use our coal to produce artificial gas and pipe it to you by reversing the flow through the pipelines."

The people of Texas have no legal right to restrict the flow of natural gas into interstate commerce. Yet there is a broad moral issue involved. For many years the economy of Texas has been tributary to the economy of the older and better organized industrialized regions. The tariff levied a tax on the cotton grower for the benefit of the northern industrialist and the northern industrial laborer. The freight rate structure encouraged the inertia of industrial development in the North and discouraged development in the South, and more especially in the Southwest. The greatest "break" that Texas has had in its economic development has been the discovery of its great resources in oil and gas. While oil has meant more as measured in dollars, yet gas is the more significant of the two and intrinsically more valuable to the economy of Texas, if the proper and logical development takes place. Few, even among Texans, realize the truly great opportunity presented in the parallel development of its own gas resources and the great new chemical industries that are revolutionizing world industry. For many of these new industries, natural gas as fuel and/or raw material is indispensable. The utilization of this gas to these ends constitutes the "tide in the affairs of men," in so far as the economic development of Texas is concerned.

So, while there can be no legal restrictions on the export of this gas even to the extent that the Texas supply for industrial purposes will be exhausted in a few years, yet there is a moral issue involved; and sufficient protest by Texas people would be effective in restraining the prospective rapid exploitation of this great and highly fugitive resource primarily for the development of the industrial and civic interests of that part of the nation which already has one of the world's greatest heritages in fuel resources. Our Texas representatives should fight any congressional approval of converting the Big Inch and Little Inch pipelines to natural gas transportation.

CONCERNING TEXAS GAS

By W. H. Kittrell

(The following are quoted from *The State Observer*, Feb. 9 and Feb. 16, 1948.)

Texas Gas Aids East's Industry

The demand for Texas' diminishing supply of natural gas grows almost daily. Nelson Lee Smith, Chairman of the Federal Power Commission, whose duty it is to pass on applications for the transport of Texas gas to other states, told the American Gas Association's

annual convention in Cleveland that the Commission had granted during the previous year 132 certificates to transport natural gas amounting to nearly two billion cubic feet of gas each day, and that the Commission had before it on October 1, 1947, applications that would add four billion cubic feet daily capacity.

Forty-three per cent of the nation's gas comes from Texas and more than half of the new applications involve Texas gas. These applications, granted and pending, will draw more than eleven hundred billion cubic feet of gas each year from Texas' limited supply and will shorten the already limited life of our gas supply by several years.

If Texas' gas supply continues to be dedicated to pipe lines serving other states, industry will no longer come to Texas. They had rather have the gas brought to them.

Texas Gas Now Used in One-Time Greatest Gas Field

Twenty years ago the gas field at Monroe, Louisiana, was believed to be the largest in the world, with reserves of 22 trillion cubic feet. Since then larger fields have been discovered, including the Panhandle and Hugoton fields and the reserves in the Rio Grande field, but recently it was learned that Monroe's gas needs are now being met by gas coming from the Carthage field in Texas.

In the meanwhile the consumption of gas from the Panhandle and from Hugoton has increased so rapidly that a representative of the Natural Gas Pipeline Company of America, appearing before the Federal Power Commission, stated that in his opinion the remaining reserves of those vast gas fields would not support another large diameter pipe line.

The Hugoton gas fields of Oklahoma and Kansas are related or connected with the Texas Panhandle field, so that it is possible for the Federal Power Commission to authorize withdrawals in Kansas and Oklahoma that will deplete the Texas supply.

The area covered by these fields was once the home of the vast and inexhaustible herds of buffalo that became extinct in a few years. There should be a lesson to be drawn from this experience.

Atomic Bomb Not Best Kept Secret

The best kept secret since the atomic bomb is the rapid exhaustion of the natural gas reserves of Texas. The State's declining supply of gas is being rapidly irrevocably committed to the interstate pipe line companies. Before long the State will wake up to the tragic realization that the world's richest industrial treasure has vanished, leaving abandoned industries and stranded population after paying a pittance to a few landowners and an insulting small amount in production taxes.

From Cow Chips to Cow Chips

A western Oklahoman, commenting on the statement that 90 per cent of Oklahoma's remaining natural gas reserves had been dedicated to interstate pipe lines, said, "If I were asked to deliver the graduation address to my old high school, out there in the treeless plains of western Oklahoma, I would choose as my subject, 'From Cow Chips to Cow Chips in One Generation.' "

Texas Gas Refills Empty Fields of Michigan

An interesting development affecting Texas' diminishing supply of natural gas is found in the growing practice of pumping natural gas transported from Texas by pipe lines into exhausted oil fields in states that have used up their supply of natural gas.

One of these large projects is that of the Michigan Gas Storage Company which early in 1947 secured ownership of declining or abandoned gas fields in three Michigan counties for the purpose of refilling these empty natural reservoirs with gas transported from Texas by the Panhandle Eastern Gas Company. The gas will be pumped into these fields by the use of compressors of tremendous size.

The gas for this purpose is obtained from the pipe line company in the summer, when the need of gas for heating is low. It is pumped back into the old gas reservoirs to be stored until winter when the pipe lines' capacity is overtaxed. The consumers company says when the field is completely repressured, a matter requiring several years, there will be sufficient gas to supply its customers for 25 years, after allowing for doubling the demand during that time.

It can easily be foreseen that Michigan houeswives will be burning Texas gas after Texas reserves have been diminished to a point that Texas' needs can no longer be met.

Texas Makes Gasoline From Natural Gas

Defense Secretary Forrestal's proposal that the U.S. support a synthetic oil industry to supplement America's inadequate oil reserves lends additional significance to such industries as the Carthage Hydrocol plant near Brownsville, which is to make an entirely new and tremendously valuable use of natural gas. Situated on the edge of the great gas fields of the Rio Grande Valley, this plan using a process invented by a brilliant young Texan, P. C. Keith, converts natural gas into high grade gasoline, and in the process extracts many valuable byproducts bearing such strange names as formaldehyde, ethylene, formalin, and aromatics. These products are used in the chemical and plastic industries.

Not far away, these same rich products, a part of the heritage of Texas, are being utterly wasted in the Seeligson field, where the operators are restraining the Railroad Commission from interfering

with this waste by an injunction that ties their hands. A recent decision by the Supreme Court of Texas gives a basis for hope that the Commission will be able to stop this waste of 250 million cubic feet each day.

STOP LOOTING OUR GAS!

By W. H. Kittrell

(Reprinted from *Scene Magazine*, October, 1947.)

All Texans know that at the beginning of this century millions of tons of sulphur, billions of barrels of oil and trillions of cubic feet of natural gas lay beneath the surface of the soil of Texas, and that billions of feet of virgin timber stood along our Eastern borders.

In commencement addresses, at civic luncheons and in political speeches we have all heard time and again the legend of the Vast and Inexhaustible Natural Resources. It's an old story—folklore with a Chamber of Commerce accent. Like most folklore, it is more interesting than accurate.

Vast as these resources were, and rich as they remain, they are not inexhaustible. The pine forests are no longer virgin. They have been ravished and removed, leaving in their place stumps and scrawny stands of slash pine and a stranded population.

In a century or less, much of our agricultural land has passed from new ground to marginal land and finally to abandoned farms, deserted by the sharecroppers who attended them in their dying years. Much of our richest soil has already passed the peak of productivity and is on the down grade.

Two wars have driven the owners of the grass lands of the plains to break the turf and plant grains for a hungry world. The dust bowls of the thirties followed the first world war and greater dust bowls will follow this one.

The underground rivers and lakes have been hunted down and appropriated. From the Panhandle to the Winter Garden, the story is the same—the water table is falling. In the underground water supplies along the coast, the story is different but no more encouraging. There the salt content is rising.

What of the oil and gas and sulphur? Let's pass lightly over the sulphur. It is owned by shrewd people. They aren't going to waste any of it. With great ingenuity they bring it to the surface, where ships are laden with it for all the industries that may require it, and mighty few of them are in Texas. Sulphur pays taxes, too; not enough to suit folks like me, but it runs into lots of money and every service a state government renders its people is enriched by it.

For the last sixteen years oil has been produced under laws and rules that tend more and more to insure the greatest practical recovery. The days of production practices that wasted the oil are numbered. We are on the second half of our supply of oil. In two or three decades we have used half of our oil reserves that took hundreds of millions of years to create. Thanks to a lately enlightened industry, and to Col. Ernest O. Thompson's labors on the Railroad Commission, we are going to get a lot more out of the last half of our oil than we did out of the first half. Technical advances in the methods of searching for oil may bring us a pleasant surprise in the years ahead. But it won't last forever. Many of us may see in our lifetime the effective end of oil discovery in Texas. And two generations will see the end of worthwhile production.

The oil industry pays a lot of government bills, too. They pay reluctantly, fighting taxes every step of the way, but they do pay. Our schools and roads are beneficiaries of it. If I had my way, the schools of the future would be helped, too, by the yield of a severance tax on oil divided between the permanent school funds of the county where it is produced and the permanent school funds of the State. The oil companies are not worried about that sort of tax, though the users of tax monies want theirs now.

This brings us to natural gas, which is what all the shooting is about. How much gas do we have? How much have we used, and how much of that was wasted? What did we get for it? These are important questions, and mostly questions that are difficult to answer. We had in Texas 60 trillion cubic feet of gas in 1944 according to the Federal Petroleum Administration. In 1947 the American Gas Association said we had 82 trillion.

I want to stress here the necessity for being on the safe side in accepting figures, anybody's figures, in this all-important resource of ours. To most of us the methods of measuring gas reserves are so mysterious as to border on the occult. Natural gas has a ghost-like quality. An invisible substance hidden in the deep recesses of the earth, it has ever evolved mystery and confusion. It made its first impress on history 2,500 years ago, when the Delphic Oracle used it to get mildly asphyxiated and give out with double talk.

There is a Delphian quality to talk about natural gas today, and I think all of us are a little asphyxiated or pixilated by it. Anyway, we have let a lot of natural gas with its priceless charge of hydrocarbons get away from us without getting more than a smell of it, and the rest of it seems headed away from us on the same terms.

Let's take stock of ourselves. I'm speaking now of Southwesterners, the folks who were born here, or who cast their lot among us and expect to remain here till our automobiles are powered by gasoline from Saudi Arabia and our houses are heated by atomic energy.

Folks like us ought to check up on the situation. It doesn't look too bright. Our timber vanished, our soils depleted, our water supplies, seen and unseen, badly overdrawn, half of our oil already gone—how are we and our children and grandchildren going to make a living? Don't give me the old saw that "something will turn up." I was raised in Eastland County. I remember the booms at Ranger, Hogtown and Sipe Springs bringing in millions of dollars, and I remember when Eastland County, forty-one years ago, raised sixty thousand bales of cotton. Cotton production in Eastland County today is in the hundreds instead of the tens of thousands. May the Chamber of Commerce at Cisco forgive me, but Eastland County will never see those days again.

Our oil production policy was simple: "Let'er go, Gallagher, there's lots more where that came from." We peddled a little gas, but we didn't get much for it. We are still peddling a little. We get more per cubic foot than we used to, but there's a lot fewer cubic feet of it. The next result was that in the decade between 1920, right after Ranger came in, and 1930, about the time the depression came in, Eastland County had the distinction of losing more population and increasing taxes more outrageously than any county in the entire United States. Our oil was about gone, our farm lands were sterile, and our gas production had declined to a fizzle. The developers went to to greener fields, while the natives stayed at home to wrestle with taxes, debts, and poverty.

I don't want to see that happen to the State as a whole, and for one I'm willing to try to do something about it.

What have we got to do it with? We can't slow down the oil production. It looks as if we won't do much about saving the soil. The Democrats spoiled us by providing federal funds to encourage us to conserve our soil and water. Now the Republicans have cut that down and made such planned economy illegal as well as labelling it communistic, we will have to do things like that for ourselves with our own money. A lot more soil will go down to the sea before we do that.

What have we got left? Natural gas. We have in our natural gas reserves a treasure beyond compare. It's worth more than the oil we've sold and the gas we've wasted. In it is the raw material of a new and enormous industrial empire where our sons can find gainful employment. Cities can be built around its uses. Commerce can thrive, and a prosperous citizenry can pay the taxes that will educate our children and provide the conveniences of good living. That is, we can do all of these things if we don't run out of gas.

Gas used to be the ugly duckling of the oil industry. Lack of markets and lack of pipe lines often made it a liability. When there was a market for it, it didn't amount to much—two cents a thousand cubic feet was a good price. And all anybody got out of it was the

BTU's it would yield. Some of it was charged with liquids convertible into natural gasoline. Then somebody got the idea of stripping the wet gas of its fluid charge, a half gallon or so to the thousand cubic feet. So they built absorption plants, extracted the natural gasoline, an untamed and highly volatile fluid used for blending with lower grades of gasoline, and then they popped the residue into the air. God knows how much gas was wasted in this practice. The vast Panhandle field was a gas popper's paradise.

It was hard to argue against the practice. The big gas transmission companies had come in; they had their own reserves, or deals with others who had them. The man without the connections (I use this term in its literal sense) was out of luck unless a gas popper helped him to get his part of gas while the getting was good.

The Panhandle gas fields, now spread across the Oaklahoma Panhandles to the Hugoton area in Kansas, was in effect one great gas pool. The fellow who sold his gas was selling that of his unfortunate neighbors, who had no outlet. The Legislature's sense of fair play, reinforced somewhat by the persuasive suggestions of the gas poppers and the carbon black burners prevented them from passing any laws that would work a hardship or prevent a possible temporary profit for the fellow who lacked a pipe line outlet. When the State's conscience had suffered sufficient twinges, gas popping was slowed down and finally stopped, and even the manufacture of carbon black came under scrutiny, but the sour gas bill, designed to permit the burning of gas bearing a sulphur content, revived this situation. Now sweet gas has come partly under these provisions.

It was the gas along the Gulf Coast that provided the real answer. Into the new industrial era of chemicals and plastics, the petrochemical age, the natural gas of the Texas coast fit like a finger in a glove. New and undreamed of uses were found for hydrocarbons in natural gas. Strange and costly methods were devised for using them. The face cards of American industry—Monsanta, Dow Chemical, Union Carbon and Carbide, duPont, Pittsburgh Plate Glass, the Celanese Corporation, and many others came to the Texas coast or the Houston ship channel and set up housekeeping.

In Cameron County, Carthage Hydrocol, employing a process devised by a Texas boy, is building a plant to make high octane gasoline out of natural gas, with a few thousand gallons of alcohol left over for a cost sharing by-product. Stanolind is to spend 15 million more for a plant to supplement it. Fuels and chemicals aren't all they are making out of natural gas. The hydrocarbons found in natural gas are finding a growing use in industries as components as well as fuel. Smart money, nearly a billion dollars of it, is spent or is scheduled to be spent on plants using our natural gas.

Houston's office buildings are filled with the offices of concerns that are there because of the gas using industries. The industries around

Corpus Christi depend on gas. Seven hundred miles away, Amarillo's heavy industry is keyed to a continuing gas supply. In Dallas and Fort Worth nearly all heavier industry is tied to gas lines; the power supply burns gas, and the creature comforts of home and plant and office depend on it.

Throughout the State, natural gas is the principal source of primary power for the electric utilities. Our way of life is largely built around natural gas or its derivatives. There is a certain if not easily calculable limit. The answer to the question can be based on the estimates referred to above—82 trillion, if the Natural Gas Association's pencil didn't slip, or 60 trillion if the Petroleum Administration was right.

We are now producing gas, according to the *Oil and Gas Journal* of August 9 (1947), at the rate of 8,450 million cubic feet per day, which is more than 3 trillion feet per year. Gas production has tripled in 10 years. If, as the American Gas Association calculated, we had 82 trillion left at its close, and if the use of gas continues to increase at 15 per cent per year, we will use nearly 3½ trillion feet in 1948; 4 trillions in 1949, and 4¾ trillions in 1950, leaving us with 67 trillions at the close of that year. If the consumption increases till it levels off at 6 trillion feet by 1943 or 1954, our supply will last till about 1962.

Should the figures arrived at by the Petroleum Administration in 1944 be the proper ones, our gas reserves at the end of this year will be a little over 50 trillion and we will run out of gas before the end of the decade of the 50's.

Then what will we do with our petro-chemical plants, without railroads and ship channels, and our unpaid bond issues? We have no coal to speak of; our arid hinterlands don't produce enough run-off water to supply us with hydroelectric power. What will the million people who will have been driven to the cities by mechanized farming do to meet their expenses without being on a payroll?

If I have been ungenerous in my estimates; if new and greater reserves be discovered; if more rigid controls should be imposed on gas production, our era of prosperity might last ten or twenty years longer.

Whether our gas will last ten years or thirty years makes a difference only in degree of the gravity of the situation. Forward looking Texas ought to take stock of our condition. Steps should be taken to insure the fullest use of this last remaining treasure of ours.

We cannot in fairness actually prohibit the export of gas. Hundreds of millions of dollars have been spent in good faith to take our hydrocarbons to the coal laden East to heat homes and cook meals. We probably couldn't prohibit its export by law if we were of a mind to try to. We will have to stand that drain, though I don't think we should let it go without yielding us a substantial recompense in the form of taxes. We can't turn down the request of California or of

western states that have no adequate supplies of other fuels. California, having drawn too heavily on its own gas reserves, has turned to us for part of ours, and a natural gas line is being built from the Permian basin to supply its needs.

But we can, however, move to prevent the dedication of our remaining reserves to the projected and prospective lines, and we can enact legislation that will reduce or eliminate the waste of gas in the production of oil.

We can't deprive the economy of our country of carbon black, but the use of natural gas for this purpose is so obviously an inferior one that we ought to prevent the erection of any new carbon black plants to burn for a pittance our diminishing supplies.

As a practical matter, we can't say to the landowner and the gas producer that we have to shut in their gas wells unless it is used for a purpose that will aid our industrial development, but we can develop policies that will bring this about. Oklahoma has said, though I don't know whether it will stick or not, that the production of gas at less than seven cents per MCF is economic waste and is therefore contrary to conservation laws. The Louisiana Legislature once declared it was the policy of that state to forbid the transportation of gas to any area capable of being supplied by coal, but 60 or 70 million feet of Louisiana gas is going each day into the Little Inch anyway. So I guess that didn't stand up either.

I don't know what criteria we can set up to gauge what use of gas is in the public interest, and what uses are not. Whatever we do will be resisted, ably and tenaciously. I imagine that the tough cowmen, who a century ago were killing beef at Corpus Christi and Indianola, would have made pretty short shift of anybody who claimed that the slaughter of cattle for such purpose was contrary to sound public policy.

