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Income Value of Undeveloped Mineral Rights in Western Oklahoma

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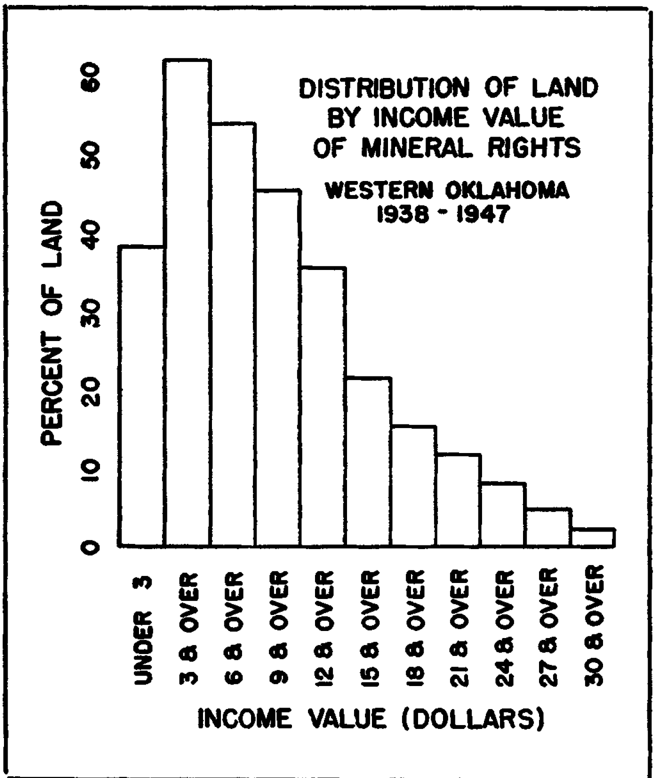

OKLAHOMA AGRICULTURAL EXPERIMENT STATION
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The Author Concludes....

(A ten-year legal history of a sample area consisting of more than a thousand quarter-section tracts in western Oklahoma was studied. The following conclusions are based on that study.)

TO SELL, OR NOT TO SELL?

Income alone is, of course, not the only factor a landowner should consider if he contemplates selling any or all of his mineral rights.

For instance, it is possible that a tract might suffer a loss in value greater than the price received for the mineral rights sold. Hesitancy of potential buyers to accept anything less than a clear and unencumbered title lessens the demand for encumbered land except at a lower price. Also, there is evidence that abstracting costs and title clearance problems increase when a portion of the mineral rights is sold.* Furthermore, sale of a major portion of the mineral rights decreases the loan value of a tract.

Another point to be considered is that sale of mineral rights usually results in loss of the almost exclusive control the landowner had of his land. Mineral deeds usually confer on the grantee not only the right to participate in subsurface income, but also the right to come on the land and explore for oil and take any that is found. Therefore, many more factors than the possible loss of income from leasing or actual oil production should be considered.

Men of wide experience in dealings in farm land are in general agreement that only in exceptional cases should a landowner sell more than half his royalty. Most of these men feel that, for self-protection, the landowner should set the per acre selling price of his mineral rights at least equal to the per acre agricultural value of the land itself. They point out, however, that individual circumstances might be such that it would be wise to accept a smaller figure. On the other hand, there are some who believe that sale of all mineral rights at a prudent figure offers an excellent opportunity for the landowner to rid himself of a speculative element in his investment.**

IF SOLD, FOR HOW MUCH?

Income from subsurface leasing capitalized at the usual rate applied to land income, 5 percent, gives an indication of the income

* Davidson, R. D., and Parcher, L. A., *The Influence of Mineral Rights on Transfers of Farm Real Estate in Oklahoma*, Okla. Agri. Exp. Sta. Bul. No. B-278. February, 1944, p. 9.

** A more complete discussion of this may be found in: Parcher, L. A., "Why Not Buy Just the Surface?" *Current Farm Economics*, Okla. Agri. Exp. Sta., Vol. 14, No. 5, October, 1941.

value of the mineral rights. That is, if a tract yields an annual rent of $1.00 per acre from leasing, and if the owner is to receive a 5 percent return from the subsurface, he must not pay more than $20.00 per acre for the mineral rights. An income of $1.00 per year is a 5 percent return on a $20.00 investment. This is the method used in calculating the figures given later in this bulletin. The owner of a tract in a locality where there has been no leasing must, of course, assume the subsurface has no income value. The owner of a tract in a locality where land is leased all the time (and such localities are not rare) can assume that the subsurface income and consequently the value, will be relatively high.

