

## ADDITIONAL NOTES FOR ROYALTY INTEREST OWNERS (Oil Leases) TAX YEAR 2017

One question we often hear is: "Why did my mineral value(s) increase from last year?" The answer is often quite difficult for an appraiser to explain to the royalty owner's satisfaction or complete understanding. Often the appraiser must first explain some general appraisal methodology before getting to the specific appraisal parameters used in the current tax year appraisal as compared to the previous tax year.

The preferred methodology for appraising a mineral interest property is a form of the income approach to value called *discounted cashflow*. This method estimates all potential future income that is reasonable to predict the property owner will receive as of January 1 of the current tax year. This future estimated cashflow is then reduced, or *discounted*, to allow for the time cost of money and the various forms of risk inherent in these type of projections. Many types of income-producing properties are appraised annually in this exact same fashion, not just oil and gas properties.

How do we estimate future income? This future income, or *cashflow*, is derived in turn with year-by-year projections of future oil and/or gas production from the lease(s) in which the property owner has an interest, multiplied by a corresponding year-by-year projection of oil and gas price. We analyze each lease's historical production decline trend that is established as of January 1 of the current tax year, per production records filed with the Texas Railroad Commission by the operators of the leases. Future production is then typically forecast commensurate with this established historical trend. Sometimes there is evidence or good reason to suggest future production will not follow this trend, in which case experience and expertise of the appraiser will determine the appropriate production forecast as of January 1. Often operators and agents working for operators will assist us in determining the appropriate forecast of future production.

The future oil and gas price forecast we use in our appraisals is dictated by law, per Texas Property Tax Code, Section 23.175. **The oil price forecast for tax year 2017 is about 25-30% higher than for tax year 2016. THIS IS THE PRIMARY REASON WHY YOUR OIL LEASE VALUES MAY HAVE INCREASED FOR TAX YEAR 2017.** That said, not all oil leases increased in value because production may have declined over the last twelve months more than the price increased. For a royalty interest owner, production and price are the only two parameters that directly result in the level of income received and thus are also the only two parameters that directly influence the appraised value of your mineral interest(s) any particular tax year.

Values for mineral interests (or any income producing property) for any particular tax year are always about the *future* as of January 1 of that tax year, because that is the way buyers and sellers of these properties view them (as investment properties). Each new tax year brings a completely new "vision" of what the future holds. This doesn't make the previous values wrong; it only illustrates how the outlook can change over time, sometimes dramatically, either positively or negatively. We appraise mineral interests each year to the best of our ability, with the latest information available and with the price forecast dictated by the Texas Property Tax Code, Section 23.175.

Please see the reverse side of this page for a graphical comparison of our "reference" oil price (WTI) forecasts we've used for the last five tax years (2013-2017). The oil price we've used in the appraisal of your particular mineral interest properties may be different (lower) due to your property's oil being of lower quality (for example, high sulfur content) or of lesser gravity than WTI. However, the percentage escalations of this price on a year-by-year basis will be the same as shown for the reference price on this chart.

Forecast Year	Tax Year				
	2013	2014	2015	2016	2017
1	\$89.60	\$94.21	\$57.48	\$38.12	\$49.13
2	\$92.65	\$97.41	\$59.22	\$38.43	\$49.29
3	\$95.81	\$100.72	\$61.01	\$38.74	\$49.45
4	\$99.08	\$104.14	\$62.85	\$39.05	\$49.61
5	\$102.46	\$107.67	\$64.75	\$39.37	\$49.77
6	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
7	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
8	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
9	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
10	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
11	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
12	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
13	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
14	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
15	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
16	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
17	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
18	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
19	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
20	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
21	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
22	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
23	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
24	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93
25	\$105.95	\$111.32	\$66.71	\$39.69	\$49.93