We ought to pay due credit to the technical skill that has been applied to the processes of handling gas. The Texas Railroad Commission set up a gas conservation engineering committee that has worked out procedures for reducing the absolute waste of gas to a practical minimum, and as equipment becomes available, plants are being built for the stripping and repressuring of the gas produced in connection with oil production.

In connection with this, the program of the Humble Oil Company might be mentioned. During the war the demands of our armed forces necessitated the production of oil and more oil without relation to gas wastage. At the war's end, Humble found itself flaring 219 million cubic feet of gas out of a total of 408 million produced daily. Since that time, the Humble has inaugurated projects that have or will utilize 110 million cubic feet per day, accounting for three-fourths of the casinghead gas production. Twenty-seven additional plants are scheduled which will process 69 million feet of the

remaining 100 million, thus achieving a 90 per cent conservation of the gas produced.

An example of wasteful handling that offsets the good example is the Seeligson field, where the oil producers are successfully resisting the Railroad Commission's attempt to shut in the field until waste is reduced to a more bearable proportion.

The problem of conservation must be approached with reason and with due forbearance for the vested rights of others. It is inevitable that the cry of politics will be raised, and that cry has often been very effective in the past. Bureaucracy, socialism, communism, interference with sacred rights, disrespect for the traditions of our forefathers, violation of the Constitution, defiance of the Fourteenth Amendment, will be some of the phrases hurled.

The trouble with the proposition is that we are running out of gas. Therefore, I invite industrialists, property owners, civic leaders, college professors and plain citizens who are interested in the future of Texas, to take it on from here and form a Texas Conservation Association. I'll be glad to join if asked, and I promise not to jump on the Legislature, or grieve about the failure of the natural resource tax bills, or talk about the imposition of the 35-cent State ad valorem tax.

I haven't any fight with the Lone Star Gas Company or the United Gas Company. In fact, I think they ought to be let to go on their way, serving the convenience and necessity of the communities now dependent upon them. I won't dwell on the yield of the one-eighth of a cent tax on each thousand cubic feet of gas. And I won't propose that we take away from the interstate gas transmission companies the gas they now use, because the miracle men of science and industry have found higher uses for the hydrocarbons than burning them under a widow's coffee pot in Pittsburgh.

It would be bad, though, if petro-chemical companies that can employ thousands of well-paid people and build great industrial communities fail to come to Texas because they are afraid they can't amortize their plants before the gas wells go dry.

We don't want the petro-chemical plants along our Texas coasts to be left to decay because their reason for existence no longer exists. We don't want to see the air-conditioned office buildings emptied of their tenants because the industries they service or operate are gone. We don't want tomorrow's archaeologists poking around the ruins of River Oaks and Highland Park discovering evidence of a once high degree of civilization.

I claim no great technical knowledge of the gas industry. A spokesman familiar with that industry may be able to alleviate some of my fears. If he fools me, though, wins his arguments and then the gas plays out, I promise right now that I will haunt him until the day he dies.

I have not discussed the Rizley Bill, to strip the Federal Power Commission of its present powers. I don't believe that the FPC should be permitted to fix the price of gas at the well and neither does the FPC; but I do not think the government of the United States should be deprived of any right to guide or direct the appropriate use of its natural resources.

If we have twenty years' supply of gas and 2,000 years supply of coal, it is inconceivable that some governmental authority shouldn't have the right to consider the wisdom of dedicating our declining gas supply to the convenience of the coal burning East with its limitless supply.

I'll make one final prediction. If nothing is done to slow down the expanding consumption of our gas reserves, the Pennsylvania coal people will be applying to the Federal Power Commission or its successor for the right to transport artificial gas made from their coal to the cities of Texas over the Big Inch lines.

VALUE OF OIL AND GAS WASTE COULD CUT NATIONAL DEBT

By Paul Bolton

(Reprinted from the *Paris News*, December 28, 1947.)

Austin, (*AP*).—If some magic means could be found of immediately stopping waste of oil and gas, a sizeable chunk could be cut from the nation's national debt.

Railroad Commissioner Bill Murray—who qualifies the statement by saying he's an engineer rather than a mathematician—reaches that conclusion this way:

It's reliably estimated that if all the oil were recovered from known fields, instead of only one barrel out of each three or four in place, the value would be between $175,000,000,000 and $250,000,000,000. That's between 70 and 100 billions of barrels, priced at current prices.

If you want to restrict it to Texas, halve your figures. Then add it to the market-price value of casinghead gas now being flared into the air—some 1,325 million cubic feet per day, with an average market value of 5 cents per thousand. It figures out some $24 million a year.

All of which is Commissioner Murray's way of underlining the basic necessity, particularly to Texas, of appreciating what conservation means.

From a realistic standpoint, the commissioner says, "I know that the goal of total efficiency cannot be reached in oil and gas production; but I also know that more efficient producing methods can be found, and that waste can be reduced and reduced again—if the general public realizes its importance and demands it."

What has been done in reducing flared gas illustrates what can be done, he said.

In 1945, the flare gas problem was forcibly called to the public's attention by a statewide committee which for the first time made a survey of the actual amount of waste. This committee of engineers and oil men found a waste of 1,500 million cubic feet of gas out of a total casinghead gas production of 2,500 million cubic feet. Only 1,000 million cubic feet were being utilized.

Today, according to Railroad Commission engineering estimates, out of a total casinghead production—at an increased rate due to the increased production of oil—amounting to 3,000 million cubic feet a day, 1,675 million cubic feet of gas a day is being utilized, a gain of 675,000,000 cubic feet of gas used in two years.

That, thinks Murray, is progress. But, he adds, the State cannot be satisfied short of full attainment of the program.

The recent Supreme Court decision in the Seeligson case means, the commissioner thinks, that oil producers are going to have to enter into co-operative programs to obtain maximum conservation.

In the Seeligson case, the commission had closed down an entire oil field because of what it considered wasteful use of gas. And the court said, "whatever the dictates of reason, fairness and good judgment under all the facts would lead one to conclude is a wasteful practice, must be held to have been denounced by the legislature as unlawful."

This apparently means, Murray says, that the commission may require the utilization of casinghead gas when it is economically feasible. In some fields, it may be possible to show that it is not economically sound for each operator to take care of his own flare gas. But in that field, a co-operative, field-wide program would achieve the objective of efficient production.

As of now, plants for the handling of casinghead gas, either under construction or planned, will utilize another 800,000,000 cubic feet of flared gas.

Commissioner Murray emphasizes that saving gas and saving oil go hand in hand.

And, he says, in the field of conservation, it's later than we think. We have reached the peak of oil production.

As to natural gas, there has been a great expansion of domestic and export uses. A good index to this situation, Murray thinks, is this: Just a few short months ago, the money-markets were wide open to support the construction of great transcontinental pipelines. Today the bankers with the money are beginning to ask, "Is there enough gas left to amortize the investment?"

As Murray puts it, they're beginning to see the end.

SOUTHWEST'S OIL MEN DISCUSS GAS EMBARGO

By Howard Blakeslee, Associated Press Science Editor

(Reprinted from *The Tulsa Tribune*, May 15, 1948.)

If you want to burn natural gas, your supply may have to come from your own part of the country, under a plan for conserving the nation's great natural gas pool in the Southwest.

The plan is one of the things discussed by oil men here for the International Petroleum Exposition that opened today (May 15) to run through May 22.

The great gas pool is Texas, Oklahoma, and Kansas. Louisiana's large gas resources also have been considered as part of the plan.

There are plans to pipe gas from both these areas to the East, and possibly to other sections. The argument against it is that too much withdrawal to other sections may mean economic ruin for the Southwest. On the other side is a legal question of the rights of the nation to a great national resource.

Explaining the proposed restrictions is a report circulated here today, made by Joseph Ross of Dallas to the Dallas Bar Association.

He says that the Southwest has no coal and no great water power.

"Natural gas," he says, "is the Southwest's only low-cost indutsrial fuel. Without it, most of the other resources are worthless, for without natural gas these resources cannot be used.

"Not to regulate natural gas is to discriminate against the whole economic structure of the Southwest. Lack of regulation affords unequal protection to the southwestern manufacturer, who has no other competitive fuel available, and so unequal protection to the masses of laboring people, who would have no potentially additional sources of employment.

"The chief use of natural gas piped out of this area is for heat and fuel. But these other regions have one thousand times the fuel value in their coal reserves that the Southwest has in its natural gas."

Natural gas resources, he says, are limited. The benefits to other regions, he adds, may be short-lived because of exhaustion of the gas.

"When the choice," he says, "is between giving one region the opportunity of solving its economic problems or permitting those problems to become a burden upon the rest of the country, then it seems to be that the broad national interest requires that we adopt a policy of conservation."

He cites a Federal Power Commission ruling in 1945 in the case of the Northern Natural Gas Co., that gas may not be piped into an area for boiler fuel, where ample supplies of coal are available for the same purpose.

FOR MAXIMUM USE OF OIL AND GAS RESOURCES

(Reprinted from *The San Antonio Express*, February 5, 1948.)

The newest and youngest member of Texas Railroad Commission, William J. Murray of Houston, has posed a question which challenges the thinking of farsighted Texans:

How can the people get maximum use out of the State's oil and natural gas resources?

Commissioner Murray is disturbed—as every intelligent citizen should be—over the present waste of those irreplaceable assets. As he writes in South Texan (magazine), even when those 75 great recycling plants, under construction or blue-printed for completion within the next five years, shall be in full operation, they can process only 800 million of the 1,325 million cubic feet of casinghead gas now being burned in oil fields each day, just to get it out of the way.

Texas must do better than that. The day will come when the people will rue this generation's wastefulness. Abundant as it undoubtedly is, the State's natural gas supply ultimately will run out. Then the public will find that artificial gas made from coal or lignite will come higher. Too late the people will realize the folly of burning more than a billion cubic feet a day in useless flares. Texas Railroad Commission now is leaving no stone unturned to stop that waste.

Next to gas-conservation, Texas' most urgent related need is for more efficient crude oil production. As Mr. Murray points out, for every barrel pumped from the typical Texas well, two barrels are left in the ground, virtually abandoned.

However, petroleum engineers have devised ways to recover much of that "lost oil." A present difficulty is that producing companies show little interest in reworking the abandoned oil fields. The reason is not far to seek: at existing price-levels, recovery does not pay.

What the Texas oil industry needs, therefore, is research that could discover or devise more economical processes for bringing all that residue oil to the surface. Pennsylvania has done well in that regard: By reworking oil fields, that State has managed to remain in the oil business. It has recovered about as much oil as had been drawn from the wells in the first place.

Why cannot Texas match that showing?

IT'S A BURNING ISSUE NOW, THE WAY OUR GAS IS PIPED OUT

(Reprinted from the *San Angelo Standard*, February 27, 1948.)

If they stick a few more natural gas pipelines into Texas' vitals for siphoning off this irreplaceable fuel to coal-rich Ohio, Pennsylvania, West Virginia, and way point, and to oil-rich California, natural gas users in Texas can begin to count the years when their favorite fuel will be no more.

The Texas Eastern Transmission Corporation, which bought the Little and Big Inch pipelines from the government, has asked the Federal Power Commission for permission to step up delivery capacity of those lines by 75 million cubic feet a day to relieve the fuel shortage in Ohio, Pennsylvania and New York. These lines run from Texas to the Northeast, costing more than either the Big Inch or the Little Inch, which the corporation took over for $144 million. This third line would run parallel to the Big Inch, 1,500 miles from Longview to Philadelphia, but would also extend 400 miles to the Corpus Christi area.

Meantime, the Texas Legislature sleeps. It has several courses of procedure open to it. It might try to block the construction of any more pipelines on Texas soil for connection with interstate lines. Georgia took that method some years ago, and Pennsylvania has tried the device of denying pipelines right-of-way across the State's streams.

There is also open a more realistic tax on a severance basis, to make Texas gas less attractive to the hungry industries of the East, always in search of cheap fuel.

The alarming draining away of one of Texas' most vital resources calls for action all along the way—action to at least slow down or stop any further dissipation of our natural gas without first exacting an adequate tax for the benefit of our educational system.

The next session of the Legislature should give an accounting to the people for its previous failures to do anything about this quite literally "burning" question.

CERTAIN FUNDAMENTAL FACTS

(Reprinted from the record in the Natural Gas Investigation before the FPC, Oct. 15, 1946.)

(Issued by Louisiana State Committee.)

1. The known recoverable natural gas reserves of the nation, as of January 1, 1946, were approximately 144 trillions of cubic feet.

2. The gross annual production of such reserves, as of 1945, was in excess of five and one-quarter trillions of cubic feet, *indicating a remaining life of between twenty-five and thirty years.*

3. Louisiana's recoverable natural gas reserves, as of January 1, 1946, were approximately fourteen trillion cubic feet.

4. Louisiana's net production for the year 1945, was approximately seven hundred and thirty billions of cubic feet, *indicating a remaining life of approximately nineteen years.*

5. While these estimates do not take into account future discoveries, neither do they take into account increased usuage, which is rising at the rate of about eight per cent per year.

6. The latest trend of deeper drillings in the coastal sections of Louisiana do not indicate a preponderance of gas discoveries to that of oil.

7. *The coal reserves of the nation, including lignite, are sufficient at the present rate of production and use to last in excess of five thousand years.*

8. Because of superior qualities and cheaper prices, natural gas as a fuel is gaining in popularity, and its rate of withdrawal and consumption is increasing faster than any other mineral fuel; that pending applications for new pipelines from gas producing areas, if granted, would result in practically doubling natural gas withdrawals and consumption, and a corresponding reduction in life of the reserves.

9. The price of natural gas at the wellhead is a small fraction of the price of coal at the mine mouth, when measured in thermal units of heating power, which fact is conducive to increased displacement of coal by natural gas as a fuel.

10. Approximately fifty per cent of Louisiana's present marketed production of natural gas is now leaving the State through interstate pipelines, much of which is going into the heart of the largest coal fields in the world.

11. The replaceability of natural gas, through the gasification of coal, would prove expensive and impractical from the standpoint of present gas producing areas.

12. The supplanting to any extent of natural gas as a fuel by atomic or nuclear energy is at best in the laboratory stages and a long time off.

13. A dependable, long-term supply of natural gas, or some other native fuel, is a vital factor in the location of industry.

14. While the Interstate Oil Compact Commission is a vital force in the conservation of oil and natural gas, it can only act in an advisory way and is without authority to enforce its views and recommendations.

15. This Commission, under the Natural Gas Act as now written, has authority to consider matters of conservation and the end uses proposed to be made of the gas in certificate applications, and should, in the broad public interest, consistently invoke and exercise such authority. (See Decision of the U. S. Supreme Court in the case of Federal Power Commission vs. Hope Natural Gas Company, 320 U. S. 591.)

16. State authority standing alone is powerless to protect properly and completely and to conserve its natural gas resources without the aid and assistance of this Commission, where interstate commerce is involved.

17. Most of the natural gas is produced in the Southwest and the Midwest, which areas have a short supply of other fuels and are underdeveloped industrially with top-heavy agricultural economies.

18. Most of the coal for industrial uses is produced in the Appalachian or Northeastern area of the nation where the greatest degree of industrialization has taken place.

19. Considerations of natural welfare, including national defense, betterment of social conditions, labor supply, conservation and development of backward regions, all suggest that the underdeveloped regions of the nation be industrialized.

20. Industrialization of substantial portions of the South and Midwest cannot be accomplished without assuring adequate supplies of the natural gas produced in such regions, and the provision therefor is in the public interest.

21. Continued granting of natural gas pipeline certificates will result in ultimate loss, inconvenience and confusion to both the transporter and the consumer, because:

(a) The indiscriminate granting of certificates will jeopardize both the reserves and the markets of competing pipelines.

(b) The indiscriminate granting of certificates will bring about wholesale conversion of industrial and domestic equipment from other fuels to natural gas to be followed later by another conversion away from natural gas in a relatively short period of time.

22. Continued granting of natural gas pipeline certificates will result in economic upsets and deprivations both in the producing and consuming areas, because:

(a) The producing areas of the Southwest and Midwest will be denied the right of developing industrially and balancing their economies so as to absorb the vast multitude of farmers and farm workers that are being and will be displaced by farm mechanization, which program will displace one-half of the South's farmers and farm workers in the next ten years.

(b) The consuming areas will lose thousands of workers in the process of conversion from other fuels to natural gas, including mine workers who produce the coal, railroad workers who transport the coal, and other industrial workers.

23. The free and unhampered utilization of natural gas, both as to regions and functions, could at best last but a few years, would be of doubtful economic wisdom, and would ultimately result in social, economic and financial woes to producers, consumers and the general public.

24. Louisiana's known natural gas reserves do not exceed 14 trillion cubic feet, which provides a 19 years' supply based on the present rate of withdrawals. Of this 14 trillion cubic feet, a total of 5 trillion cubic feet is, or will be, earmarked for cycling, which will keep this portion out of commerce for periods ranging from 15 to 25 years. Subtracting this 5 trillion cubic feet from the total reserves of 14 trillion, there remains but 9 trillion cubic feet for current use. And since better than half this is destined for export, the State of Louisiana

has for current use, within the State itself, only slightly more than 4 trillion cubic feet for its own citizens.

25. The failure to save an ample supply of natural gas for use in the State of Louisiana will not only deprive her citizens of a fuel for domestic purposes, but will result in the permanent waste of vast supplies of baser raw materials such as sands, clays and shells, which abound in the State and which otherwise would be developed industrially with means of natural gas as a fuel, as generator of electrical energy, and as a raw material.

26. The national economy suggests, and the national interest requires and demands, that the interest of the greatest number be served. Louisiana's gas can serve the national interest to its greatest possible extent by combined and inter-related use with its other resources and raw materials in developing a great chemical industry in conjunction with such resources as salt, sulphur, petroleum cellulose from cotton, ramie, pulpwood, rice hulls and sugarcane begasse, as well as sands, clays, limestone and shell.

27. The failure to preserve a sufficient supply of natural gas in Louisiana for home-based industries will not only constitute a flagrant injustice to the State, but will deprive the national market of the greatest services and the most abundant products in the chemical field produced at the lowest possible cost.

28. The regulation of scarce resources is a well-established governmental policy and is not in contravention of free enterprise, as is shown by the action in regulating helium, gold, silver, etc., and the certain future restriction of uranium. Natural gas does not fall in the category of abundant replaceable resources such as timber, wheat, etc.