The individual who buys, at random, a single tract for the subsurface rights is of necessity a speculator. He gambles against uncertainty, for he has no assurance that his expenditure will yield any income. While he may receive income from leasing activity, such income, even in the areas of greatest leasing activity, accrues to only about 85 out of 100 tracts. For western Oklahoma as a whole, lease income accrues to about six out of every ten tracts.

On the other hand, the buyer of many tracts geographically distributed throughout the area may be considered an investor. If his average purchase price per tract is no greater than the capitalized value of the income (the weighted average income per leased tract divided by the proportion of all tracts leased), then he would seem to be assured a fair return on his investment. This income will come from leasing and bonuses. If oil is discovered on any tract he owns, the additional return would be pure profit.

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Income Value of Undeveloped Mineral Rights in Western Oklahoma

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The person who rarely sells or buys a piece of farm real estate usually has little basis for estimating the value of the mineral rights involved in the transaction. Yet, when he does buy or sell, he is forced to estimate that value to the best of his ability.* This bulletin presents information believed to be helpful to a person in that situation.

Sale prices of subsurface rights usually involve, at least in part, a certain amount of speculative value. This speculative value can be set only by the buyer or seller. It depends upon his willingness and ability to take a risk, his belief as to the likelihood of discovering oil under the property, and many other factors.

It is possible, however, to get a more accurate estimate of the probable ability of subsurface rights to produce income in the form of oil and gas lease payments. Data forming the basis of such an estimate for western Oklahoma were obtained by the Experiment Station in a study of the leasing operations in that area for the years 1938 to 1947, inclusive.** Estimates based on these data are presented here for their value as a guide to the income-producing value of mineral rights to land in that area.

Owners or buyers of single tracts within the area must estimate the value of the mineral rights on a somewhat different basis than owners or buyers of numerous tracts. Therefore, the analysis of the value of mineral rights for these two groups will be made in separate sections: One for the owners of single tracts; one for the owners of multiple tracts.

For individual tracts, it is possible to indicate only a probable range of values for undeveloped mineral rights. It is believed, however, that even a range of values will prove helpful to the landowner who has no idea at all in regard to mineral values. For many tracts under one ownership, averages may be applied and values estimated with some degree of accuracy.

* In an earlier study it was found that all but 2 percent of some 600 buyers and sellers answering a questionnaire said that consideration was given to the value of the subsurface rights. Many indicated, however, that they had little or no basis for judging such values. (Davidson and Parcher, *Op. cit.*)

** Data on amount of land leased and average lease payments are given in Okla. Agri. Exp. Sta. Bul. No. B-337, *Undeveloped Mineral Rights as a Source of Farm Income in Western Oklahoma*, Parcher, L. A., October, 1949.

SUMMARY OF INCOME VALUES 1938 TO 1947

The following paragraphs summarize the subsurface income values found for Western Oklahoma and for the six sub-areas shown in Figure 1, for the years 1938 to 1947, inclusive. These figures are only a guide to the individual judgment of buyer and seller, and can be nothing else. In the first place, use of the following figures as a guide to probable future values assumes that income from leasing and bonuses over the past 10 years is indicative of future income to land in the various sub-areas and in western Oklahoma as a whole. Secondly, the particular locality involved is naturally an important factor. Some localities will be so situated in relation to favorable geological formations that incomes and chances for leasing a tract will be considerably higher than indicated. Other localities may only rarely have any land leased. However, the particularly good localities from the standpoint of leasing as well as the particularly poor localities, generally have a fairly well established value for mineral rights.

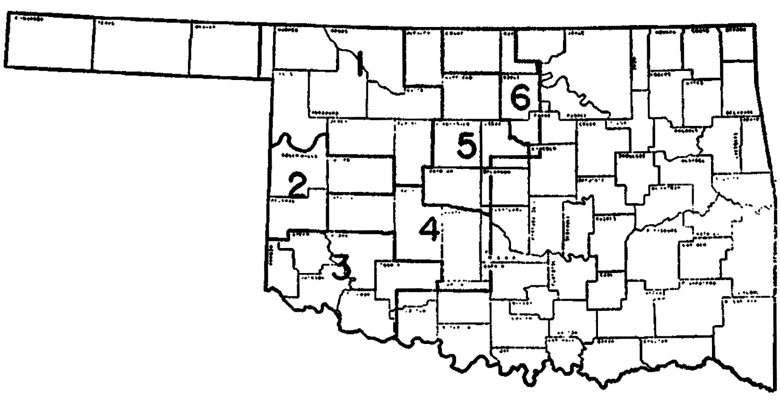

Fig. 1.—Six Sub-areas.