29. The transportation of natural gas is in its nature monopolistic, and the public interest must be protected by state and federal regulatory bodies in their respective spheres of jurisdiction.

30. The nation's supply of natural gas for gasoline manufacture is equivalent to 20 billion barrels of crude oil, the amount now in recoverable reserves in the United States. Since this is sufficient to double the supply of gasoline, due regard should be given to conserving at least a sizeable portion for utilization as a basic material for the manufacture of gasoline.

31. The record in case shows that the wellhead price of natural gas is far below its intrinsic value and that a better wellhead price would promote its conservation.

RECOMMENDATIONS

It is urged that the exhaustive record in this proceeding abundantly justifies and requires that this Commission find:

1. That natural gas, as a fuel or energy resource, is limited in quantity and is irreplaceable.

2. That it is ideally suited as a raw material for the manufacture of hundreds of basic chemicals, plastics and synthetics.

3. That wise use constitutes its true conservation.

4. That it constitutes an indispensable factor in the industrial development of its parent areas in the absence of other local fuels.

5. That it is not only to the interest of said areas but to the welfare of the nation as a whole that conservation and wise use be made of this limited and irreplaceable national resource.

6. That the Natural Gas Act, as now written and construed by the courts, places upon the Commission the duty to consider matters of conservation and the uses to be made of the gas, in certificate cases; that if this Commission should construe the Act otherwise, then the Natural Gas Act should be amended so as to require the Federal Power Commission to take into consideration the use to which the gas is going to be put in the consuming area before determining that public convenience and necessity requires issuance of a permit to construct the line.

7. That common equity requires, in certificate cases, that the social and economic effects on the origin as well as the destination territories to be served by new lines be considered in the granting of certificates of convenience and necessity to build and operate new interstate natural gas pipelines; therefore, the Natural Gas Act should be amended so as to require the Federal Power Commission to consider the adequacy of the fuel supply of a consuming area before determining that public convenience and necessity requires the issuance of a permit to build a line to such territory, and to prohibit the issuance of a certificate of public convenience and necessity to construct an interstate natural gas pipeline, where the construction of such a line would jeopardize the natural gas fuel supply of the producing state, based on its known resources.

8. That the production, gathering and local distribution of natural gas be left entirely to the control of the respective states, and that the Federal Power Commission be given no authority whatever to control, regulate or supervise, directly or indirectly, the production, gathering or local distribution of natural gas.

9. That the Commission should immediately seek from the Congress appropriate amendment to the Natural Gas Act, giving it jurisdiction over direct industrial sales made in interstate commerce by natural gas pipelines to prevent possible discrimination from the standpoint of both rates and service, and for the purposes of conservation and end use considerations, where necessary in the public interest.

10. That the Commission should, in certificate cases, continue to exercise, in the broad public interest, authority now given it in section seven of the Natural Gas Act, as amended, to attach, where necessary, reasonable terms and conditions of service.

11. That if, and when, service areas are prescribed for existing pipelines under the authority of section seven of the Act, as amended, that such areas be strictly construed and confined to markets to which they are now attached, and subject to redetermination from time to time.

12. That the indiscriminate right to transport and sell dump gas for inferior purposes, to create a high load factor, be limited and curtailed, for to do otherwise ignores conservation.

13. That the Commission should continue to allow, for rate-making purposes, the amount paid for natural gas by pipeline companies under arms-length contracts; that any regulation of the wellhead or field price of natural gas should be reserved to the state where the natural gas is produced; that in the event the legislature of any gas producing state should deem it necessary to regulate or fix the wellhead or field price of natural gas, the price fixed by state authority, or the actual price paid, whichever is greater, should be allowed and recognized by the Commission as the cost of the natural gas to the pipelines.

14. That to the extent that the Commission might feel that it does not now have, under the Natural Gas Act, comprehensive powers to regulate and control matters hereinbefore outlined, that it immediately seek from the Congress clarifying amendments to the Act to provide it with such authority.

AFTER THE BUTANE SHORTAGE?

(Reprinted from the *Mullin Enterprise*, February 5, 1948.)

The butane shortage now plaguing its three-hundred thousand users in Texas is a foretaste of what will be happening to the millions of Texans who use natural gas when the gas reserves are not sufficient for both the out-of-State users and the Texans served by the gas pipelines.

There is plenty of butane being made in Texas now, but so much of the supply is being shipped out of the State, much of it to enrich artificial gas used in the East and to improve the octane rating of low grade gasoline that there isn't enough left to supply the Texans whose State produces these convenient fuels. At the rate at which Texas' gas reserves are being dedicated to interstate pipelines, in a few short years coalless Texas will shiver while the gas lines under their feet transport its only practical fuel to the eastern states with a coal supply ample for two thousand years.

BUTANE PROBLEM WILL CONTINUE

By Richard M. Morehead

Austin Bureau of *The Dallas Morning News.*

(Reprinted from *The Dallas Morning News,* February 11, 1948.)

Austin, Texas, Feb. 10.—Amid warnings of future butane shortages, the State's principal distributor's voted unanimously Tuesday for continuing Gov. Beauford H. Jester's emergency fuel commission.

For three weeks, the commission has been working to increase deliveries of butane to fuel-short homes.

The industry experts warned dealers they must find supplies before taking on more customers.

Two spokesmen, Clint Small of Austin and Warren J. Collins of Lone Star Gas Company, Dallas, predicted that butane is becoming so valuable for chemicals and other uses that it may become too expensive for household use within a few years.

Joe La Fortune of Tulsa, representing Warren Petroleum Corporation, insisted that it is unfair for producers and jobbers to take the blame when appliance dealers fail to get gas.

"Something should be done about the large number of new installations which dealers make without guaranteeing a supply," La Fortune said. "Perhaps the nation is outgrowing some of its resources, including motor fuel, gas and oil."

Another Warren spokesman, Howard Felt, told how millions of gallons of butane-propane had been made available to East Texas and the Dallas-Fort Worth area as a result of Humble Oil & Refining Company temporarily releasing his company from a contract to furnish butane for gasoline blending.

The contract was made twelve years ago when East Texas gas was being wasted, Felt added.

The release made 2,250,000 gallons of extra fuel available in the East Texas area recently plus a 35,000-gallon daily diversion still going to dealers. Felt reported that seventeen dealers, mostly from Dallas and Fort Worth, are getting extra butane from Warren's Gladewater plant.

Even Sen. Fred Harris of Dallas agreed nobody can be held responsible for this winter's butane shortage. Harris demanded that the public be protected, and said some way must be found to get gas to homes, even if it might entail technical violation of anti-trust laws.

He commended Lone Star Gas Company as the only dealer which contracts to supply its customer's needs. Many of the State's 300,000 users depend upon their dealers' ability to find extra gas for them when cold weather descends.

H. C. Pittman, who serves 10,000 customers in Tyler and nearby towns, defended his company's system of distributing its emergency allocation, including some to a potato-drying plant. He claimed some dealers sold scarce supplies for premiums to "honky-tonks."

TEXAS GAS REPLACES LAUGHING GAS

By Charles E. Green

(Reprinted from *The Austin American*, June 24, 1948.)

In the lush days of New Deal spending, a late Texas official suggested a work project. It was simply a canal to connect the Colorado River of the West with the Colorado River of Texas. Not over 593 miles long, the canal would have had some way to get through the Rocky Mountains, and would have run into some rather deep trenching at places.

Digging it would, he opined confidently, create a lot of work. At any rate, it was an idea of a one-way undertaking—one that would benefit rather than harm any section of the country it affected.

This fellow's imagination stayed in the minor league, as compared with a dream of present-day Federal Power Commission, it appears from recent reports.

The newest dream, and perhaps the bulkiest, unless somebody has figured a way to drain the Pacific Ocean, is to make the used-up Pennsylvania or Appalachian oil fields a gigantic storage bin for natural gas.

Where would the gas come from? From the present natural storage in the gas fields of Texas.

Why store it in Pennsylvania? Because they need it up there for industries, and so on. And because, since the Texas gas won't last always, they ought to get it while it is available—and cheap—and hoard it in a second Fort Knox.

What would happen to Texas? Well who cares?

Along with the coldly callous idea of taking the Texas gas for the benefit of an industrial area, even if it impoverishes Texas and destroys any chance of future Texas industrial development, there are cited some sideline advantages. For one thing, when gas pressure is restored to a depleted field, then as the gas is released, it will swab up and bring to the surface some of the remaining petroleum, otherwise unrecoverable. The repressuring procedure is used widely in Texas—both with gas and with water.

Then the question of national defense is invoked. It seems national defense would be furthered somehow by the gas supply being in Pennsylvania rather than in Texas, even though existing

pipelines can transport around a hundred million cubic feet of gas out of Texas quicker than a bureaucrat can execute 17 carbon copies.

Further, the bushy brows of John L. Lewis are brought in as a shadow. With this gas in the underground storage tank, the industrial East wouldn't be dependent on his monthly whims.

But the proponents of the idea gave Texas the cruelest slur of all in seeking to plant the idea of this independence from coal without really offending the coal interests, who have something to say about industry as well as politics in the East. This gas won't last long enough to do any real harm to coal mining, they confided.

The steel shortage has been pinching the nation ever since the war. If there is to be stockpiling, if the big armament program is to continue, if equipment is to be made up to give away for recovery abroad, steel will remain so scarce for a long time that ordinary consumer needs can't be met. But the *New York Times* explained the proposed pipeline to take gas out of the ground in Texas and put it back in the ground in Pennsylvania would cost only an initial $140,000,000.

The *Times* invoked that famous word from the oil men's tug of war—integrated. "The Appalachian and Mid-Continent fields must be integrated for economic and military reasons," it pontificated. "This means that the depleted areas of the Appalachian field must become storage reservoirs for gas piped from the Mid-Continent field. The Federal Power Commission is clearly right in insisting on the provision of storage at a time when national security is uppermost in the country's mind."

The *Dallas News* has inquired how such a program, using up the whole natural gas supply in 15 years instead of the 30 or more now estimated without this scheme, would contribute to national defense.

The *San Angelo Evening Standard* commented: "Nobody in Texas, and particularly the Legislature, seems excited about the ruthless draining off of the Texas natural gas supply to compete with coal elsewhere. When it's gone, every Texas industry and every Texas household using natural gas will be left holding the sack. This irreplaceable natural resource is going away from Texas without even the comfort of knowing that it has first been made to yield an adequate tax return.

"Using Texas gas to repressure dead oil to compete with Texas petroleum is adding insult to injury."

A fitting epitaph for Texas natural gas would be the bitter comment of the Alldredge report of the Economic Committee for the South: "The only return that the South gets for its unparalleled natural resources is the wages of common labor."

THE LAW AND NATURAL GAS

By Joseph Ross

(Excerpts from an address delivered before the Dallas Bar Association, March 15, 1947.)

Much has been written about the great future that lies ahead of us and about the threshold of opportunity upon which the Southwest stands. Too little has been written about the barriers we must transcend before we attain this era of plenty. It is not something which can be plucked from a tree. As a matter of fact, disaster in the Southwest walks hand in hand with opportunity, and the choice of who shall be our companion in the years to come rests with us.

For the South and the Southwest face their gravest moments since the Civil War. We are going through a period of agricultural mechanization which could potentially produce profound problems of unemployment, displacement, racial discord, and political instability. The cotton farms, with their flame cultivators, mechanical pickers and airplane dusters are displacing scores of families at a time. Mechanical equipment on a sugarcane plantation can now eliminate nine men out of every ten. New combines are now being worked on the rice farms with two men instead of twenty-five. Everywhere the story is the same.

This impact of technological progress upon the farm worker is of such scope, that the United States Department of Agriculture predicts that the South will have to find non-agricultural jobs for five million additional men by the year 1956. In terms of the legal aspects of the specific subject we are discussing today, I want to emphasize that the solution to this problem is a matter of national interest. If the South is unable to absorb these workers in industries of its own, the mass migration of tenant farmers, sharecroppers, and negroes which will result is bound to have serious social and economic consequences to the rest of the nation. Nor is it to the national interest to dismiss this problem as a purely local one; for the prosperity of the rest of the country depends upon a prosperous South. The economy of no part of this country can withstand the depressing influence of five million unemployed people in any other single section of the country.

Declining Demand for Cotton

Nor is the picture any brighter when we analyze the future of cotton, which is the basic backbone agricultural commodity of the Southwest as well as the South; particularly in the states of Texas, Louisiana, Arkansas and Oklahoma. The normal export market for cotton is declining. Consumption of American cotton outside the United States between 1932 and 1939 dropped precipitously 46%.

On the other hand, our own consumption of foreign growths during the same period increased 69%. The peacetime cotton production of foreign countries is on the march and will absorb an increasing share of our former export business. These foreign cotton producing countries can be paid for their cotton in manufactured goods which we cannot use in payment for our cotton. Their international balance of payments position gives them a competitive edge with which we, as a creditor nation, cannot successfully compete. These international trends were under way before World War II and will become increasingly evident as the international trade situation becomes normalized.

Coupled with this export factor are domestic conditions where the competitive position of cotton is increasingly threatened by the steady rise in importance of synthetic fibers and paper products. In 1920, the United States' production of rayon totalled about 10 million pounds. In 1944, domestic rayon production came to 724 million pounds. World production of rayon increased even more rapidly during the same period of time. A steadily increasing proportion both in this country and abroad is in the form of staple fiber which can be used on cotton spinning machinery. During the war, the successful development of one denier, high-tenacity yarn has created a product which competes directly and exclusively with cotton.

In a number of products, paper also is competing more and more importantly with cotton. This is notably true of towels, tissues, napkins, window shades, plastics, twines, bags and similar products. While the wartime demand for both cotton and paper increased, this pre-war trend will certainly re-establish itself.

Moreover, it appears likely that any artificial efforts to maintain the position of cotton will not meet with the success we would have hoped for it. If the price of cotton is pegged above competitive levels, its consumption will be further restricted in relation to the lower prices of competitive synthetic commodities made of rayon and paper, and in time by the purely synthetic fibers in which we are soon to witness tremendous developments. If our export cotton is subsidized, the effectiveness of these subsidies will be ultimately lost by the retaliation of other countries. The artificial propping of cotton in any form will only serve to perpetuate the very conditions that make propping necessary.

When you bear in mind that, according to the United States Department of Agriculture, more than half the farm families of the South depend upon cotton for their cash income, the potential plight of masses of the people in the South becomes readily apparent.

And these economic factors in the field of cotton to the mechanization factors previously mentioned in the field of agriculture as a

whole, and the true scope of the South's economic problem will become clear.

While these conditions will be partially alleviated by the program for more diversified farming, upon which many sections of the Southwest have embarked, it is questionable whether this solution in itself is sufficient to cope with the forceful trends now under way.

Time to Plan For Future Is Now

I do not wish to be unduly pessimistic about the future; but I do mean to suggest that we cannot afford to take it for granted. We cannot afford to stand by and wait for these so-called blessings to descend upon us, like a visitation from above. That bright future is not a birthright to which we are entitled by virtue of our geographic location. If we are to earn our just economic desserts, we have a tough road to hew. We have got to examine our economy and its future development very carefully. Our present trend of development has grave pitfalls that we must recognize now, before it is too late.

The basic problem of the Southwest is that a large portion of its industrial operations does not support the people. Its industry creates wealth but not a balanced economy. It is an economy concentrated upon primary industries of raw material production; industries that produce basic commodities such as oil, and natural gas, but industries that do not require large numbers of people for their operation. Over 70% of the industrial income of the State of Texas, for instance, is associated with the value of products refined from petroleum, where the relationship of payrolls to the value of wealth produced is very low. As a result, in per capita income, Texas ranks 38th in the nation.

The Southwest needs to develop fabricating industries, processing industries, manufacturing industries; industries that will require large payrolls; industries that will be able to absorb the masses of the people who face the specter of unemployment because of the conditions previously outlined; industries that will convert these raw materials into finished goods. The Southwest has never truly enjoyed the fullest benefits of its own resources. It has merely produced them and left for others the final profits and the high level of employment accruing from processing and manufacture.

What are the opportunities for this type of employment creating industrialization in the Southwest? In the Southeast, there are enormous supplies of coal and potential hydro-electric power for industrialization. The rainfall is sufficient to permit the utilization of vast areas for reforestation, with its attendant pulp and paper industries.

Natural Gas—Hope of the Southwest

But in the Southwest, the situation is different. There, upon its broad spaces and its level plains, where extensive rather than intensive farming is practiced, the impact of mechanization will be the greatest. There, the effect of a declining demand for cotton will hit the hardest. But unlike the Southeast, the climate of the Southwest, with the exception of East Texas, is generally too dry to permit the development of extensive forests. It has no adequate sources of coal and water supply. It has one hope and only one for an economy in which the people can participate. That hope is natural gas. With natural gas, the Southwest faces a bright and shining future. Without natural gas, most of its other resources are worthless, for without natural gas these resources cannot be used. How we use our natural gas then, becomes a problem which affects the whole economic structure of the Southwest; a problem which, in my opinion, has far-reaching social and economic ramifications upon the whole country, and a problem, therefore, which is charged with a national as well as a regional public interest.

The reason for the strategic character of natural gas, far beyond the significance of its actual dollar value, is not difficult to find when an analysis of its various usages is made. Natural gas is, first of all, the Southwest's only commercially important low cost industrial fuel. If we are to have manufacturing industries which will create large scale industrial employment in this part of the country, we must guarantee a supply of natural gas for a sufficient number of years to make the necessary risk of capital an attractive one. Furthermore, natural gas is at once the domestic fuel of the Southwest and the source of power for the generating of most of our electricity.

Second, natural gas is vital to the present conservation measures already being taken in the field of oil and gas because it is a primary source of power for repressuring and recycling operations in the field.

Third, natural gas furnishes the basic raw materials for natural gasoline, and our supply of helium comes from natural gas reservoirs also.

Four, it furnishes the basic raw material for carbon black, which is vital to our new domestic rubber manufacturing industry.

Fifth, natural gas is necessary to heating processes in which it is important to maintain the temperature within narrow limits, or to expose the metal for sharply limited periods of time. Thus, it is vital to the entire metal industry, which many people predict will be the symbol of our postwar world. This is particularly true in connection with the gigantic magnesium industry established on the Gulf Coast. It is also true for aluminum, glass and clayware.

Sixth, natural gas is one of the fundamental foundations of the new chemical industry of the hydrocarbons, which reached its peak developments during World War II. The momentous importance of the chemical industry cannot be underestimated. It is as significant to the economic history of the Twentieth Century as the steam engine was to the Eighteenth, and the discovery of the Bessemer steelmaking process was to the Nineteenth Century. It is significant because it provides for a large portion of modern industry new, cheaper, and in many cases, qualitatively superior raw materials than these industries previously enjoyed. It is significant because it will revolutionize the foundations of modern industry. Where formerly it rested upon our coal and iron resources, it will cluster in the future around our natural gas and petroleum resources.

Chemical Industry Depends on Gas

Some of the raw materials supplied by the chemical industry are rayon, cellophane, cellulose, acetate, nylon, plastic leather, as well as synthetic rubber previously mentioned. Other raw materials are solvents, fertilizers, dyes, synthetic protective floor coverings and finishes.

Mr. Elmer Johnson, the industrial geographer of The University of Texas, has stated: "One of the features of this industry is the simple but astounding fact that it has already risen to be one of the big three or four of the great industries of the world."

It is the kind of industry that can affect every phase of the economy: agriculture, through scientific farming achieved through the proper chemical fertilizers; light and heavy industries, through chemical processes in conjunction with the production of lightweight alloys and steels; fuel, through new cracking and refining processes; manufactured goods, through the use of a host of plastic products and synthetic materials, previously mentioned.

All these remarkable vertical and horizontal penetrations into every facet of our American economic life are possible because of the hydrocarbons found in natural gas as well as petroleum. During the war, natural gas was proven superior to every other base material for chemical development. Other base materials such as coal tar are limited as to their chemical derivatives. This is not true of natural gas. A distinguished chemist has estimated that over a million new organic compounds, capable of being constructed into an innumerable number of raw materials, will be produced from natural gas.

Southwest Must Control Gas Usage

It will thus be seen that for the Southwest, natural gas occupies a uniquely diversified and strategic function in the development of manufacturing industries, in the production of modern fuels, in the

conservation of oil and gas itself, in the production of lightweight metals, and in the chemical creation of a host of raw materials which can be used in the manufacture of an extraordinarily diversified number of products. It is no exaggeration to say, therefore, that the industrial future of the entire Southwest hinges upon our control of this resource and the usage to which it will be put.

I repeat, with natural gas, the Southwest faces a bright and shining future. Without it, the Southwest will ultimately have to cope with economic problems of the most critical character.

Up to now, I have merely attempted to develop the broad economic reasons for the strategic relationship of natural gas to the economy of the Southwest. Most people will agree with the general truth of what I have said. The disagreement, however, will begin at this point; for there are many intelligent and informed people who are against the further control of this resource. Their argument is economic on the one hand and legal on the other. They say it is economically unnecessary to control natural gas. They say further that it is unconstitutional to institute any form of control which will not affect equally all the citizens of the United States; that there can be no control directed primarily at geographic areas.

I want to complete the economic aspects of this problem before discussing its legal phases, so I will postpone a discussion of this latter argument to a subsequent portion of this paper.

The argument that it is unnecessary, however, rests upon several points.

Estimates of Future Production

First of all, the claim is made that our resources, proven and potential, are sufficient to take care of our requirements in both producing and consuming areas. Most of the industry would agree with the estimate of the American Petroleum Institute that we have about 140 trillion cubic feet in known reserves and that this would probably increase to 200 trillion cubic feet with new discoveries. The latest records on natural gas production, which is also consumption, furnished by the United States Bureau of Mines puts the natural marketed production of natural gas for 1946 at 4 trillion 40 billion cubic feet. On the basis of the maximum figure of 200 trillion cubic feet of reserves, including future discoveries, this gives us a national supply of about 50 years.

But even this estimate is in error, for it is generally conceded that the majority of future discoveries will come from the deeper levels. Gas from the deeper levels tends toward condensate, requiring cycling processes. These processes take from 15 to 25 years for completion, during which time the gas is off the market, so that our potential supply is reduced by this factor.

This estimate is further in error because of pending applications for new pipelines, including the possibility that either one or both of the Big and Little Inch pipelines may be used for natural gas. These additional withdrawals through additional pipelines would also substantially reduce the life span of our natural gas.

Finally, this estimate is further in error by virtue of the fact that it does not take into consideration the expanding rate of consumption of the chemical industry itself. As I have attempted to show, the impact of this industry upon our economic life is so tremendous, that no one is in a position to say that our natural gas reserves are adequate, because no one can now accurately gauge the degree of natural gas consumption which the chemical industry will absorb in its full maturity. There are some who say that only small quantities of natural gas will ever be used as raw materials in the chemical manufacture of plastics and synthetics. There is absolutely no basis for this argument. The natural gas industry in the chemical field is only in the embryonic stages of its development. The present consumption of natural gas by the chemical industry provides no basis for estimates for future consumption.

When we bear in mind these three factors: (1) new discoveries, requiring cycling processes, (2) additional pipelines, increasing withdrawals from our reserves, and (3) the expanding rate of consumption of the chemical industry, the critical character of our natural gas supply can be appreciated. It certainly cannot be stated that our supplies are adequate for the free and promiscuous consumption of this resource.

There may be some who say that despite early and continuously pessimistic predictions of imminent exhaustion, the proved reserves of natural gas have expanded steadily with increased production; that there is no reason to assume that this trend will continue. This is wishful thinking for it is axiomatic that areas available for discovery are not as extensive as they were twenty-five years ago. There are many less fields to discover. There is much less ground to explore geologically. It is always characteristic of the development of a new resource, that, for the initial period, discoveries exceed consumption. At some inevitable and inexorable point, however, this trend must become reversed. This is true not merely because of diminishing areas available for discovery but because of the expanding uses and facilities created for the consumption of the resource itself.

Here in Texas, we are suffering from a sick agricultural economy through just such a false conception of abundance as we now entertain towards natural gas. For a century, we paid no attention to soil erosion and loss of fertility through wasteful land use practice. As the land in one locality became exhausted, our farmers moved westward. Today, they can no longer move west and the day of

reckoning has finally come. In cotton, Texas ranks very low among the states in yield per acre.

(EDITOR'S NOTE: According to the Bureau of Cotton Research, The University of Texas, Texas ranked 16th among the 18 cotton-producing states in yield per acre in 1947. Texas yielded over a ten-year average 168 pounds per acre. Only Oklahoma and Florida showed smaller production.)

In corn, we rank 45th. In hay, we rank 43d. In milk and butter production per cow, we rank 45th. In terms of people, this has meant that 48% of our farmers are tenants, 19% of our farms have no milk, 62% have no fruit. It has meant that in Texas 65% of the people over 65 are on the pension rolls, the highest percentage in any state; that 70% of Texans have annual incomes below the minimum set for health. This is the reckoning which has come from the type of thinking which says: "We can afford to be wasteful. There is plenty more from whence this comes."

We cannot afford to be wasteful! We cannot afford to build our industrial future upon the guess that there is plenty more natural gas from whence this comes.

The second major argument against the control of the usages of natural gas is embodied in the statement of the distinguished American geologist, Mr. DeGolyer, who says: "As long as approximately a billion to billion and a half cubic feet of gas is being flared daily in Texas, the attempt to conserve through restrictions against the so-called inferior uses fails miserably as an attempt at conservation. No use of gas can be inferior to its burning in an oil field flare." Mr. DeGolyer is quite right. In 1945, in Texas alone, 469 billion cubic feet of natural gas was vented or dissipated into the air, and it is certainly true that any purpose to which natural gas is put is more useful than this wasteful dissipation. But two wrongs do not make a right. We are concerned with that phase of natural gas production and consumption which is controllable. The gas dissipated in oil field flares will not be adequately controllable as long as natural gas prices are at their present levels. I believe the price of natural gas will rise as an increasing proportion of it is used for more specialized purposes than heat and fuel, and that when the price does rise, it will become economically feasible to construct the facilities that will conserve the gas now burning away in the fields; but the fact that it is not feasible should not constitute an argument against those other measures of conservation now in our power to achieve.

No Substitute for Gas in Sight

Finally, there is the argument that we, who fear our supplies of natural gas will be exhausted, are ignoring the factor of technological progress. They say the future development of atomic power

and cosmic rays will harness a degree of energy hitherto undreamed of and that when these forces are harnessed, the use of natural gas will be rendered obsolete. I have implicit faith in the steady march of the physical sciences from one achievement to the next; but I believe that the great problem in connection with the commercial and cosmic rays and atomic power will not be physical but social. Man has finally reached a point in his development where his future progress is limited not by the scope of his mind, but by the nature of his soul. Einstein himself has said, in connection with the ordinary uses of atomic power, that it is not feasible until the people are educated to "a new type of thinking . . . if mankind is to survive and move towards a higher level." Dr. Vannever Bush, in his brilliant report to the President on "Science, the Endless Frontier," expressed it differently when he said, "Science by itself provides no panacea for economic ills. It can be effective for economic ills. It can be effective in the natural welfare only as a member of a team." Ignoring the question of natural defense, this atomic power need only be put into the hands of one or two perverted minds to create a situation of awesome destruction in this country. The barriers in the way of the commercial use of atomic power and cosmic rays are formidable, because man has not developed sufficiently as a social animal to be entrusted with its ordinary use.

In calculating the scope of our natural gas supply, we can hope for this new source of energy to replenish a dwindling resource in the nick of time. We cannot expend our natural gas promiscuously for this reason. Here in the Southwest when we go through a dry season, we do not wastefully consume our water on the strength of a prayer and a hope that the rains will fall; and sound policy dictates that we evaluate the scope of our natural supply only in terms of our known and certain avenues of replenishment.

I have attempted to indicate the nature of the broad economic problem of the Southwest and the vitally strategic and unique position which natural gas occupies with respect to its solution. I have attempted to indicate the definitely limited character of our supply. The sum of all this adds up to a need; a need not only of quantitative control of natural gas consumption, but a need as well for controlling the economic uses to which natural gas should be put. If we use this gas in ways for which there are other substitutes or in areas which can depend upon other resources, we will have little or no supply left for those irreplaceable functions upon which the future growth of this entire region will rest. We will be depriving natural gas of its broadest economic purpose.

The issue is from what perspective shall we look at our supply of natural gas; as individuals, or as an economic organism? Thirty to fifty years' supply, while looming large in the eyes of an individual, is but a brief episode of time to an economic region. The

whole meaning of this resource is affected by the viewpoint we choose to take, by the life expectancy of the individual as contrasted with the life expectancy of the region.

The issue is whether we intend to mortgage our future for the sake of the present! Whether we are going to make natural gas a temporary intoxicant to our economy or a fundamental cornerstone of it! Whether we are willing to permit our present lush prosperity to become an Indian summer, or whether we stand ready to preserve this resource against the assaults of economic opportunism and the expediencies of the passing hour!

NEGATIVE READING MATERIAL

WHAT ARE NATURAL RESOURCES?

(Reprinted from *Natural Resource Taxation in Texas.* Dallas, Texas, Tax Research Bureau of Texas, 1940, pp. 1–7.)

What is meant by the term "natural resources"? Any worthwhile discussion of the taxation of natural resources must be based, from the first, on a clear and definite understanding of the nature of such resources. What *are* natural resources?

The simplest definition, given by Webster's Unabridged Dictionary, is: "Capacities . . . supplied by nature."

That definition may be expanded somewhat. Natural resources are useful products of nature as contrasted with products produced artificially or with the help of man in applying nature's processes. A few illustrations will help to make this distinction clear.

Oxygen in the air, for example, is a natural resource; oxygen produced in the laboratory is an artificial or manufactured product. Salt is a natural resource as mined from the earth; but salt evaporated from brine is a manufactured product. Fruit is a natural food resource in its wild state; when it is cultivated in orchards, fruit becomes a product of agriculture. Virgin soil, with its elements of plant life, is a natural resource utilized in the growing of crops; the crops themselves are artificial products.

Coal is a natural resource; heating and illuminating gas produced from coal is an artificial product—but the kind of gas used in Texas, which is found in underground sands, is "natural gas," a natural resource. Sulphur found in an elemental form in underground deposits (brimstone) is a natural resource, but sulphur precipitated from smelter or flue gases or produced from the natural resource of pyrites is an artificial product. The native asphalt found in many parts of the world is a natural resource, but asphalt manufactured from petroleum residues is an artificial product.

Many more such examples might be given, but these are sufficient to show the difference between natural resources and artificially produced products. Broadly speaking, it may be said that everything found in its natural or native state is a natural resource: the air, the waters of our rivers and streams, the grasses, the trees, the wild animals, the minerals.

Useful Only When Developed

These resources are transformed into useful products through the discovery and application by men of the laws of nature. It is only when they are thus transformed that they have value. Natural resources, in other words, are valuable only as they are used.

This is an exceedingly important point. It is literally true that the manifold natural resources of Texas are of no value whatever until the hand of man is turned to their development and use. A hundred acres of fertile land might as well be a slice of burning desert unless it is used to produce human necessities: the raw materials of food and clothing and, in the field of chemurgy, many other essential products. A million barrels of oil lying underground actually has no tangible value until it is brought up to the surface of the earth and turned into products necessary to the continued functioning of modern civilization. A river allowed to flow at will may do more harm than good, but when its power is harnessed and properly directed it can bring incalculable benefits to mankind.

And so it is with all natural resources. Their value comes with their development and use. For the purpose of our discussion, it is well to keep in mind that governmental policies having the effect of hampering the development for use of natural resources inevitably result in lessening the widespread value of these resources. And, as we shall see, these adverse effects extend to all the people of Texas.

Who Owns the Natural Resources?

Natural resources originally were appropriated and used without regulation or control of any kind. You have read in your history books of the huge land grants made by European rulers before the American colonies gained their independence and became the United States of America. These were grants by sovereigns to individuals of the natural resource of land.

As society underwent further development, governments were established to regulate and control the appropriation and use of these products of nature. Under the regalian theory, ownership of natural resources was vested in the sovereign—that is, in a tribal chief, feudal lord, or king. This doctrine still prevails in some countries in respect to metals and minerals. In the United States, however, the reservation of royalties on minerals was discontinued in 1847.

Private ownership of property is, of course, a fundamental principle of the American economic and governmental system. Under this system, the title to any natural resource transferred to private ownership is absolute when the purchase price has been paid. Government protects the private owner in the ownership and use of his property. This protection is written into Federal and State Constitutions. The Federal Constitution, basic law of this nation, in Section 1 of Article XIV, declares that no State shall "deprive any person of life, liberty, *or property* without due process of law." The Texas Constitution repeats this inhibition, providing that no person shall be deprived of "life, liberty, *property*, privileges or immunities" except "by the due course of the law of the land."

In Texas, except in the case of specific reservation of royalties by the State, the ownership of land includes the ownership of all timber and other natural products of the soil, the fertility of the soil, and all minerals found thereon or thereunder. The landowner may, of course, sell the title to the natural resources found upon or beneath the surface of his land without transferring title to the land itself; such transfers are expressed in the form of grazing leases, mineral leases, or in the outright sale of timber or minerals. The right to make such transfers is significant in that it shows how firmly based is the landowner's ownership of the natural resources found on his land.

In modern days efforts have been made by some persons to twist the regalian doctrine that natural resources belonged to the sovereign, not to the owner of the land, into a theory that title to the natural resources rests in the hands of the people as a whole. This is the basis of many efforts to levy excessive, even confiscatory, taxes on the development of these resources. The theory runs something like this: the natural resources belong to the people; exhaustion of these resources depletes the people's wealth and the heritage of posterity; the people therefore should receive a share in the form of heavy taxes.

Under the American system of private enterprise, there is clearly no reason for acceptance of this theory. Its fallacy is immediately apparent in view of the fact that our fundamental law provides that absolute title to the resources is vested in the owner of the surface land. The owner of land under which oil is found, for instance, has as clear a title to that oil as the farmer has to agricultural products grown on his land. That is the law; it is a fundamental principle of the American Way.

Taxation of Natural Resources

One who is attempting to discuss the taxation of natural resources in Texas will do well to understand that there is at this time no direct tax on natural resources in this State. Nor is there likely to be. Such a tax would not be constitutional.

But natural resources are taxed in Texas, of course. Taxes on natural resources, as levied in this State, are known legally as occupation taxes. They are levied under the authority of the first section of Article VIII of the Texas Constitution, which reads in part as follows:

"Taxation shall be equal and uniform. All property in this State . . . shall be taxed in proportion to its value, which shall be ascertained as may be provided by law. The Legislature may impose . . . occupation taxes, both upon natural persons and upon corporations, other than municipal, doing business in the State. It may also tax

incomes of both natural persons and corporations, other than municipal, except that persons engaged in mechanical and agricultural pursuits shall never be required to pay an occupation tax."

This constitutional provision indicates that the ad valorem tax on property was expected to be the chief source of revenue from the Government, but it says that "All property . . . *shall* be taxed," with certain specified exceptions (Article VIII, Section I), and the amount and purpose of ad valorem taxes are definitely limited (Article VIII, Section 9). Notwithstanding the fact that this section has been amended three times the limitations have not been removed.

The ad valorem tax is mandatory, but the Constitution says only that the Legislature "*may* also impose occupation taxes." The device of occupation taxes, as used in Texas, circumvents the constitutional inhibition against a severance tax (that is, a tax levied upon a natural resource at the time of its severance from the earth) or other direct tax upon natural resources. The question has been raised whether this use of the occupation tax is constitutional, since the Constitution states that "persons engaged in mechanical and agricultural pursuits shall never be required to pay an occupation tax" and since it would seem that the production of nearly all natural resources is a mechanical pursuit. So far, however, the courts have upheld the authority of the Legislature to levy an occupation tax upon the producers of natural resources without any limitation as to classification or as to the amount of the tax.

Thus the only limit on taxation of natural resources, up to the point of confiscation, appears to be the discretion of the State Legislature.

STATE WON'T TAX PROPERTY OWNER IN COMING YEAR

(Reprinted from *Austin American-Statesman*, Sunday, July 4, 1948, p. 16.)

There was good news for Texas property owners Saturday from State Comptroller George Sheppard. The State is in such good shape financially, he said, that an ad valorem levy for the general revenue fund will not be made for the coming year.

Sheppard reported that the general revenue fund held a net cash balance of $65,965,691 at the end of June—the largest in history—and predicted the surplus will grow to $75,000,000 by the end of the fiscal year August 31. At the same time, he reported that revenues to the State continue to remain higher than expenditures. This, said Sheppard, reverses the national trend.

Meanwhile, State Treasurer Jesse James issued his monthly report showing the total cash in all State funds to be $168,554,336 at the end of June, another all-time record. His department predicts this, too, will be even higher later on.