Mineral rights information by sub-areas is given for persons interested in a particular part of the area studied. Counties in Sub-area 1: Blaine, Dewey, Ellis, Harper, Major, Woods, Woodward, and part of Beaver; Sub-area 2: Beckham, Custer, and Roger Mills; Sub-area 3: Greer, Harmon, Jackson, Kiowa, Tillman, and parts of Comanche and Cotton; Sub-area 4: Caddo, Grady, Washita, and parts of Garvin, McClain, and Stephens; Sub-area 5: Alfalfa, Canadian, Garfield, Kingfisher, and parts of Logan and Oklahoma; Sub-area 6: Grant and parts of Kay, Lincoln, Noble, and Payne.

Western Oklahoma

For western Oklahoma as a whole, the chances are good (54 out of 100)* that undeveloped mineral rights on an individual tract are worth at least $6.00 per acre.** However, the chances are relatively poor (22 out of 100) that these rights have an income value of as much as $15.00 per acre. The buyer or the owner of many tracts scattered throughout the area apparently can place the income value of his subsurface property at about $7.50 per acre.

Sub-area 1

(Blaine, Dewey, Ellis, Harper, Major, Woods, Woodward, and part of Beaver)

In Sub-area 1, the income value of undeveloped mineral rights probably lies somewhere between $2.58 and $10.20 per acre. The chances appear to be good (62 out of 100) that the minimum income value is about $5.16 per acre. The individual with many tracts geographically distributed over the area can place the average income value of his undeveloped subsurface rights at $6.93 per acre.

Sub-area 2

(Beckham, Custer, Roger Mills)

Based on past performance, owners of individual tracts in Sub-area 2 can hardly assume the income value of their mineral rights is more than $5.20 per acre. Actually, the chances are 6 out of 10 that the income value of these tracts is less than $2.60 per acre. The holder of many, well distributed tracts can have an investment averaging about $3.25 per acre for subsurface rights and realize a 5 percent return on his investment from lease rent and bonuses.

Sub-area 3

(Greer, Harmon, Jackson, Kiowa, Tillman, and parts of Cotton and Comanche)

The majority of owners of single tracts in Sub-area 3 must figure the income value of their undeveloped mineral rights at something less than $2.94 per acre; 58 tracts out of 100 fall into this category. Owners of about one-fifth of all single tracts can place a value as high as $11.76 per acre on their subsurface rights. An individual with a sufficient number of holdings, well scattered throughout the sub-area, apparently can reckon the average value of his subsurface rights at $4.80 per acre.

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* The calculation of chance is explained more fully in the footnotes to Table II on page 13. The reader may find it helpful to consult this discussion before attempting to interpret the summary of results given here.

** An average of 30 cents per year income.

Sub-area 4

(Caddo, Grady, Washita and parts of Garvin, McClain and Stephens)

In Sub-area 4, 75 percent of the landowners can place the income value of their mineral rights as high as $6.85 per acre. Nearly half can place such values as high as $13.70 per acre. The buyer or owner of many well scattered tracts can place an average subsurface income value of $11.30 per acre on his tracts.

Sub-area 5

(Alfalfa, Canadian, Garfield, Kingfisher, and parts of Logan and Oklahoma)

The chances are excellent (3 out of 4) that the income value of undeveloped mineral rights on any given tract in Sub-area 5 is worth at least $10.20 per acre. Nearly a fourth of all tracts have an income value for the subsurface of at least $23.40 per acre. Half of all tracts will have an income value somewhere between these two figures. The owner of many well scattered tracts can place the average subsurface income value at about $14.60 per acre on his land.

Sub-area 6

(Grant, and parts of Kay, Lincoln, Noble and Payne)

In Sub-area 6, a substantial majority of landowners, 73 percent, can place the income value of their mineral rights at something more than $2.68 per acre and half of all owners can go as high as $10.70 per acre. There is an even chance, therefore, than an individual can be reasonably sure that the value of his undeveloped mineral rights lies somewhere around $10.70 per acre. However, the chances are greater that the value will be lower than $10.70 than that it will be above the figure. The owner of many well scattered tracts can anticipate an income sufficiently high to justify placing an average income value on each tract of $9.25 per acre.

INCOME VALUES OF MULTIPLE TRACTS WITH ONE OWNER

The following analysis deals with percentages and averages and the values calculated are deemed minimum. No estimate of speculative values is attempted even though speculative value probably is the chief factor governing the selling price of mineral rights. However, it is believed that a study of income values of mineral rights will give buyers and sellers some estimate of the probable assured value of the subsurface rights under consideration in the transaction.