Crude Tax Increases

Sheppard's report showed that crude oil tax was the big factor in Texas' unprecedented prosperity. It hit an all-time high during June of $8,300,000.

The motor fuel tax is far ahead of last year, and almost all the increase of $7,000,000 received from this source accrues to the treasury, as refunds are only slightly above last year. Sheppard explained that this means the increased consumption of motor fuel was for highway travel.

With the general revenue fund at nearly $66,000,000, Sheppard said, "It is obvious that an ad valorem levy for the general fund will not be made for the coming year with revenue exceeding spending and this whopping big surplus on hand."

A comparison of revenues to expenditures for the fiscal year to date shows income for the State at $428,872,787, and outgo at $345,475,489.

Revenue Up 38%

On a percentage basis, the Comptroller reported that revenue receipts for the State are up 38 per cent while expenditures are up only 31 per cent over last year.

Texas' prosperity is far beyond the expectations of the State's fiscal authorities at the time of the last Legislature. When the lawmakers went home after that 50th session, most were convinced they had spent every dollar in sight for the next two years.

Many spending measures died for lack of funds in sight. The Comptroller obviously could not then make any official forecast of how much crude oil production would increase, how much the price would go up, and how much more gasoline motorists would buy.

But the members of the 51st Legislature have many little, and big, items in mind with which to whittle down the whopping surplus in the general fund. One of the larger items, on which immediate action is promised when the lawmakers gather at the capitol in January is the matter of back pay for rural school teachers. This deficit in equalization aid funds which developed this year, is expected to cost some $11,000,000.

TEXAS GOVERNMENTAL SPENDING

(Compiled from figures issued by the State Comptroller's Office, the State Auditor's Office, and the Railroad Commission.)

Texas governmental spending jumped 34.5 per cent—more than one-third—in the first nine months of the fiscal year which ended August 31, 1948, as compared to this spending during the previous fiscal year.

This increase was the result of appropriations by the Texas Legislature during its 1947 sessions in Austin.

This 34.5 per cent increase—from an average of about $876,000 per day in the 1947 fiscal year to an average of approximately $1,146,000 per day during the first nine months of the 1948 fiscal year—was the largest such increase in the recent history of Texas.

But it was only slightly more than the 33.6 per cent increase in 1947 fiscal year spending over 1946 fiscal year spending. In 1946, an average of about $654,000 per day was spent on Texas governmental costs.

Another comparison is of figures for 1948 with those of 1945, the last war year. The 1945 daily average expediture for Texas government cost was about $510,000 or less than half the average daily figure thus far in 1948.

How does Texas spend its government expense dollar? Approximately 90 cents of every dollar, according to figures of State Comptroller George Sheppard for the last fiscal year, go for three major purposes: (1) education, or schools, (2) highway maintenance and road debt, and (3) public welfare, old-age pensions, benefits and retirements.

Education leads, with more than 33 cents, highways are second with more than 28, and public welfare, old-age pensions, etc., third with just over 28 cents.

But in spite of these rather startling hikes in the cost of running our State Government, including education, highways, old-age pensions, etc., State revenues have increased even faster, and Texas is in a very firm financial position.

The status of the Texas general fund is proof of this.

In spite of increased appropriations by the last Legislature which hiked State Government cost spending more than one-third, this general fund has an all-time high surplus of $62,024,507 (as of May 31, 1948).

The history of this fund, which is the major and most important fund in State finance, is interesting.

It went into the red, or deficit, position immediately after the 1929 stock market crash, and throughout the depression and during all but the last year of World War II remained in the red.

Biggest deficit, or "in the red," was reached in 1942 with a figure of $29,243,065.

Then the deficit was cut down, year by year, until August 31, 1945, the State general fund was in the black for the first time in 14 years, with a balance of $13,412,274.

No new taxes have been voted, but as State Government spending has climbed, State income has climbed faster. The fiscal year 1946 ended with $34.1 millions in the general fund. By last August 31, the general fund surplus had climbed to $49.8 millions, even in the face of the one-third increase in State Government cost spending mentioned earlier.

Texas, determined to strengthen its educational system and improve the lot of its teachers, has taken huge steps forward to back up the educational system with money.

In 1940, for example, $58.5 millions or $4.8 millions per month were spent by the State on education.

In 1945, the State Government spent $69.3 millions on education, or $5.8 millions per month.

But monthly figures in 1948 show a tremendous increase in financial support of schools.

The January figure was $19.2 millions; March, $12.2; April, $11.9; May, $15.6.

Highway building and maintenance, likewise, have gained greatly in financial support.

The State spent $53.7 millions, or $4.5 per month, on highways in 1940.

In the 1947 fiscal year, however, State expenditures for highway maintenance and construction and road debt had risen to $91.1 millions, or about $7.6 millions per month, an increase over the 1940 figure of nearly 70 per cent.

And for the first nine months of the 1948 fiscal year, the highway and highway debt expenditure totaled $87.3 millions, or $9.7 per month. This was more than twice the 1940 figure.

Expenses for public welfare, which includes old-age pensions and other benefits, likewise have received strong financial support, as the following tabulation will show:

Public Welfare Expenditures
(In Millions of Dollars)

Fiscal Year	Total	Av. Per Month
1940	$29.5	$2.5
1945	$56.0	$4.6
1947	$90.2	$7.5
1948 (9 months)	$74.6 (Est. $100. for year)	$8.3

It is apparent at a glance that 1947 public welfare expenditures tripled those of 1940, and that those of 1948 are running some 10 per cent ahead of those of 1947 thus far during the fiscal year.

Texas has heavily increased its financial contributions to care for its aged and needy in recent years.

STATE BUDGET

(Reprinted from *The Dallas Morning News*, April 11, 1947.)

The difficulty which confronts the House Appropriations Committee at Austin might have been expected. Chairman Claud H. Gilmer's data are indisputable. Legislature is already $33,000,000 beyond expected revenue. And the end of appropriations is not in sight.

Since the State is now legally on a pay-as-it-goes basis, the Legislature is up against the problem of making up its mind as to whether it will retrench or seek new tax revenues.

The allocation of $51,000,000 extra for teachers' salaries is the principal reason for the dilemma. It is also the substance of fulfillment of a primary campaign promise of most of those who ran for office last summer. There may be justification for reconsideration of the size of the appropriations, but there can be no argument about the need of substantial salary relief for teachers. If the alternative boils down to either adding new taxes or forgetting the schools, then taxes must be added.

Looking back over the State Budget figures for a quarter of a century, the layman to the intricacies of State finance wonders if there is not some way of putting on the brakes without applying the pressure to the schools. In 1920 the total State expenditures amounted $33,498,724.83, and this was considered a dizzy figure, compared with preceding years. By 1930, it had climbed to $103,672,473.22; and ten years later, despite a decade of depression and retrenchment, it had reached $165,717,612.22. For the last fiscal year, ended August 31, 1946, it was $238,616,434.15. Now the Legislature has appropriated, or is in the process of appropriating, from the general revenue fund amounts that, added to expenditures from other funds, will lift the State expenditures for each of the next two fiscal years far beyond the level of the expenditures of 1946.

Of course the growing State of Texas has necessarily spent more and more money. Its budget will continue to increase. And, of course, Legislature is now confronted with the problem of inflated costs. Yet it should do a little introspecting to ascertain whether it is not also suffering from that general legislative ailment of today—spenditis.

SPENDING-TAXING MANIA

(Reprinted from *The Houston Post*, April 11, 1947, Editorials.)

With a net cash balance of $128,000,000 in its various accounts, including some $41,000,000, in the general revenue fund—a surplus undreamed of a few years ago—the State of Texas now witnesses the amazing spectacle of legislative proposals of new levies which would extract tens of millions of dollars of additional revenues from the pockets of the taxpayers.

In fact, the House already has passed a bill levying an impost on natural gas which would practically equal the cost of the gas at the well. It is estimated to raise $30,000,000 or more of new revenue annually.

Is the Legislature trying to compete with Congress in astronomical spending figures?

Granted that post-war needs for public expenditures are abnormally huge, the taxing-spending obsession which seems to have gripped many State lawmakers is out of this world. Governor Jester has recommended appropriations virtually doubling the present budget, which, if the State comptroller's forecast of State income is correct, can be made without new taxes. But the big spenders want to go much further—tens of millions further.

Revenues from taxes now in effect are steadily swelling, due to the growth of Texas industry and business. The increased price of oil is calculated to add from eight to twelve million annually to petroleum tax revenues. *Time Magazine,* last week, counted $600,000,000 in new business investment in Texas during the recent "industrial revolution." Ad valorem taxes on this new business will enrich the State Treasury a couple of millions or more and the normal rise of revenues from all State taxes will add still more millions.

These increases, together with the enormous surplus already piled up, should take care of all requirements without saddling more taxes upon the State.

What the Legislature needs to keep in mind is that any tax it imposes on any source will ultimately have to be paid by the masses of the people. And they are taxed to death now. It behooves the Legislature to study how their burden may be lightened, rather than seeking new things to spend money for, and new things to tax.

SHOULD NATURAL RESOURCE TAXES BE INCREASED?

(Reprinted from *Natural Resource Taxation in Texas,* Dallas, Texas, Tax Research Bureau of Texas, 1940, pp. 17–32.)

We have heard much talk in recent years about the necessity for industrializing Texas—that is, for building here in this State more and bigger industries. Competent authorities agree that the future prosperity of Texas depends, in a great degree, upon the extent to which this need for more industry is met.

The State's plans for industrialization naturally are based largely on the existence of certain natural resources. We have seen that these resources become valuable only as they are turned into usable products by the application to them of capital and management and labor. Industries engaged in developing these resources can hardly make sound plans for future operation if they are faced by the threat of inequitable and constantly increasing taxes.

Does not this very threat exist in Texas? Is not the widespread discussion of the idea of increasing natural resource taxes proof in itself that the threat does exist?

It is apparent that a serious menace to the future industrial development of Texas has been created through the gradual removal of constitutional limitations on taxes.

Under the limitations originally provided by our basic law, a prospective investor in an industrial enterprise was able to determine with a fair degree of accuracy how much his taxes would amount to for a number of years in the future. These limitations unquestionably were placed in the State Constitution after due deliberation by the clear-sighted framers of that document, because they recognized the necessity of setting a limit to the amount that citizens could be called upon to contribute to the support of government. The principle which guided them was that taxation should be equal and uniform.

At the time the Texas Constitution was drawn up, wealth was represented by lands, cattle, buildings, machinery, and other tangible property. Hence the ad valorem tax method of obtaining revenues for operation of government was adopted. Limitations were placed upon the rates that could be levied by State, county, and city government. The Constitution also provided for occupation taxes, but no limitations were placed on these, since at that time these were minor sources of income.

Tax Changes Retard Development

Most of the progress and development of Texas during the last fifty years has occurred under the strict use of the ad valorem taxing system. Important changes have come about, however, during that time. Wealth and ability to pay are no longer measured by lands, buildings, cattle, and other tangible property. Exemptions from State ad valorem taxes have greatly reduced the total revenue from this source. The occupation tax, together with other forms of taxation, has been used to provide revenues for the State to such an extent that collections from the ad valorem tax now constitute a relatively minor source of the income of the State Government. During the ten-year period from 1930–1939,, State revenue from the property tax declined by more than $11 million—from $25,984,245 in 1930 to $13,963,516 in 1939.

The decline is significant. It shows that Texas constantly is getting farther away from the original guiding principle of uniformity and equality of taxation. There is no constitutional limitation on the occupation tax rates that may be levied.

These developments not unnaturally have proved discouraging to the investment of capital in new industrial enterprises in Texas. Owners of capital, big owners and little owners alike, must have some idea of where industry is going before they are willing to invest their money. In Texas today industry does not know where it is going. That is the greatest single hindrance to realization of the State's hopes for intensive industrialization.

Texas needs, and needs badly, more productive capital invested within its borders. The value of such capital to all the people of the

State should cause them to demand an end to tax policies that unjustly penalize invested capital. These policies can have no other effect than that of retarding the industrial development of Texas.

Texas has no monopoly on opportunities for industrialization. Other states want new industries just as much as Texas wants them. If Texas places undue penalties on its producers of natural resources, on the development of which the State's hopes of industrial development are largely based, states following more equitable taxation policies are certain to look more attractive than Texas to owners of capital.

We have to meet competition. Let us examine the situation in Texas and elsewhere with respect to some of this State's leading natural resources. Let us see how Texas is prepared to meet competition.

Oil

The oil industry is the most important single business in Texas. Approximately one million Texans—nearly one-sixth of the State's population—depend on oil for their living. Indirectly, all the people of the State share in the benefits resulting from the expenditure in Texas by the oil business of seven hundred and fifty million dollars a year. This amount of money, as you can readily understand, has a tremendous effect upon the economic life of Texas.

Benefits of the Texas oil industry extend far and wide. It is a large customer of the steel, cement, paint, lumber, chemical and motor car industries, as well as of electric power companies and many other interrelated businesses. Transportation of equipment and supplies used by the industry nets a substantial return to Texas railroads—a return made larger by the shipment of petroleum itself and petroleum products. Twenty-one per cent of all railroad tonnage in the State is accounted for by oil and its products.

Texas is the leading oil State of the Union. It produces each year about 40 per cent of all the oil produced in the United States. It has more than half of the nation's total proven reserves of oil. The foundation for industrial development of great magnitude is to be found in Texas' supplies of petroleum.

The *foundation* for industrial development is found in the State's oil—but *only* the foundation. The question we face is this: How is Texas prepared to meet the competition of other oil-producing states? The unavoidable answer, or at least part of the answer, is that Texas oil operators are now paying the highest tax on oil in the nation.

As has been pointed out, the State production tax of 2¾ per cent (averaging 2.94 cents per barrel) is not by any means the only tax paid by the Texas oil industry. Producers of this natural resource also pay to the State a regulatory tax amounting to three-sixteenths of one cent a barrel. State ad valorem taxes paid by the producers

aggregate slightly less than 1 cent per barrel. Other State taxes add close to another cent. Here is a total tax of only slightly less than 5 cents on every barrel of oil produced.

Yet to be added are the local ad valorem taxes paid by oil producers. These taxes, collected by counties and school districts, are equivalent to approximately 4⅓ cents per barrel on the total production.

This brings the total tax rate per barrel on Texas crude oil to an average of more than 9 cents—9.23 cents, to be exact.

Comparison of Tax Rates

Two of Texas' neighbors, Oklahoma and Louisiana, both of them important in oil production, have gross production tax rates that are higher than the Texas rate. But in these two states the *total* taxes levied on oil production average less than nine cents a barrel. [Editor's Note: Louisiana passed a new tax bill increasing the severance tax in 1948.] Both of them levy a severance tax in lieu of ad valorem taxes on oil remaining underground. But the State Government of Texas collects both a production tax and an ad valorem tax. Moreover, the Texas oil industry is subject to taxation by some 9,000 subdivisions of government.

For the year 1938, according to tax records and information furnished by State tax authorities, the average per-barrel tax levied on oil in Oklahoma was 8.4 cents; in Louisiana it was 8.7 cents. And in Texas it was 9.3 cents that year. In all other oil-producing states, the tax on oil is materially less than it is in Texas. In Illinois, which developments have made a serious competitor to Texas for the last few years, the taxes on oil amount to less than two cents a barrel.

It is a significant fact that official figures taken from State and local tax records show a sizable increase since 1935 in the average tax rate per barrel of crude oil produced in Texas. In 1935, the average tax rate per barrel was 7.6 cents; in 1936, the tax rate per barrel had increased to 8.1 cents; in 1939 at approximately 9.23 cents. [Editor's Note: In 1948 the tax per barrel is estimated at 10.2 cents.]

The competitive position of the oil industry of Texas would be weakened by further increases in the tax rate. Oil is so important to Texas that people generally are affected adversely by anything that adversely affects the industry. With Texas oil producers already having a higher tax rate than oil producers in any other state, it is difficult to understand the reasoning of those who advocate increases in oil production taxes.

Small Producer Is Victim

Such proposed increases, it should be noted, would fall with particular severity on the "little fellows" of the oil industry—the operators of so-called "stripper" wells. These wells produce one-third of all the oil produced in Texas. They constitute 59 per cent of all the wells now producing oil in the State. Outside of the East Texas field nearly three-fourths of all the wells now producing oil in Texas are on the pump.

Many of these pumping oil wells pay taxes on oil production that are considerably higher than the State average. Operators of stripper wells in many parts of the State pay taxes averaging more than 10 cents per barrel on their production. This above-the-average tax rate is due to high local taxes. Public debts contracted in counties during periods of peak production in oil fields that have since gone on the pump continue to be liquidated through tax levies made upon the oil-producing properties. The stripper well operators are now paying such a high tax rate that many of them simply could not survive increased costs. An increase in the State oil production tax would result in the elimination of many of the "little fellows" of the oil industry. That would not be a good thing for them. It would not be a good thing for the industry. It would not be a good thing for the people of Texas.

Summing up, then: Texas producers pay the highest oil tax rate of any State. [Editor's Note: Except Louisiana.] Increases in this rate would weaken Texas' strongest foundation for industrial development. It would give other oil-producing states a definite advantage over Texas. It would result in the abandonment of many stripper wells. Can the advocates of raising the oil production tax claim that these are desirable aims?

Natural Gas

Development of natural gas resources in Texas has closely followed oil development. As a result of the State's large natural gas production, numerous allied industries have been created, and these now furnish employment to thousands of Texans. In 1939, Texas produced nearly two-fifths of all the natural gas produced in the United States. This resource is of vast importance to all the people of Texas.

Existence in this State of an adequate supply of natural gas is responsible, to a large extent, for the industrial development that Texas is experiencing at present and that all of us hope will be intensified as time goes on.

When Texas chambers of commerce list industrial assets possessed by their cities, they invariably place the availability of natural gas high on their lists. And with reason. Natural gas is the ideal fuel

for modern industry. It is one of the most outstanding of the numerous advantages that this State is able to offer to industry. As an industrial fuel, natural gas is cheap and efficient and plentiful and clean. It is responsible for the "smokeless skylines" of numerous Texas cities.

Natural gas is the ideal industrial fuel. And it is interesting to note that the domestic consumer of natural gas—that is, anybody who uses this fuel for heating or cooking or refrigeration or any other purpose—benefits directly from the increasing use of gas by industry. The industrial business helps to keep domestic rates at a lower level than would otherwise be possible.

This is easy to understand. The industrial business is steady and constant; it is a measurable and known quantity that can be counted on from the time a contract is signed with an industry. Domestic consumption, on the other hand, fluctuates violently from season to season, even from hour to hour—but the gas company must be prepared at all times to supply this demand whenever and wherever it arises. The increasing use of natural gas by industry provides a regular outlet for a known quantity of the fuel and is therefore a stabilizing influence. The domestic consumer gets lower rates as a result.