Western Oklahoma

Western Oklahoma, consisting of some 15,793,320 acres, received an average annual income of 38 cents per acre from lease rent and bonuses during the period studied (Table I). This amount capitalized at 5 percent indicates an average value of $7.60 of mineral rights over the area as a whole. This indicates that if many tracts of equal size were purchased in the area, and if those tracts were geographically distributed throughout the area, the buyer could expect to realize an average income of 38 cents per acre from these tracts.* He would, therefore, be justified in paying an average of $7.60 per acre for the subsurface rights if he considered 5 percent an adequate return on his investment.

The buyer of mineral rights might look at his chances in this fashion: The weighted average income value of all tracts leased is $12.67 per acre.** The chances are six out of ten that an individual tract will be leased (Table II). In other words, the owner of 100 tracts can anticipate leasing slightly more than 61 of them a part or all of the time as shown in Table II. It appears, then, that an investor can afford to pay six-tenths of $12.67, the weighted average per acre income value of leased tracts, or an average of $7.60 per acre. This figure is the same as the average income value of mineral rights for all land in the area. However, there might be a considerable variation between these two figures. If a high proportion of the leased land were under lease for only one or two years of the period, the weighted average income value of leased tracts would be lower than the average for all tracts. On the other hand, if a high proportion had been under lease for, say, seven or eight years, then the weighted average income value of leased tracts would be higher than the average for all tracts. The discussion of the various sub-areas shows that considerable variation actually does exist between the average income value of all land and the weighted income value of the leased land. That difference can be attributed to the variations in the length of time land was under lease.

Sub-area 1

Annual income in Sub-area 1 from undeveloped mineral rights averaged 29 cents per acre for all land in farms (Table I). This amount capitalized at 5 percent indicates an average value of $5.80 per acre for mineral rights in this section. However, it appears that

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* This assumes the buyer did not deliberately pick out tracts where chances for leasing were better than the average.

** Note that while 7.9 percent of *all* tracts were leased for one year, 12.8 percent of *leased* tracts were leased for one year. Therefore, 12.8 percent of the leased tracts have an income of 15 cents per year; 13.8 percent, 30 cents per year; 15.9 percent, 45 cents per year, etc., which gives a weighted income value of $12.67 per acre. Fifteen cents is one-tenth of $1.50 (the average income per leased acre) and is the annual income for a tract leased for one year out of the ten years studied. (See Table III, page 17.)

TABLE I.—Yearly Average of Acres Leased, Income to the Area with Average Per Acre Income to Land Leased, and the Average Per Acre of the Area.

Sub-Area	Total Acres	Percent Leased	Acres Leased	Total Income	Average Income Per Acre Leased	Average Income for all acres
				Dollars	Dollars	Dollars
1	4,784,640	22.7	1,086,803	1,405,710	1.29	.29
2	1,828,000	12.4	226,942	293,992	1.30	.16
3	2,827,000	14.8	419,605	618,052	1.47	.22
4	2,339,000	31.9	745,501	1,273,196	1.71	.54
5	2,649,640	41.6	1,101,609	1,838,426	1.67	.69
6	1,365,040	31.5	430,330	578,051	1.34	.42
Total Area	15,793,320	25.3	4,002,292	6,016,272	1.50	.38

the owner of, say, 100 tracts well distributed throughout the sub-area can place the income value of his subsurface holdings at a figure somewhat higher than $5.80 per acre. The weighted income value of all leased tracts is $9.90 per acre.* The distribution shows that about 7 out of 10 tracts were leased a part or all of the time during the period studied (Table II). He can, therefore, reckon the average value of his holdings at seven-tenths of $9.90, or $6.93 per acre. This figure is, roughly, $1.00 per acre higher than the average for all land in the sub-area. The higher figure is due to the fact that more than a third of the land was under lease for four years or more.

Sub-area 2

Values of undeveloped mineral rights have been lowest in Sub-area 2. Over the 10-year period, 1938-1947, the average income amounted to only 16 cents per acre per year to land in that section. Therefore, on the average, mineral rights in Sub-area 2 are worth only $3.20 per acre (Table I).

The owner of many tracts geographically distributed over the sub-area will find that the weighted average income to the tracts he can lease is about 41 cents per acre (Table II). The income value of these leased tracts is $8.20 per acre. He can anticipate leasing about four out of ten tracts, as 39.1 percent of all tracts were leased for one year or more. Four-tenths of the weighted average income value of leased tracts is $3.30. This figure, virtually the same as the average income value of all land in the sub-area, must be the average per acre for the owner's investments if he expects a 5 percent return.

Sub-area 3

Income values of undeveloped mineral rights in Sub-area 3 average only a little higher than in Sub-area 2. Income from mineral rights averaged 22 cents per acre per year during the period studied. This means, that for the sub-area as a whole, the average income value of mineral rights is only $4.40 per acre (Table I).

The weighted income value of tracts leased at some time during the period is $12.05 (Table II). Four-tenths of all tracts were leased; therefore, the owner or buyer of a sufficiently large number of well distributed tracts will receive a 5 percent return if his average investment per acre in sub-surface rights is no greater than $4.80.

Sub-area 4

Income values of undeveloped mineral rights in Sub-area 4 are relatively high. The average income for all land in the sub-area amounts to 54 cents per acre, and so can be valued at $10.80 per acre (Table I). Moreover, the chances of leasing an individual tract are relatively great. Only 17 tracts out of 100 were not leased sometime during the period studied (Table II).

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* See preceding footnote for method of calculating this figure.

Table 11.—Percent of All Tracts Leased, a Specified Number of ...
Category, and the Probability of Leasing a Tract the Specified Number of Years.

	YEARS LEASED										
	0	1	2	3	4	5	6	7	8	9	10
Sub-Area 1 (Blaine, Dewey, Ellis, Harper, Major, Woods, Woodward and part of Beaver)											
Percent	31.0	7.0	12.7	12.7	19.0	6.3	3.0	2.0	2.7	2.3	1.3
Cumulative Pct.	100.0	69.0	62.0	49.3	36.6	17.6	11.3	8.3	6.3	3.6	1.3
Annual Income* Per Acre (Dollars)	.000	.129	.258	.387	.516	.645	.774	.903	1.032	1.161	1.290
Probability of Leasing**	All	7/10	6/10	1/2	1/3	1/6	1/10	1/12	1/16	1/30	1/100
Sub-Area 2 (Beckham, Custer, Roger Mills)											
Percent	60.9	8.0	8.0	6.9	10.3	1.7	1.7	0.6	0.6	1.2	0.0
Cumulative Pct.	100.0	39.1	31.1	23.1	16.2	5.8	4.1	2.4	1.8	1.2	0.0
Annual Income* Per Acre (Dollars)	.000	.130	.260	.390	.520	.650	.780	.910	1.040	1.170	1.300
Probability of Leasing**	All	4/10	1/3	1/4	1/6	1/20	1/25	1/50	1/50	1/100	No
Sub-Area 3 (Greer, Harmon, Jackson, Kiowa, Tillman, and parts of Cotton and Comanche)											
Percent	58.1	7.9	9.1	3.7	5.4	3.3	2.1	5.0	1.7	1.6	2.1
Cumulative Pct.	100.0	41.9	34.0	29.9	21.2	15.8	12.5	10.4	5.4	3.7	2.1
Annual Income* Per Acre (Dollars)	.000	.147	.294	.441	.588	.735	.882	1.029	1.176	1.323	1.470
Probability of Leasing**	All	4/10	1/3	1/3	1/5	1/6	1/8	1/10	1/20	1/30	1/50
Sub-Area 4 (Caddo, Grady, Washita, and parts of Garvin, McClain and Stephens)											
Percent	17.3	8.0	5.8	27.6	16.1	8.1	3.4	3.4	5.7	1.2	3.4
Cumulative Pct.	100.0	82.7	74.7	68.9	41.3	25.2	17.1	13.7	10.3	4.6	3.4
Annual Income* Per Acre (Dollars)	.000	.171	.342	.513	.684	.855	1.026	1.197	1.368	1.539	1.710
Probability of Leasing**	All	8/10	3/4	7/10	2/5	1/4	1/6	1/8	1/10	1/25	1/33

Table II.—(Continued).