Here in Texas the price of the gas at the well is one of the smallest items in the cost of maintaining gas service. It is obvious that only a well-equipped system with command of adequate gas reserves and connected to numerous gas fields could provide the kind of service demanded by consumers. A company producing and distributing natural gas is primarily a *service* institution; it has to be. The chief cost elements are to be found in the production, transportation, and distribution of the gas, and in all the other innumerable activities necessary to provide a reliable supply of gas as soon as the customer turns on the burners of his stove. And to these cost elements must be added yet another: that of taxes.

Tax Rates on Gas

The production tax on natural gas in Texas was 3 per cent of value in 1939. [Editor's Note: In 1948 the tax is 5.2% of value.] But that is not the only tax paid by producers of natural gas. As a matter of fact, a company engaged in the production and distribution of natural gas in Texas pays more than *fifty* different taxes. And the total amount paid in dollars and cents runs into big figures.

One large Texas company estimates than for 1940 its total taxes were equivalent to all the net earnings of the company for 245 days. Payment of these taxes required 16.26 cents of every dollar of gross revenues received by the company. They were equivalent to $1.02 for every gas bill rendered every month throughout the year.

Recent figures for the whole State show that the average Texas gas company pays $651 in taxes per year for every employe of the company!

In the case of gas, as in the cases of other natural resources, we find that the Texas producer pays more taxes than producers in other states. In Oklahoma and Louisiana, for example, two of Texas' neighbors that produce natural gas, it is to be remembered that gross production or severance taxes are in lieu of ad valorem taxes, while in Texas the production tax is in addition to the State and local ad valorem taxes. In each of those states the total tax on natural gas is substantially below that of Texas. [Editor's Note: See recent tax increase in Louisiana.]

Natural gas as found in Texas is the *ideal* industrial fuel—but it is not the *only* industrial fuel. No matter how great the preference of industry for natural gas, it cannot be expected to choose this fuel if excessive taxation results in its competitive position being weakened. Natural gas, like the other resources of this State, has to meet competition. Upon the tax policy of the State depends the answer to the question of whether or not it will be able to meet competition.

Sulphur

You probably have heard or read the statement that the United States has a "world monopoly" on sulphur. You probably have been told that Texas itself produces nearly all the sulphur produced in the world. Such a statement is sometimes offered as evidence that, regardless of how heavily sulphur production may be taxed in Texas, the world will be forced to continue to use Texas sulphur.

This is a mistaken idea. Texas does indeed produce about three-fourths of the native sulphur (or brimstone) produced in the United States—but this State's annual production constitutes, on an average, approximately 24 per cent of the world's total annual requirements of sulphur. That does not sound much like a world monopoly, does it?

An important fact, one with which many persons apparently are not familiar, is that native sulphur accounts for only about 37 per cent of the total quantity of sulphur used in the world. The principal source of sulphur is not the brimstone produced in Texas. It is rather an iron sulphide ore called pyrites. This iron sulphide ore, which contains from 40 to 48 per cent sulphur, is produced in twenty-three different countries. It supplies a greater percentage of the world's total requirements of sulphur than does the brimstone found in Texas.

The percentage of the world's sulphur needs at present supplied by brimstone could be reduced still further. Largest single use of sulphur is for the production of sulphuric acid, and both native

sulphur and pyrites are used in producing sulphur acid. The manufacturer of the acid can choose between the two. His choice obviously will be determined by such economic factors as price, availability, and dependability. This means that in the production of sulphur the United States, far from having a world monopoly, is engaged in constant unremitting competition with twenty-three other countries.

Taxes levied on any product have to be added to the final cost of the product. That is as true of sulphur as it is of anything else. And since the brimstone produced in Texas is in competition not only with native sulphur produced in other countries but also with sulphur produced in this country from pyrites, there is no basis whatever for the theory that excessive taxation of sulphur will not have the effect of curtailing markets for Texas sulphur.

Foreign Competition on Increase

Significantly, while the domestic tax trend in recent years has been sharply upward, the policies of foreign countries toward their sulphur producers have been such as to encourage production. Subsidies have been established and bounties and price guarantees granted producers by the governments of many of these countries, further handicapping American sulphur in its struggle to compete in the world market. The European war has completely disrupted all international trade for the present, of course, but recent sulphur policies of foreign countries illustrate clearly the long-term handicaps being placed on United States sulphur. In Italy, export sales were promoted through a central sales bureau, which guaranteed a minimum price per ton; Australia paid producers a bounty of $7 per ton; Spain and Italy prohibited all imports; the German and Russian governments employed measures designed to force production; Finland subsidized the development of pyrites; China imposed a duty of $10 a ton on sulphur imports, Brazil $1.90, Argentina $6, Hungary $6.75.

Texas has strong competition in the field of sulphur production. Nor is this competition found only in foreign countries. Texas' neighboring state of Louisiana also has extensive deposits of native sulphur—and the cost per ton for taxes on sulphur produced in Texas is much greater than the Louisiana tax. [Editor's Note: See recent tax increase in Louisiana.]

The production tax on sulphur collected by the Texas State Government, we have seen, is $1.03 per ton. [Editor's Note: $1.272 per long ton in 1948.] But, as you know, this is not the only tax paid by the Texas sulphur producer. State and local ad valorem taxes and other miscellaneous levies add to the producer's total tax. In fact, the average tax on a ton of sulphur produced in Texas in 1939 was $1.77 per ton, or 13.6 per cent of value at the well.

This average tax of $1.77 per ton already has put Texas sulphur at a disadvantage in competition with Louisiana sulphur. That state levies a severance tax of $1.03 per ton, the same as the Texas production tax—but the Louisiana severance tax is in lieu of ad valorem taxes. The Texas producer, on the other hand, is taxed $1.03 per ton on production, plus year-by-year taxes on all sulphur on hand in the form of inventory, plus annual taxes on sulphur still underground. It's the old story of double taxation.

It can be depended on, furthermore, that the rate of the Louisiana tax is not going to be increased suddenly, for the rate of $1.03 per ton is written into the State Constitution. In Texas, however, the production tax rate can be increased at any time by action of the Legislature. You can see the advantage this gives to Louisiana. Taxation of sulphur production in that state is stabilized. That cannot be said of Texas.

Sulphur occupies a highly important place in the industrial pattern of Texas. The crude sulphur produced in Texas, to the ultimate profit of the entire State, is utilized in hundreds of ways. It finds its way into products that all of us use every day. Sulphur has been made available in the United States at such a reasonable cost that nearly all the important industries of the country profit by its use. This means, of course, that factors tending to increase the cost of sulphur—such as excessive taxation—tend also to affect adversely most of America's leading industries and to increase the cost of living.

Such factors have a very direct effect on Texas. This is true not only because the State produces a substantial percentage of the United States' total production of native sulphur but also because the two leading industries of Texas use immense quantities of Texas sulphur. These two industries are the oil industry and the farming industry. Sulphur is essential to the efficient operation of both.

The sulphur industry, it is readily apparent, is a valuable Texas asset. It contributes to the State every year in payrolls, taxes, purchases of supplies, and so on, considerably more than it returns to its owners in dividends. It gives employment to Texas workers, provides business for Texas transportation companies, buys Texas-made supplies. It is the basis for hopes of industrialization in certain important lines. Penalizing the producers of sulphur by increasing their taxes would give other sulphur-producing areas a competitive advantage over Texas. Can Texas afford to take such a step?

Equal and Uniform Taxation?

Revenue to the State Government from taxation of natural resources has increased enormously in recent years. Practically all taxes have increased, of course, but the records show that the jump in natural resource taxes has been much greater, both actually and proportionately, than the rise in other taxes. The oil industry *alone*

paid 44.5 per cent of all business and property taxes collected by the State Government in 1939.

We have seen, moreover, that the occupation taxes on the production of natural resources are levied in addition to ad valorem taxes. In some cases they are many times greater than the ad valorem taxes, although the ad valorem tax was conceived by the framers of the Texas Constitution to be the primary source of State revenue.

These production taxes on natural resources tend to retard industrial development because they are punitive and unequal, and lack uniformity. They are indicative to the prospective investor of a scrambled, unstable tax policy on the part of the State Government. Any increase in them is certain to hamper the industrialization of Texas.

Besides, many competent students of government are convinced that no new or increased State taxes at all are needed in Texas at this time. That includes natural resource taxes and all other possible levies. The facts on which these authorities base their belief that new State taxes are not necessary are set forth in the succeeding section.

GASOLINE TAXES REFUNDED 1947

(Reprinted from *Texas Tax Journal.*)

Statistical report for the period September 1, 1946, to August 31, 1947

Total Gasoline Tax Refund Claims Paid ..... $ 298,605.00
Total Amount Tax Refunded $14,102,941.69

By Classification	Total No. Claims Paid	% by Classification to No. of Claims	Total Am't of Tax Refunded	% by Classification to Total Am't Refunded
Farmers	277,032	92.78	$ 9,564,931.33	67.82
Counties	790	.26	121,112.81	.86
Contractors	3,791	1.27	543,702.79	.86
Aircraft	3,994	1.34	1,394,629.80	9.89
Export	406	.14	1,214,363.89	8.60
Cities	194	.06	29,142.22	.21
Oil Operators	3,370	1.11	408,150.23	3.40
Railroads	218	.07	135,311.48	.96
Miscellaneous	8,552	2.86	562,237.71	3.99
Federal Gov't	721	.11	57,459.43	.41
Total	298,605	100.00%	$14,102,941.69	100.00%

In addition there was rejected in entirety, a total of 1,146 claims. Payment declined for the reason that claims were not filed to meet the requirements of the law providing for the refund of the tax.

Total Gasoline Tax Collected September 1, 1946, to August 31, 1947 ..... $78,721,600.76
Total Gasoline Tax Refunded All Classes of Claimants $14,102,941.69
Net revenue is prorated ½ to Highway Fund, ¼ to Available School Fund, and ¼ to County and Road District Road Bond Indebtedness.
Percentage of Total Amount Tax Refund to Total Amount Collected 17.91%

Some states are considering doing away with this refunding principle and it might be a good idea for Texas to do likewise, or at least tighten up the law covering these refunds. It is possible that the 239,123,283 gallons of gasoline as represented in the $9,564,931.33 refunds to farmers, was all used for non-highway purposes, but that is a debatable question. We wonder if the farmers of Texas would be in accord with giving up this refund, if it was to be applied to building farm-to-market roads?

We think that the counties and the farmers therein would have a much better case before the Texas motorists and the Legislature if they first put their own house in order, and adopted business-like methods in handling their county road money and programs. The last Legislature passed the "Optional Road Law" and in the opinion of many who should know, it seems to be a good one (*Texas Tax Journal*, page 23, February issue), but only a few counties have availed themselves of this provision, and there seems to be a general reluctance on the part of the county officials to do so.

The motorists who live in urban communities are not philanthropists to the point where they want to be taxed to build these farm-to-market roads, for the high cost of living has hit them far harder than it has their rural neighbors.

TEXAS SCHOOL CHILDREN GREATLY AIDED BY OIL AND GAS TAXES

(Reprinted from *Texas Tax Journal*, October, 1946, pp. 15.)

Nearly half a million Texas school children had the entire cost of their schooling paid last year by taxes from the oil and gas industry, a survey by the Texas Mid-Continent Oil and Gas Association shows.

Virtually one out of every three Texas school children was educated in 1945 by oil and gas taxes, the survey reveals. In addition, the petroleum industry paid more than $8,500,000 last year in lease and royalty payments to the State Permanent School and Permanent University Funds, such payments having totaled $100,000,000 to date.

"Texas school children have an important stake in the State's petroleum industry, since over 30 per cent of them have their schooling

paid for by oil and gas taxes," Fred W. Shield, Texas Mid-Continent president said. "Last year taxes collected from the petroleum industry which went directly to the support of Texas public schools aggregated $34,205,291, against $78,478,814 from all other sources combined. The petroleum industry total does *not* include the schools' one-fourth, or $10,000,000, of the gasoline tax paid by Texas motorists on our industry's principal product.

"Using the average per capita schooling cost of $75.62, petroleum industry taxes alone paid for the education of 452,331 Texas boys and girls. They represent 30.4 per cent, or almost one-third, of the 1,490,059 scholastics last year. In many independent school districts of the State, taxes collected from the petroleum industry and its properties make up most of the revenue from all sources."

Besides taxes, Texas oil and gas operators pay large sums annually in lease bonuses and rentals and royalties to the Permanent School and Permanent University Funds. Figures from the State Comptroller of Public Accounts show that from 1932 through July, 1946, petroleum payments to the Permanent School Fund totalled $42,278,123, while from 1925 on, such payments to the Permanent University Fund aggregated $57,539,362. Petroleum payments to both funds totalled $99,817,485.

NO GAS SHORTAGE THIS SUMMER

(Reprinted from *The Austin American*, June 20, 1948.)

Ernest O. Thompson, chairman of the Texas Railroad Commission, said Friday that there will be no summer gasoline rationing.

"It now appears certain that there will be no government rationing of gasoline this summer," Thompson said, adding that there may be a shortage in some localities.

He said Secretary of Interior Krug is reported to have made recommendations to the White House to the effect that while there may be "spot" shortages of gasoline and heating oil in the next 12 months, they will not be serious enough to warrant the imposition of government controls.

He said most recent oil supply-demand estimates show that the supply will exceed the demand. The supply for the fiscal year beginning July 1, 1948, is estimated at 6,523,000 barrels daily, including domestic production of 5,589,000 barrels daily, and imports, 515,000 barrels daily.

Demand is estimated at a total of 6,453,000 barrels daily.

RAID TO BE MADE UPON TEXAS TAXPAYERS' POCKETBOOKS

(Reprinted from *Texas Tax Journal*, March, 1948, pp. 3–4.)

If the old and trite saying of "Coming Events Cast Their Shadows Before" is true, there is shaping up in Texas a pattern of the raids

to be made upon the taxpayers before the session of the 51st Legislature, come January, 1949.

Powerful minorities are quietly and forcefully at work at present seeking to crystallize public opinion and sentiment for their particular causes. Unfortunately for the taxpayers, these minorities are being aided and abetted in their work by many public officials, and this year they will receive additional help from a host of candidates, who seek to become public officials.

The taxpayers should ponder long and well upon the promises that will be made to them by the candidates, in all levels of government. Among the many benefits to be dangled before the voters will be "Farm-to-Market Roads" (worked overtime last year), "Increased Appropriations for Schools," "Additional Social Security," "Additional Pensions," "Federal Aid to Education," "State Bonus to Veterans" and many others.

It is well known that all of these programs will cost money, but it will also be told the voters that it will not cost them anything—the money to pay for it will come from the "*government*" that mythical Santa Claus, and the Government will get its funds from a small additional tax upon *natural resources*. They will not be told that no matter where a tax is levied, that all or nearly all of it is finally paid by the consumer. A tax upon oil or gasoline is paid at the gasoline pump. A tax upon natural gas shows up and is paid for in your gas bill, and this applies to all other commodities and services.

Take the proposal of the County Judges and the County Commissioners Association advocating additional taxes upon gasoline, to build farm-to-market roads. This Journal does not contend that more farm-to-market roads are not desirable, nor that in some localities necessary. At the present time remarkable headway and progress is being made on farm-to-market roads by the counties in co-operation with the State Highway Department and the Federal Government. In confirmation of this Congressman Lyndon B. Johnson has recently advised the County Commissioners of Travis County, that Texas will receive around $30,000,000 out of an appropriation bill that has already passed the Lower House in Congress, amounting to $452,288,584 for the Nation, covering highway construction for the coming fiscal year of 1948–49. Thirty per cent of this $30,000,00 is earmarked for farm-to-market roads.

We feel that the farmers themselves and the officials of the counties should do more locally in this matter, before they ask the Legislature to penalize further the motorists of Texas and its large tourist trade by additional taxation to build a hard surfaced road to every farm front gate.

In this connection we want to call our readers' attention to the refunds received by farmers on gasoline tax paid by them, and on

which it was claimed was used for non-highway purposes, for the last fiscal year ending August 31, 1947.

PER CAPITA APPORTIONMENT

(Reprinted from *Texas Tax Journal*, June, 1947, p. 18.)

Gov. Beauford Jester, frankly in disagreement with the two enacted legislative bills which raise the per capita school apportionment to $55 and fix the $2,000 minimum teacher pay, let both become law without his signature. This is as good a way as any to express disapproval and save time. The vote in each house indicated that a veto would be overridden. In any event, a veto would not solve the problem of teacher pay and the governor is not at outs with a fairer scale for the calling.

No satisfactory reply can be made to the governor's just criticism of the apportionment system. In all good conscience, the school fund should be allocated on the basis of actual attendance and not on the potential school population of each district. If this were done, the practical result would be to compel local measures for the support of schools in the amount of the difference between costs and the receipts from the State School Fund. As it is, it is possible to visualize a school district that might have 10,000 children of school age and none at all in actual attendance.

From time to time, measures are urged to permit certain sectarian schools to participate in free textbook distribution or in school transport. Their registration is subtracted from the daily public school attendance and accounts for a large part of the difference between technical and actual public school population. It is sound theory that the State is not concerned in furnishing facilities to private education, however good and useful. It would be entirely just, on the other hand, to relieve the parents of private school pupils and other taxpayers from contributing to the support of a mythical public school attendance through an apportionment based on an imaginary child sitting at an imaginary desk.

OIL INDUSTRY'S CONTRIBUTION TO TEXAS WELFARE

(Reprinted from *Texas Tax Journal*, October, 1946, p. 6.)

Nearly 900,000 Texans get their living directly from the petroleum industry, figures just compiled by the Texas Mid-Continent Oil and Gas Association show.

This huge Texas petroleum family scattered throughout the State, is made up of 211,225 workers who with their dependents total 887,145 Texans. The wage-earners of this group last year received $560,000,000 in wages and salaries, or virtually 39c of every dollar spent by the Texas petroleum industry.

The figures are included in the 1946 edition of "Important Facts About Texas Oil and Gas," just published by the association, the research and service organization of Texas oil and gas operators.

Texas farmers, ranchers and other land-owners received $215,000,000 last year in oil and gas lease royalty payments, the booklet shows. State and local tax collectors took $95,502,000, much of which went for salaries of teachers, public officials and their employees while $65,000,000 was paid the Federal Government, for a total 1945 tax bill of $160,502,000. This did *not* include gasoline taxes paid by the motoring public on the industry's principal product.