	YEARS LEASED										
	0	1	2	3	4	5	6	7	8	9	10
Sub-Area 5 (Alfalfa, Canadian, Garfield, Kingfisher, and parts of Logan and Oklahoma)											
Percent	15.3	5.8	3.6	9.5	21.2	16.1	3.6	5.8	6.6	8.0	4.4
Cumulative Pct.	100.0	84.7	78.9	75.2	65.7	44.5	28.4	24.8	19.0	12.4	4.4
Annual Income* Per Acre (Dollars)	.000	.167	.334	.501	.668	.835	1.002	1.169	1.336	1.503	1.670
Probability of Leasing**	All	17/20	8/10	3/4	2/3	4/10	3/10	1/4	1/5	1/8	1/25
Sub-Area 6 (Grant and parts of Kay, Lincoln, Noble and Payne)											
Percent	26.9	10.6	5.6	6.9	12.5	6.9	8.1	8.7	5.6	3.8	4.4
Cumulative Pct.	100.0	73.1	62.5	56.9	50.0	37.5	30.6	22.5	13.8	8.2	4.4
Annual Income* Per Acre (Dollars)	.000	.134	.268	.402	.536	.670	.804	.938	1.072	1.206	1.340
Probability of Leasing**	All	3/4	2/3	6/10	1/2	4/10	1/3	1/5	1/8	1/12	1/25
Area Total											
Percent	38.3	7.9	8.5	9.8	13.8	6.4	3.2	4.0	3.3	2.5	2.3
Cumulative Pct.	100.0	61.7	53.8	45.3	35.5	21.7	15.3	12.1	8.1	4.8	2.3
Annual Income* Per Acre (Dollars)	.000	.150	.300	.450	.600	.750	.900	1.050	1.200	1.350	1.500
Probability of Leasing**	All	6/10	9/17	5/11	1/3	1/5	1/6	1/8	1/12	1/20	1/50

* The income per acre of land leased the specified number of years out of a ten-year period, i. e., land leased two years out of ten yields an average annual income two tenths as great as land leased all ten years.

** This refers to the chances a particular tract has of being leased the specified number of years. For example, in sub-area 1 the probability is about one out of two that a particular tract will be leased three cut of ten years and yield an average income of nearly 39 cents per acre.

NOTE: To determine the weighted average income value of leased tracts, the percent of tracts leased for at least one year was converted to 100.0 percent and the percentage leased each year raised accordingly. For example: for sub-area 1, 10.2 percent of all *leased* tracts were under lease for only one year. Therefore, 10.2 percent of the leased tracts had an income value of $2.58 per acre; 9.1 percent of the leased tracts were under lease for five years, and, therefore, 9.1 percent had an income value of $12.90, etc. See Table III.

The weighted income value of tracts leased one or more years during the period is $14.12 per acre. The data showed that eight out of ten tracts will be leased. Eight-tenths of $14.12 is $11.30, which is the average amount per acre the owner or buyer of a large number of well distributed tracts can have invested and realize a 5 percent return on his investment.

Sub-area 5

Because of the intense activity in Sub-area 5 over the past 10 years, the indications are that mineral values there average the highest. The average income to all land in the section amounted to 69 cents per acre per year during the period (Table I). This amount capitalized at 5 percent gives an average income value of $13.80 per acre. The weighted average income value of leased tracts is $17.25 per acre. As 85 out of 100 tracts were leased, it appears that the owner or buyer of many well distributed tracts can reckon the income value at 85 percent of $17.25, or $14.66 per acre. More than half of all leased tracts were under leased for five years or more of the ten-year period.

Sub-area 6

Average income to undeveloped mineral rights in Sub-area 6 was 42 cents per acre. Capitalizing this income at 5 percent gives an average income value of $8.40 per acre in this area (Table I). The weighted average income value of all leased tracts is $13.18. More than seven out of ten tracts were leased at sometime during the period (Table II). It appears, therefore, that an average investment in mineral rights of about $9.25 per acre in the sub-area would yield a 5 percent return from leasing activity, if a sufficiently large number of well distributed tracts were obtained. This average investment of $9.25 is, roughly, $1.00 per acre higher than the average income value of all land in the sub-area, due to the fact that nearly one-third of the land that was leased was under lease for six years or more during the period.

The figures for each of the sub-areas, and for western Oklahoma as a whole, might justifiably be used as a guide to average income values for owners or buyers of mineral rights whose holdings are sufficiently numerous and widely distributed that averages might be applied.

INCOME VALUE OF INDIVIDUAL TRACTS

The buyer or owner of a single tract* selected at random within the area must place his evaluation of the mineral rights on a different

* This may be interpreted to mean either a relatively few separated holdings, or a number of adjacent holdings.

basis than the individual who has numerous holdings geographically distributed over the area.