The Texas petroleum industry paid out a total of $946,536,000 last year for wages and salaries, lease and royalty payments, State and local taxes, contract drilling and geophysical prospecting, most of which went directly to Texans. These expenditures represent 65c of every dollar spent by the industry.

"This is by no means all the money expended by the Texas petroleum industry which benefits the State and all its people," Fred W. Shield, association president, pointed out. "Just as those who work for the railroads and shipping concerns and the banks receive a substantial share of their incomes from expenditures of the petroleum industry, so many thousands of men and women in other lines of business also attribute part of their incomes to petroleum. When the purchases of this industry's employees in their own communities are considered, it is readily seen that there is hardly any business in Texas which does not one way or another receive income from oil and gas. The huge payroll and other expenditures create a tremendous buying power for the necessities of life which benefits practically every line of business in almost every community in the State.

"All told, the State and its people are the direct beneficiaries of a major share of the $1,449,719,000 expended in 1945 by Texas' largest industry. A relatively small share of the money which it spends for goods and services goes out of our State."

THE EAST TEXAS OIL FIELD

(The following information was furnished by the Research Department of the East Texas Chamber of Commerce, June, 1948.)

The East Texas Oil Field, the colossus of oil fields, the largest of all known reservoirs of oil on earth, has come to be almost a symbol of magnitude—the biggest in size, considered to be almost sixty miles in length, with its width ranging from one to seven miles, spread over part of Rusk, Gregg, Upshur, Smith and Cherokee counties, biggest in production, with a record of producing, the first five years of its life, under restriction, more than one-half billion barrels. This was over half of all production in the United States for 1934. It has the biggest in reserves—4,000,000,000 barrels being a conservative

estimate of its reserve potential production; it is the biggest in refining, with 20 per cent of the nation's refining capacity and 75 per cent of Texas' refining capacity located in the boundaries of this one field.

Almost all Texas realizes that the world's largest oil field is located in its boundaries, but probably very few people in Texas realize that the very first recorded use of oil in North America by the white man was in East Texas in 1543. Survivors of the DeSoto Expedition, making their way along the Gulf Coast, were forced ashore by a storm. They took advantage of the delay to caulk their boats with pitch, the residue of oil from a seepage near Sabine Pass. Long before the coming of the Spaniards, however, the Indians knew of this and other seepages, and the red man bathed in the oil and used it as medicine. In 1859, the year of the Drake discovery well in Pennsylvania, plans were made to drill for oil near Nacogdoches but the Civil War halted these activities. At the close of the war, plans were resumed, and in 1866 the first oil well in Texas was completed as a small pumper. This led to Texas' first "boom," and firsts which were to follow: first refinery in the State, first pipeline, and first steel storage—and soon after 1890 activity in this part of East Texas ceased. The first field of importance to be discovered in the State came in 1894—again in East Texas. The City of Corsicana needed an additional water supply, and the first well put down hit a strong showing of oil at 1,027 feet. The nuisance was cased off, and drilling continued, but the unwanted, greasy fluid made its way up outside the casing, and three derricks were burned down on account of careless spectators. A company was formed, finally, and the first well made 2½ barrels a day. By the end of 1896, the Corsicana field comprised five wells, and the years' output was 1,450 barrels. Next year, the production was 66,000 barrels.

There followed, through the years, the Lucas Gusher, which changed Beaumont from a population of 9,000 to 50,000 overnight; Ranger, perhaps the most colorful field in the world until the East Texas discovery; Burkburnett; Mexia; Borger and all the time the demands for oil and gas increased and increased. The wildcats continued to go down, and then, with an impact which really rocked the oil world of Texas, America and the World—*East Texas!*

C. M. (Dad) Joiner had drilled two dry holes—real dusters, they called them, on the Daisy Bradford farm, seven miles from Henderson, Texas. But No. 3 blew over the crown block and was completed on October 5, 1930, for 225 barrels at 3,590 feet, to become the "discovery well" of the greatest oil field in the world. There had not been much encouragement about the oil prospects in East Texas. The leading geologists had assured everyone who wanted to listen that there was no oil there, and it was not until bigger and bigger wells were discovered miles from the "discovery well" that there came the realization

of what East Texas was destined to be: 27,000 wells in an area 50 miles by 10 miles roughly—the greatest field, by any yardstick that the world has ever seen.

By the middle of August, 1931, East Texas was making over 1,000,000 barrels a day. Over-production was inevitable, and 10 cents a barrel oil, with 6 cents and even 5 cents to follow, was also bound to result. It came, and the industry nearly went down under the impact of all this oil. Martial law was declared, proration was enforced, but it was to be nearly two years before the last troops would leave the field, with proration working smoothly. By 1934, the price was relatively stable at 95 cents, and has remained relatively stable ever since, due mostly to proration.

Today, eighteen years after the discovery, the East Texas field remains the colossus of oil fields, and no forecast of the remaining life of the field falls below twenty years. The January, 1948, report of the Railroad Commission shows 22,841 wells still in the field, with 22,725 of them producing now, 13,024 of them still flowing, and 9,701 on the pump. These latter wells are located around the outside fringes of the field. An estimated gross production for the year just closed is 418,271,784 barrels.

One has only to ride through the counties benefited by the East Texas field to realize fully what the field has meant in the lives of the people. Contrast the large, beautiful modern school plants, for instance, with the little one and two room frame buildings which housed the schools in the same districts eighteen years ago. There is an adequate system of excellent highways connecting all parts of this section. There are thriving towns where once existed only villages and crossroads. This all began during the years when the rest of Texas was fighting for its existence in the depth of the depression.

Most inspiring of all, possibly, is the realization that the money from the oil field is being used and has been for years to establish research for new industries and to improve agricultural methods, so that when the oil is gone, there will be other projects, other means of livelihood for the residents of East Texas.

PANOLA COUNTY GAS FIELD

(The following information was furnished by the Research Department of the East Texas Chamber of Commerce, June, 1948.)

The Panola County Gas Field, Carthage, Texas, has expanded to such a great degree in the past two years that it is now second among the prorated gas fields in the State. Only the West Sour Panhandle field surpasses Carthage in the number of producing wells and daily withdrawals. From a standpoint of total potentials, total producing acreage, and condensate production, the Panola County field comes to the front.

Carthage, a little agricultural town a few miles west of the huge East Texas oil field, came to life in 1941 when the first big gas well came in. Now, after the first rush of activity following the discovery of the State's largest gas field has died down, it is interesting to note some of the results that have come. Four years ago, Panola County had an assessed valuation of $6,000,000. Last year the assessed valuation had, by reason of oil and gas developments, risen to $37,000,000. There was a total collection by the tax assessor of $771,328 of which sum the oil interests paid into the Treasury $617,062 which represents 80 per cent. The oil companies also paid 75 per cent of 1947 Independent School Tax, amounting to $189,465.09. The Chicago Corporation, only one of many operating companies, in 1947 paid an ad valorem tax of $315,160, and a production tax of $88,263, making a grand total of taxes paid in the amount of $223,423. The total labor cost of this corporation during 1947 was $220,799, and they paid to their royalty owners during that same period $237,470. Based on Chicago Corporation royalty payments, it is estimated that the total royalty paid in this county during the 1947 period amounts to $1,500,000.

The oil companies have completed, up to January 1, 1948, a total of 287 wells, with a dual completion of 457 sands, representing a drilling cost of $22,960. The 287 producing units cover an area of 183,680 acres. The foremost geologists calculate, on a basis of scientific laboratory tests, that the area under discussion has a reserve gas supply of five trillion cubic feet. This means, in the terms of the royalty owner, as over-all income in the next twenty-five years, the grand total of $93,750,000 or the equivalent of $327 for each acre comprising the 287 producing units. Hundreds of land and royalty owners in the area mentioned have an income which makes them independent for life.

For the year 1948, there will be many additional wells drilled, and the United Gas Company has appropriated $3,500,000 for additional refinery facilities. The Chicago Corporation has appropriated $2,000,000 for plant expansion, and the Hudson Construction Company $4,000,000 for a new refinery. Next year should show an estimated $50,000,00 tax valuation, and the residents of this community can look forward with confidence to an annual tax collection of at least $1,000,000 per year for the next twenty-five years.

As to the gasoline recovery program in the county, there are at present four gasoline plants in operation in this field, and a fifth nearing completion. These plants processed a total of 294,831 millions of cubic feet of gas daily during February of last year, and recovered a total of 9,802 barrels of liquid hydrocarbons daily. It appears that the production from the Panola field is now limited by the total capacity of the gasoline plants and outlet gas lines, and with the new markets coming into the natural gas picture, there

should be a further expansion of recovery facilities in this field. New markets which will utilize gas in distant cities in the East and Mid-West will look with favor upon the prolific Carthage field as a logical source of this supply. With its enormous reserves, high pressures and strategic location, this field will be called upon to furnish a large portion of this increase in production, and the Panola field, now in its infancy of production, should enjoy a long effective life.

TEXAS SULPHUR

(The following information was furnished by the Research Department of the East Texas Chamber of Commerce, June, 1948.)

Texas Gulf Sulphur, the largest producer of elemental sulphur (brimstone) in the world, accounts for about 58% of the domestic production. Together with Freeport Sulphur, the two companies account for over one-half of the world production of native sulphur. With many other sources of sulphur recovery (pyrite ores, smelter gases, and by-products of industry) however, domestic sulphur production normally represents around 30% of the world's total. Under normal conditions the company sells 75% of its output in the United States and Canada, and the balance is sold in the world markets through the Sulphur Export Company, in which Texas Gulf has a 50% stock interest. The entire mining operations are concentrated at Boling Dome, Newgulf, Texas, one of the largest and richest known deposits of elemental sulphur in the world. During 1946 the company started construction of a sulphur producing plant at Moss Bluff Dome in Liberty County, Texas, where the company has sulphur rights. Mining operations at this site are expected to begin sometime in 1948.

More than three out of every four tons of Gulf Sulphur comes from Texas, the rest from Louisiana. The Freeport Sulphur Company, which operates Hopkins Mound, turns out around 1,000 tons of commercial sulphur per day. Texas Sulphur Company's Boling Dome Mine at Newgulf, Texas, is reported to be turning out about 6,000 tons per day. Smaller operations in Texas, such as the Duval Texas Sulphur Company at Orchard, and Jefferson Lake Sulphur Company at Clemens Dome probably account for around 1,500 tons per day. In an average pre-war year the sulphur from Texas and Louisiana hot-water mines was 28% of global output, but it is generally accepted to be much higher today.

Sulphur productions costs along the Texas coastal area are kept to a minimum by nearby natural gas fields. A sulphur "mine" is really a well, and huge quantities of hot water, heated by natural gas easily piped in, are used to bring the sulphur to the surface. Last year the six Gulf Coast Mines, five in Texas and one in Louisiana, went down into hard rock and brought up 3.8 million long tons of pure native sulphur—the "must-have" for industry. Sulphur

goes into the making of more than 32,000 every-day items, from sugar, paint and sheer rayon underwear to giant truck tires and heavy steel rails.

DEVELOPMENT OF IRON ORE IN EAST TEXAS

(The following information was furnished by the Research Department of the East Texas Chamber of Commerce, June, 1948.)

Existence of iron ore in East Texas has been known for many decades. Now, for the first time, this resource is being processed on a large commercial scale. East Texas has dreamed of having its own iron and steel industry since before the Civil War. Several small plants sprang up then, and turned out iron for the manufacture of simple household articles and agricultural implements, but this limited production came to an end in 1909. Extensive surveys of the proven iron ore reserves of East Texas have been made by the Lone Star Steel Company. Although the amount of ore is known to be great, no definite estimate of tonnage has been made public, but the metallic content of the ore ranges from 25% to 65%. Operation of the Lone Star Steel Company's blast furnace at Daingerfield has come at a time when statisticians are saying that this country's supply of the basic metal of the industrial world is showing signs of exhaustion. Utilization of this ore is made possible by two other resources of the Southwest: Oklahoma coal, and West Texas limestone.

The plant at Daingerfield is operated at the present time by Lone Star Steel Company on a lease with option to buy, the option including the Daingerfield plant, and the Oklahoma coal mines. More than 32,000 acres of ore lands, for the most part within 12 miles of the Daingerfield plant, are available for the plant use. Of this area, 2,476 acres have been test pitted and the reserves blocked out. This proven acreage contains the equivalent of 8,531,208 tons of washed limonite, and 9,997,468 tons of washed siderite.

The iron ore deposits in the immediate vicinity of Rusk, in Cherokee County, Texas, have received more attention than any of the South Basin deposits. This was probably due in part to the fact that Rusk was for many years the site of the State penitentiary, where an ore mine, blast furnace and pipe foundry were operated by convict labor, rather than to any great difference in the quantity or quality of the iron ores. The deposits occur near the top of a ridge which forms part of the divide between the Neches and Angelina drainage systems. There was fairly consistent production of pig iron from this, as well as the other East Texas mines, from 1882 to 1908, after which it died down, not to be renewed again until the exigencies of World War II made it expedient to go into the old mines once more.

TIMBER RESOURCES OF EAST TEXAS

(The following information was furnished by the Research Department of the East Texas Chamber of Commerce, June, 1948.)

About one-fifth of the land area of Texas is covered by forest growth. This forest region, larger than the State of Florida, occupying eastern and central Texas, is the western extension of the great southern forest region which lies across the southeast and south Atlantic States.

Only slightly over one-third the Texas timber area, about 12,500,000 acres, produces forest products in commercial quantities. This area occupies the extreme eastern portion of the State, and is largely confined to about 36 counties. The remaining two-thirds of the forested area of Texas is classed as "protection forest," since its principal use is as protection for the soil and vegetation and prevention of rapid runoff. Some commercial products, such as fence posts, fuel wood, and ties, are derived from the protection forest regions, but their relative commercial value is small.

Industrially, lumbering has been of prime importance to Texas since its beginning in the late fifties. Except for three food-producing industries, flour and gristmill products, cottonseed products and meat packing, lumbering has led the State in value of products manufactured until the advent of the petroleum refining industry in 1921. From 1921 to 1929 forest products were valued between forty and fifty million dollars yearly. To contrast this yearly value of forest products with that of 1946, which reached the astounding total of $135,000,000 is to realize the great strides taken by the industry through the years of first depression, then recovery, then war, then finally the peak of production following the resumption of peacetime needs of the lumbering industry.

Growing now in the heavily forested counties of East Texas is an inventory of saw-timber valued at $275,250,000. These timber lands embrace an area of 10,775,000 acres. These and many other interesting figures were revealed in the survey of timber resources which the East Texas Chamber of Commerce completed in January, 1947, after nearly a year of intensive research.

East Texas now, as a whole, is more interested in agriculture than forestry, but it is interesting to note that of the privately owned timber land totaling 10,090,000 acres, 56½% is in small ownerships belonging to 53,618 farmers and other small holders. This makes it evident that the farmer is a substantial factor in the future of more than half of the heavily timbered area in East Texas, and that education in better forestry practices through avenues and agencies open to the farmer will be a prime factor in the future of the timber industry in East Texas.

In considering the importance of the future of timber and related industries to East Texas, the fact that 46,880 people are employed directly in the area by lumbering and wood production, coupled with the 53,618 owners of small holdings of timberlands, reduces the consideration of the industry from dollars and cents to the human element, which is after all, the most important phase of any industry.

In addition to the direct returns to the timber industry on wood products and remanufactured wood products, there are other industrial considerations. For instance, freight paid on the forest products alone exceeded $8,000,000 for 1946; 10,000 trucks were required to handle the annual timber crop; 47,000 employees of the industry in the woods and in the factories earned $62,500,000 annual wages; and it can readily be seen what the timber and woodworking industries mean to the school districts in increased tax money. Another need only recently being exploited in the area is that for scientific research to determine new and wider uses for the timber, and an opportunity for many new wood-using industries to develop in this area of almost unlimited raw materials.

FIGURES THAT TALK

(Reprinted from "Ten Years of Old-Age Pensions in Texas," Texas Fact Bulletin No. 1, 1946 Series, Texas Research Institute, Dallas, Texas, p. 16.)

Original estimate of old people in Texas eligible for old-age assistance—A maximum of	62,933
Estimate of annual cost to State of providing its share of assistance to all eligible old persons in Texas, as made by the National Social Security Commission in approving the Texas law in 1936	$ 9,000,000
Number of grants authorized in first month of operation	59,999
Number of recipients of old-age assistance at end of first full year of operation	108,793
Increase in cost of Texas State Government between 1920 and 1939	371%
Increase in expenditures for public welfare in Texas between 1920 and 1939	1900%
Number of recipients of old-age assistance in July, 1942, six years after inauguration of the program	176,413
Cost to State of old-age assistance in 1944–45, most recent full fiscal year	$ 22,963,762
Number of persons on old-age assistance rolls January 1, 1946	175,836
Amount of money allocated by the Texas Legislature for expenditures for public welfare during the two-year period beginning September 1, 1945	$ 56,800,000

LOUISIANA TAX PROGRAM

(Compiled from *Texas Tax Journal*, 1948.)

Six new Louisiana tax bills became law June 8, 1948, with collections from them estimated at $190,000 per day or $70,000,000 per year. This is a 50 per cent increase in state taxes.

They were:

1. New 2 per cent sales tax. This is on retail sales over 24 cents. The old sales tax was 1 per cent, so this doubles it. In addition, it applies to many items previously tax-free. It brought the New Orleans sales tax total to 4 per cent, 2 per cent state and 2 per cent city. (Editor's Note: City sales tax has recently been reduced to 1 per cent in New Orleans.)

2. Gasoline tax, raised from 7 to 9 cents per gallon, the highest in the nation. Added costs to motorists estimated at $7,000,000.

3. Beer tax, raised from $1.50 to $10 per barrel, or about 2½ cents per bottle.

4. Tax on coin-operated gaming machines, $100 per year.

5. Natural gas gathering tax, doubled from one-half cent to one cent per thousand cubic feet. Estimated increase, $2,000,000 per year.

6. Crude oil production tax, raised from about 11 cents a barrel to between 18 and 26 cents a barrel, depending on gravity. Estimated increase, $30,000,000 per year.

Before the new taxes, Louisiana citizens were paying the state $150,000,000 per year in taxes.

Taxes Retard Industry

To get the right perspective as to how severe Louisiana's tax burden now is, it should be remembered that *before* the new taxes were added, Louisiana officials had been severely critical of the state tax structure.