Western Oklahoma

There are 38 chances out of 100 that any particular tract in the area will not be leased one year out of ten, and, of course, it may never be leased (Table II). The chances are the same, therefore, that the subsurface rights are worth from nothing to something less than $3.00 per acre.* In other words, roughly two-fifths of all tracts have little or no income value from undeveloped mineral rights. (See graph on cover.) On the other hand, the chances are better than 50-50, about 54 chances out of 100 (Table II) that a tract can be leased two years out ten at $1.50 per acre per year. This would result in an average annual income of 30 cents per acre. Capitalizing this amount indicates a value of at least $6.00 per acre. That is to say, the mineral rights are worth a minimum of $6.00 on 9 tracts out of 17 (Table II). Whether a particular tract is included in the nine can be determined only by examining the public records on that tract.

There are some tracts so located that they may be leased a minimum of three years out of ten. Out of every 100 tracts, 45 fall in this category (Table II). These tracts will earn an average annual income from lease rent and bonuses of 45 cents per acre,** and therefore the capitalized value of the mineral rights is $9.00.

One out of five, or about 22 percent of all tracts, will be leased a minimum of five out of ten years. For these tracts, the annual average income per acre will be 75 cents, which indicates an income value of at least $15.00 per acre. As the length of time a tract will be leased increases, the chances for a particular tract falling into that category decrease very rapidly. There is only about 1 chance in 20 that a tract will be leased nine years out of ten and so have in income value of $27 per acre. There is only about 1 chance in 50 that a tract chosen at random in the area will be leased all the time and so have an income value of $30 per acre (Table II).

Experience in each locality should govern landowners or land buyers in estimating the value of the mineral rights. However, it appears that the chances are even that the undeveloped mineral rights are worth at least $6.00 per acre on a particular tract any place within the designated area of western Oklahoma. The chances are only 1 to 5 that the income value of the mineral rights on an individual tract, selected at random in the area, is as much as $15.00 per acre.

* Fifteen cents (one-tenth of the income per leased acre as shown in Table I) capitalized at 5 percent.

** One dollar and fifty cents for three years out of ten.

If the experience of a particular locality shows that some of the land usually is under lease, data for the area as a whole indicates that certain projections as to future income value could be made for a farm or tract located in that locality. For instance, in all probability a tract so located will be leased a minimum of one year in ten and hence will have a minimum income value of $3 per acre for the mineral rights (Table III); there are seven chances out of eight that such a tract will be leased two years in ten and will have an income value of $6.00 per acre; the chances are about three out of four that the the tract will be leased three years in ten and have an income value of $9.00 per acre. The chances are about even that the tract will be leased four years in ten and have an income value of $12.00 per acre. There is only about one chance in five that the tract would be leased seven years in ten, and one chance in twelve that it would be leased nine years in ten and so have an income value of $27.00 per acre.

Sub-area 1

Single tract owners in Sub-area 1 also risk the chance that an individual tract will not be leased one year in ten. The figures show that 31 tracts out of 100 were not leased during the period studied (Table II).

This means the income value of the mineral rights may range from nothing to something less than $2.58* per acre on nearly a third of the tracts. However, the chances are good, 62 out of 100, that an individual tract will be leased two years out of ten, indicating an income value of $5.16.** The chances are better than one out of three (36 in 100) that an individual tract will be leased four out of ten years. Tracts falling into this category will earn an average annual income of $1.29 per acre four out ten years, or an average of 51 cents per acre per year. The income value of the mineral rights on these tracts is $10.20 per acre at the stated rate of capitalization.

The chances are less than one in five that a tract will be leased for five years or more out of ten. Slightly more than one tract in ten is so situated that it has been leased six years or more out of ten. These tracts have earned an average annual income of more than 77 cents per acre. Mineral rights on these tracts are worth at least $15.40 per acre, and may go as high as $25.50 per acre. However, only one tract in a hundred falls into the latter price class.

It appears, therefore, that the owner of an individual tract will most likely have an average income of from about 13 cents per acre

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* One-tenth of $1.29, the average annual income for leased land, capitalized at 5 percent.

** Two-tenths of $1.29 capitalized at 5 percent.

TABLE III.—The Percent of Leased Tracts in the Area Under Lease a Specified Number of Years, with Cumulative Percentages, the Annual Income Per Acre, and the Probability of Leasing an Individual Tract the Specified Time.

	Years Leased									
	1	2	3	4	5	6	7	8	9	10
Percent	12.8	13.8	15.9	22.3	10.4	5.2	6.5	5.3	4.1	3.7
Cumulative Percent	100.00	87.2	73.4	57.5	35.2	24.8	19.5	13.1	7.8	3.7
Annual Income Per Acre (Dollars)	.15	.30	.45	.60	.75	.90	1.05	1.20	1.35	1.50
Probability of Leasing	All	7/8	3/4	9/16	1/3	1/4	1/5	1/8	1/12	1/27

up to 51 cents per acre. These figures, capitalized, indicate that a majority of landowners (51.4 percent) have mineral rights with an income value of between $2.60 and $10.20 per acre.