"The unwieldy and complicated tax structure of Louisiana has always acted as a deterrent to industrial expansion," Jimmie H. Davis, then Governor, said in his report on the 1946 Legislature.

And on May 1, 1946, Governor Davis said in a report to the State Department of Commerce and Industry:

"There are certain barriers, tax and otherwise, in Louisiana that tend to retard further development within this state."

Following are excerpts from the March 26, 1946, report of the Louisiana Department of Commerce and Industry:

"We think it an established fact that the present tax structure of the State of Louisiana is unfavorable when compared to that of the surrounding competing states. We hope the present study underway of the Revenue Code Commission will recognize the existing

conditions in the state and recommend to the Legislature specific corrective measures.

"We also are convinced, from our contacts with executives, engineers and other leaders of industry, that Louisiana government and particularly her tax structure is looked upon with suspicion if not with downright antagonism by many of those whom we seek to attract here.

"While we know that industry as a whole wants to pay its fair share of the cost of operating state and local government, we are faced with the recurring fact that we have a so-called 'black eye,' earned during the previous decade.

"We have very few sources of raw materials in Louisiana that are not also in Texas and other southern states and with the recent developments in the petroleum field in Arkansas and Mississippi we can expect serious competition from those two border states in the next few years in our bid for that portion of industry that wants to migrate south.

"If we are, therefore, to be successful in attracting this industry to the state we must offer them an equable tax structure and at the same time guarantee them freedom from tax increases by local and state government for a reasonable time."

If that was the gloomy tax picture painted two years ago by Louisiana's own officials, what must the situation be now, with the annual state tax bill half again as large as it was then?

INDUSTRIALIZATION OF TEXAS

(From Texas Manufacturers Association.)

The industrialization of Texas is going forward with a great surge, providing high wages for many thousands of persons, and thus supporting a much higher standard of living for all than would be possible under a purely agricultural economy.

It brings wealth to the State to stimulate business, adds value to Texas' rich natural resources.

Below is a table showing the trend of industrial construction in Texas by years from 1941 through 1947, as reported by *Manufacturers Record:*

1941	$233,437,000
1942	437,823,000
1943	117,779,000
1944	61,674,000
1945	166,180,000
1946	128,905,000
1947	151,407,000
Total	$1,297,205,000

Another authoritative publication, *Engineering News Record,* compiled figures on projected industrial construction at the beginning of 1948. Here the picture is even more startling. With $842,594,000 in industrial construction scheduled, Texas had nearly one-fourth or 23.7 per cent of the projected total for the entire United States.

Engineering News Record's statistics on all projected private building as of January, 1948, are of interest also. Since they do not include government projects, they furnish an accurate picture of general economic conditions.

In the beginning of 1948, projected private building in Texas amounted to the staggering total of $2,282,864,000. Private building, as classified by *Engineering News Record,* refers to major private industrial and commercial building, as differentiated from such public construction as highways, etc. It does not include small projects, or residential housing.

This projected Texas private construction was 20.5 per cent of the projected total for the entire United States of $11,238,905,000. In other words, 20 cents of every dollar projected for the entire nation in 1948 was planned for Texas.

CHEMICALS AND NATURAL GAS

(Excerpt from a paper by G. G. Oberfell, Vice-President in charge of research and development, Phillips Petroleum Company, December 5, 1945.)

Chemists feel that the surface has barely been scratched, and that further researches will bring quick results in the preparation of new and useful chemical derivatives from petroleum materials.

Synthetic plastics alone promise to make all the other petroleum chemical developments to date appear small by comparison.

Lest the impression be left that the chemical field is an unlimited one so far as market outlets for large volumes of raw materials are concerned, it is well to point out how relatively small such outlets generally are for these raw materials.

The entire 1944 production of wood alcohol could have been produced from a single gas well of 15 million cubic feet daily capacity if near perfection conversion efficiencies were obtained.

Similarly, if all the ethane and ethylene present in the gases at the refineries and in the raw natural gases during 1944 had been converted to ethyl alcohol (generally called grain alcohol), its production would have amounted to eight times the total requirements for 1944 and 40 times the amount produced in 1940.

If the entire potential supply of normal butane in 1944 had been used to produce butadiene for the manufacture of synthetic rubber, the amount would have been four times the demand.

Chemical uses today represent considerably less than one per cent of the total natural gas consumed. This volume being of about the

same order of magnitude as the unavoidable losses occurring under the most efficient operations in the best engineering and safety practices of the industry, using the most advanced technology.

Thus the manufacture of chemicals does not promise to create any large volume of sales for natural gas.

AMOUNT OF GAS AND OIL PRODUCTS CONSUMED IN THE CHEMICAL INDUSTRY

(Excerpt from a report of the Regulatory Practices Committee to the Interstate Oil Compact Commission, December 15, 1944.)

The petroleum tonnage consumed by the chemical industry in 1940 would represent but 7/10 of 1 per cent of our 1941 crude oil production, or only ½ of 1 per cent by weight of our total petroleum and natural gas production.

Our oil and gas constituents used in 1944 for synthetic rubber manufacture represent but 2/10 of 1 per cent of our petroleum production.

Even with our expanded use for chemical production from petroleum and natural gas, it may be seen that our total production for 1944 will consume less than 1 per cent by weight of our petroleum and natural gas produced for this year.

It may be inferred from this that even the expected expanded use of gas as a raw material for chemical products will not consume, in the immediate future, an appreciable portion of our natural gas production.

GROWTH IN NATURAL GAS RESERVES

(Reprinted from "Natural Gas Reserves of the United States," a staff report by the Federal Power Commission, March, 1947, in its Natural Gas Investigation, Docket G-580.)

As noted previously, the proved gas reserves of the United States during the past 27 years have consistently increased despite a continued upward trend in production. The gross additions to reserves compared with production for 5-year periods from 1921 to 1945, inclusive, are shown below:

Additions to Reserves Compared with Net Production

(In trillions of cubic feet)

Five-Year Period	Gross Additions to Reserves	Net Production	Ratio of Added Reserves to Production
1921–1925	15.7	5.8	2.7
1926–1930	33.0	10.0	3.3
1931–1935	24.0	10.4	2.3
1936–1940	40.3	14.9	2.7
1941–1945	79.8	20.5	3.9
Total 25-Year Period	192.8	61.6	3.1

ATOMIC ENERGY

(Summary of Testimony of Dr. Edwin R. Gilliland, Deputy Dean of Engineering, Massachusetts Institute of Technology, taken from Federal Power Commission, Digest of Daily Record, Volume 1, Natural Gas Investigation, Docket No. G-580, pp. W35–36.)

Dr. Gilliland said that MIT had an operating budget of more than $1,000,000 per year for research in nuclear science and engineering and that he represented the Chemical Engineering Department on the committee to steer the program.

Atomic reactions assure for the future an almost inexhaustible store of energy which can eventually make unimportant both geographically and quantitatively the availability of common fuels, he said. One pound of uranium when decomposed gives approximately three million times as much heat as would be produced from one pound of coal. The reaction to produce this heat has been carried out at Hanford, Washington; Oak Ridge, Tennessee; and Argone, Illinois, as part of the Manhattan District project. One pound of uranium produces heat equivalent to three million pounds of coal or 36,000,000 cubic feet of natural gas.

The heat from the decomposition of uranium can be used for the production of steam which can be utilized in steam turbines or steam engines, or the heat can be used to heat air or other gases to be used in a gas turbine. Relative costs with coal at $5.00 per ton or gas at 21 cents per MCF indicate roughly that a pound of uranium decomposed would be worth $8,000.

Dr. Gilliland believed that atomic power units suitable for the propulsion of naval vessels would be available in less than ten years. The steps from these units to large industrial plants should be simple, and the timing would be largely a matter of relative costs of atomic energy as compared to conventional fuels. The trend will be first to making oil and gas out of the coal reserves, as brought out by Dr. Lewis, another witness, but within 50 years the chemical industry will be supplying the materials for an atomic power plant at costs which today would seem surprisingly low.

SYNTHETIC GAS FROM COAL

(Summary of testimony of Dr. W. K. Lewis, Professor of Chemical Engineering, Massachusetts Institute of Technology, Federal Power Commission, Digest of Daily Record, Volume 1, Natural Gas Investigation, Docket No. G-580, p. W-36.)

Dr. Lewis emphasized that natural gas was not an irreplaceable resource. Both natural gas and oil are completely replaceable by synthesis from coal. Synthetic natural gas can be produced from coal by distillation and by the Bergius and Fischer-Tropsch processes. It would not be unreasonable to look for considerable commercial development of these synthetic processes within ten years.

A resident of New England, Dr. Lewis did not expect to see natural gas brought to Boston because synthetic gas might be made there more cheaply, at about 25 to 30 cents per MCF. Development of synthetic gases might cost natural gas the loss of some of its present markets and even back up natural gas into the gas producing regions. Adding the prospects for atomic power, this might mean that natural gas reserves would never be entirely used, he said.

The essential value of natural gas both as a fuel and as a source of chemical raw materials is its cheapness. At five cents per MCF it is equivalent in energy content to good coal at about $1.30 per ton.

The gas reserves represented by the coal deposits amount to about 2,500 years supply. The only limitations to the interchangeability of coal, gas and oil are questions of economic justification, depending on such factors as location, convenience, value and the like. He said that it did not disturb him to have natural gas burned as boiler fuel because he felt that we should be able to have all the gaseous fuels needed for the indefinite future.

If large quantities of natural gas were brought into the northeastern part of the country and if the reserves of natural gas then diminished rapidly, there would be a long period of warning and the coal industry would have every incentive in the world to get into condition to take over as the natural gas ran out. The country ought not to run into any serious dislocation on that account, Dr. Lewis said.

IMPROVEMENT—AND TAXES

(Reprinted from *The Sealy News*, April 10, 1947.)

It seems to us that the people of Texas, and their Legislature, would do well to take a long look before saddling any new taxes on the people.

This is not in any way to oppose higher salaries for the school teachers. We think they are underpaid, and we think the salaries should be upped.

It is not in any way to oppose a strong program of building farm-to-market roads. Such a program is essential to the progress of Austin County citizens.

But we believe the legitimate needs of the teachers and farm-to-market roads can be met without new taxes. Gov. Beauford Jester, who ran on a platform which specifically said no new taxes were needed, was overwhelmingly elected on that platform.

Governor Jester still stoutly affirms that additional taxes are not needed. The vote of the people appears to be almost mandate to at least give the governor's program a chance to work.

On the farm-to-market road question, the facts are that Texas is at this time in a far-reaching farm-to-market roads construction

program. The program is laid out for three years on finances obtained from present revenue sources.

When this three-year program is finished, 62 per cent of all Texas farm dwellings will be within one mile of an all-weather road, and 74 per cent within two miles of such a road. To quote C. E. Swalwell, president of the Dallas Automobile Club:

"Road-building authorities believe that the money already available represents the maximum that can profitably be spent for construction in Texas in the next three years."

Texas is "getting out of the mud" already on her present revenues.

The people of Austin County are comparatively prosperous. Many own their farms and ranches, have money in the bank. They didn't get that way by jumping into any spending sprees, and we imagine they would like to have the State Government operate just about like they run their own businesses.

CAUTION IN TAXING

(Reprinted from *The Houston Post*, April 7, 1947.)

Senator George Moffett of Chillicothe, an experienced and sensible lawmaker, has taken a wise position in urging careful and thorough consideration of any tax bill that comes before the Senate State Affairs Committee, of which he is chairman.

In view of the enormous surplus piling up in the State treasury, and the steadily increasing revenues from taxes now in effect, there is a serious question whether additional tax burdens are necessary to finance the needs of government even for adequate teachers' salaries. And certainly the Legislature should not saddle any new load on the already overburdened people unless the revenue is necessary. There is no evidence that the House gave sufficient study to that question in passing the McLellan gas tax.

Texas is getting an immense new business which Louisiana's inordinately high taxes on natural resources and other industries have repelled. Are we now going to make the same mistake that Louisiana made?

THROWING BUSINESS TO TEXAS

(Reprinted from *The Houston Post*, May 25, 1948.)

Earl Long, the new governor of Louisiana, is making good news for Texas. Following the Kingfish tradition of his late brother Huey, who did everything in the grand manner, he is sponsoring a program of levies on natural resources estimated to add some $45,500,000 to the tax burden of the Pelican state.

Already Texas chambers of commerce have acclaimed Louisiana for a tax structure so repellent to enterprise that it has driven industries away to locate in Texas, which offers a more inviting

industrial climate. The results are conspicuous in the vastly greater growth of Texas, where conditions otherwise are almost identical with Louisiana's from the industrial standpoint.

Now Governor Long has proposed measures which will raise the economic board fence still higher around Louisiana. He has recommended measures, and the House Ways and Means Committee has approved them, adding 2 cents to the gasoline tax, which already is 7 cents a gallon, and doubling the present 1-cent general sales tax.

A majority of House members has joined in sponsoring a Long administration bill to tax oil production 10 per cent of the price (the present oil severance tax ranges from 6 to 11 cents a barrel, depending on gravity). Another bill introduced by a majority of House members would quadruple the present natural gas gathering tax of one-half cent per thousand cubic feet.

These measures, if passed, will more than double the Texas oil production tax, the Texas natural gas production tax, and the Texas gasoline tax. And of course Texas has no general sales tax.

If Governor Long can get his proposals through the Louisiana Legislature, Texas should give him a vote of thanks for the business he will throw our way.

THE CONSUMER ALWAYS PAYS

(Reprinted from *The Houston Post*, March 5, 1947.)

Some of our State legislators, especially younger ones, seem to have the impression that the State government can spend all the money it likes, send the natural resources industries a bill for the cost, and everything will be hotsy-totsy.

To judge by the prodigious imposts proposed on oil, gas and sulphur in pending bills, those industries are viewed as old Santa Claus in person, a sugar-angel with an inexhaustible treasury from which the most lavish extravagances can be supplied at no cost to the general public.

Those who indulge such fancies are deluding themselves. And by publicly representing that such tremendous taxes on natural resources will not affect the taxpayers generally, they are deluding the people.

A substantial increase in the oil production tax would surely bring a substantial increase in the retail price of gasoline. Thus the consuming public would pay it in the end, or most of it—not the oil companies. Likewise a steep boost in gas and sulphur levies would be passed on to the consuming public.

The idea of sparing the people the cost of government by mulcting special sources for revenues is an appealing one, but it doesn't work. Economic laws have a way of effectuating the constitutional mandate that taxes shall be equal and uniform, even when legislators fail to uphold it. Taxes are imposed on amusements, beverages,

utilities and what not—and they are passed on to the ultimate consumer. Another idea is to tax products that go out of the State, while exempting those in intrastate commerce. That might be all right, but the courts have ruled against it in principle.

Such part of increased production taxes as the natural resource industries would have to bear would be felt as an added burden by the hundreds of thousands of Texans employed in those industries, and by the hundreds of thousands who are shareholders in the companies and royalty owners, large and small.

Already the natural resources contribute the lion's share of the cost of State, as well as local, government. Those industries went through the war with little increase in prices of their products, while costs of materials, operations and wages have zoomed. A stiff additional tax on them would afford them a very convenient occasion for placing stiff increases on the prices of their products, and there is no doubt that they would do it.

Let the lawmakers earnestly consider these facts. And if they will devote less attention to finding new taxes to support prodigal appropriations, and more to keeping expenditures within present revenues, they will better serve the people. For the tax burden already is high enough for all.

A TAX TO CLOSE INDUSTRIES

(Reprinted from *The Houston Post*, April 9, 1947.)

Any tax that makes it impossible for a legitimate industry to continue operating is punitive and wrong.

Such a tax is that proposed by the McLellan bill to increase natural gas levies by $29,000,000 to $35,000,000 annually.

Much of Texas' current phenomenal industrial development is attracted here largely by cheap fuel. For instance, the Southland Paper Mills were established at Lufkin because they could get cheap fuel. That is their only advantage over competitors, mostly Canadian producers, according to Ernest Kurth, president of the company.

Mr. Kurth declares that if the McLellan gas tax bill becomes law it will force the Lufkin paper mills to shut down. The manufacture of newsprint paper, he explains, requires three or four times as much power as other kinds of paper.

The tax probably would have a similar effect upon some of our other industries which require huge quantities of natural gas, particularly the huge chemical plants on the Texas Gulf coast. And certainly it would be a disastrous repellent to other enterprises which would come to this section for the cheap fuel.

Thus the measure would dry up tax sources and in the end decrease rather than increase the State's revenue. By levying such prohibitory imposts the State would cut its own throat economically.

Considering the efforts that have been exerted and the time and money that has been spent trying to bring manufacturing plants here, this proposal to cut off one of the chief inducements is as short-sighted as anything could be.

The Lufkin paper mills employ 700 persons, and are building an additional plant which would double their capacity. The McLellan bill, imposing a tax amounting to practically as much as the gas producers get for their product, would cost the Southland company $11,000. Mr. Kurth says flatly that this added burden could not be met.

It yet remains to be shown conclusively that any additional State tax is needed to meet all the reasonable requirements, even including adequate teachers' salaries. The increased price of oil will bring in millions of new revenue, and the swelling property values created by new industries will add more millions to ad valorem receipts. But if it is found that more taxes are needed, for heaven's sake, let's don't do as Louisiana has done, to her sorrow, and put up signs at the gateways of Texas saying, "Industry keep out; taxes here prohibitive; go to other states."

EXPENSIVE GRAVY

(Reprinted from *Texas Tax Journal*, February, 1948, p. 9.)

Handouts from Uncle Sam, to the tune of thirty-five billion dollars in a dozen years, have enabled the states to balance their budgets and avoid tax hikes. This would be a rosy picture except that the thirty-five billions have had to come from the pockets of federal taxpayers who live in these same states, while justifiable in some instances, this has been carried to such an extreme that it imposes a serious burden on the payers of income tax and has robbed the states of much of their independence.

A study of grants-in-aid indicates that this practice has resulted in "extravagance, waste, and political abuses in public improvement projects, in work relief activities and in disbursement of relief funds." The amount spent in federal grants to the states has declined considerably from the peak reached in the fiscal year of 1939, but it still is a heavy load on the taxpayer. The sum may increase with the approach of another presidential election.

Much of this money would have to be raised by the states if it did not come from Washington. But education, housing and public health are more state responsibilities than federal ones. The states are more familiar with their local situations and can solve their problems better without federal meddling. Grants-in-aid always bring a degree of federal control that shrinks state authority. Some of these grants, as for interstate highways, will and should continue. But in general the states would be better off if they raise and administer their own funds instead of running to Washington for handouts.

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