Sub-area 2

A study of the occurrence of leasing of individual tracts shows that nearly 61 percent were not leased during the 10 years studied. The income value of the mineral rights on a majority of the land in the area is, therefore, something less than $2.60 per acre* (Table II).

Some tracts, 39 out of 100 if past history is indicative of the future, will be leased a minimum of one year out of ten. The income value of the mineral rights on these tracts is at least $2.60. The chances are fairly remote that the income value of the mineral rights on an individual tract is any greater than this figure.

It appears, then, that the majority of owners of individual tracts should place the income value of their undeveloped mineral rights at something less than $2.60. Unless the individual owner knows that his tract is favorably located, he can hardly assume the income value of his mineral rights is more than $5.20 per acre, and fewer than one-third of all tracts falls into a class this high.

Sub-area 3

Slightly more than 58 percent of the tracts in the section were never leased and have an income value of less than $2.94 per acre. Roughly, one-third of the tracts in this section were leased two of the ten years studied. These tracts earned an average of about 29 cents per acre per year and so have an income value of $5.88 per acre.

It appears that the majority (58.1 percent) of landowners in Sub-area 3 must reckon the value of their mineral rights at less than $2.94 per acre. Other landowners may place such values higher, but to go above $5.88 would be going beyond reasonable income expectations. For the one man in ten who has land which past experience shows is well located for leasing activity, the income value might be placed at $20.58. Only about 1 tract in 20 will have income values higher than this figure.

Sub-area 4

In regard to individual tracts, roughly 83 percent of the tracts were leased for one year or more, and three-fourths for two years or more (Table II). Those tracts leased for two or more years earned an annual average income of at least 34 cents per acre. This indicates that a suostantial majority of the tracts in the section have an income value for the undeveloped mineral rights of at least $6.85.

* Land leased in the area one year in ten would have an income value of $2.60 per acre.

While the average income value of undeveloped mineral rights is $10.80 per acre, it appears that most owners of individual tracts can be fairly certain only that their undeveloped mineral rights have an income value of at least $6.85 per acre. A substantial number, (two out of every five), can justifiably estimate a minimum of $13.70 per acre; the chances are about one in four that the mineral rights on a particular tract are worth $17.10, and one in 10 that these rights are worth as much as $27.36.

Sub-area 5

Only 15 tracts out of 100 were not leased sometime during the period in Sub-area 5 (Table II). For those that were leased at some time, the minimum income was 16.7 cents per acre. Therefore, the chances are excellent, 85 out of 100, that individual tracts have an income value of at least $3.34 per acre. However, the chances are almost as good, 75 out of 100, that an individual tract will be leased a minimum of three years out of ten and consequently have an income value of at least $10.20 per acre.

It appears probable, therefore, that an individual owner should estimate the income value of his mineral rights at not less than $10.00 per acre. The chances are fair that such values should be as high as $23.40, as nearly one-fourth of the tracts were leased seven out of ten years. It is well within the realm of possibility, however, that any particular tract in this sub-area is worth $21.44 per acre for the mineral rights; one tract in eight falls in this group.

Sub-area 6

On an individual tract basis, slightly more than a fourth of the tracts were never leased during the 10-year period (Table II). This would indicate that tracts in this category have mineral income values of something less than $2.68. The chances are about six out of ten that an individual tract will be leased two years out of ten, if leasing continues as it has during the past ten years. The average annual income from undeveloped mineral rights on these tracts will be about 27 cents per acre. This would make an income value of $5.40 per acre for tracts in this category. However, the chances are even, 50 out of 100, that an individual tract will be leased four years out of ten. The income value of the mineral rights on these tracts is $10.70.

It appears therefore, that a substantial majority of all landowners can place the income value of their mineral rights on individual values as high as $10.70 per acre. A substantial number of individual tracts, one out of every five, has an income value of $18.75 per acre for the mineral rights.

The owner of an individual tract in any of the sub-areas would do well to carefully weigh the chances his tract has of falling into a particular price group. If he is inclined to liquidate a part of his investment in land by selling mineral rights, he should at least be aware of the income possibilities of those rights. If a single tract is being bought and the question arises as to how much one should pay for the mineral rights, the buyer should keep in mind that even in the area with the best leasing record (Sub-area 5) 15 tracts out of every 100 were not leased once in ten years.

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