

# TXOGA Ad Valorem Tax Conference

March 1st and 2nd, 2023  
Austin, Texas

## Property Tax Code 23.175 and Valuation Volatility



Rodney K. Kret, RPA  
***PRITCHARD & ABBOTT, INC.***  
***VALUATION CONSULTANTS***

# **OUTLINE**

- 1. What is Sec. 23.175?**
- 2. Tenets of Discounted Cash Flow (DCF) Valuation**
- 3. History of Sec. 23.175 (1994 to present)**
- 4. Valuation volatility caused by Sec. 23.175**
- 5. A better way of price forecasting**
- 6. Summary/Conclusions/Takeaways**

# **1. WHAT IS SEC. 23.175?**

- **Texas Property Tax Code legislation enacted in 1993 related to the appraisal of oil and gas mineral interests**
- **Intent was to establish a consistent price forecasting methodology statewide**
- **A piece of crap that often does not facilitate DCF appraisals arriving at FMV**

## **2. TENETS OF DCF VALUATION**

- Should be representative of marketplace (willing buyer, willing seller, neither optimistic nor pessimistic)
- Goal is “plausibly accurate” value estimate for property
- Forward looking, with reference to the past
- The near term is easier to predict than the long term
- Revenue and expense forecasts must be reciprocal
- Discount includes cost of money and risk
- As with all forecasts, will often prove to be wrong in hindsight (→ ultimately irrelevant!)

# **3. HISTORY OF SEC. 23.175**

- **1994 [HB 925]**

- Year 1 price equal to last year's average daily price (no factor)
- Escalation after year 1 optional but limited to that used by Texas Comptroller for revenue estimating purposes
- Any amount of de-escalation allowed
- Highest price in forecast can't exceed 150% of year 1 price

**P&A's WTI forecast: \$17.50/bbl esc. to \$26.24 by 2006**

# **3. HISTORY OF SEC. 23.175**

## **(CONT.)**

- **2008 [HB 2982]**

- Introduction of “Market Condition Factor” for year 1 price (one for oil, one for gas, to be calculated by Comptroller)
- Previous year average changed from daily to monthly
- Clarification that “year” meant calendar year, not fiscal
- Escalation percentages after year 1 strictly tied to Comptroller’s revenue estimating forecast (150% cap removed)

**P&A’s WTI forecast: \$70.81/bbl esc. to \$120.36 by 2035**

# **3. HISTORY OF SEC. 23.175**

## **(CONT.)**

- **2012 [SB 1505]**

- EIA's Annual Energy Outlook (AEO) ("Early Release Overview") and BLS data replaces Texas Comptroller forecast
- "Market Condition Factor" now "Price Adjustment Factor" to be calculated by chief appraiser (not Comptroller)
- PPI data (1982 to current) introduced for years 2-6 forecast
- No price escalation (or de-escalation) after year 6

**P&A's WTI forecast: \$96.81/bbl esc. to \$115.33 by 2018**

# **3. HISTORY OF SEC. 23.175**

## **(CONT.)**

- **2016 [HB 1946]**

- “Technical correction bill” because AEO was MIA in 2015 (OMG, SOL and FUBAR!... LOL)
- The fix: If AEO not available by March 1, use January Short-Term Energy Outlook (STEO) for PAF
- Changed reference price for crude to WTI

**P&A's WTI forecast: \$38.12/bbl esc. to \$39.69 by 2021**



## **4. VALUATION VOLATILITY**

- “Volatility” is not referring to the final concluded values themselves, but the process of getting there
- The 2<sup>nd</sup> price escalation factor (for DCF years 2-6) is the problem that needs fixing
- Much reconciliation with market indicators via adjustment of other dcf parameters

# 5.

## A BETTER WAY TO FORECAST

### A. Recognize current conditions

→ EIA Short-Term Energy Outlook (STEO) to calculate PAF for year 1 forecasted price (eliminate AEO)

### B. Acknowledge historical price volatility

→ Long-term average price by Year 5 of DCF

→ Average of previous 20 years' annual average prices, after removal of "outliers"

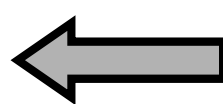
# 5.

## **A BETTER WAY TO FORECAST**

**(CONT.)**

- Outliers defined as any price outside of one (1) standard deviation of most recent 20 calendar year average prices
- This long-term price is inherently stable
- Helps moderate wild swings in appraised value from one tax year to the next, via “reversion to the mean” price paradigm

Count	Year	Sorted	Range
1	2003	\$31.08	outside
2	2020	\$39.16	outside
3	2004	\$41.51	outside
4	2016	\$43.29	outside
5	2015	\$48.66	\$48.66
6	2017	\$50.80	\$50.80
7	2005	\$56.64	\$56.64
8	2019	\$56.99	\$56.99
9	2009	\$61.95	\$61.95
10	2018	\$65.23	\$65.23
11	2006	\$66.05	\$66.05
12	2021	\$68.13	\$68.13
13	2007	\$72.34	\$72.34
14	2010	\$79.48	\$79.48
15	2014	\$93.17	outside
16	2012	\$94.05	outside
17	2011	\$94.88	outside
18	2022	\$94.91	outside
19	2013	\$97.98	outside
20	2008	\$99.67	outside



## WTI, CY2003 – 2022

[https://www.eia.gov/dnav/pet/pet\\_pri\\_spt\\_s1\\_d.htm](https://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm) (WTI – Cushing, OK)

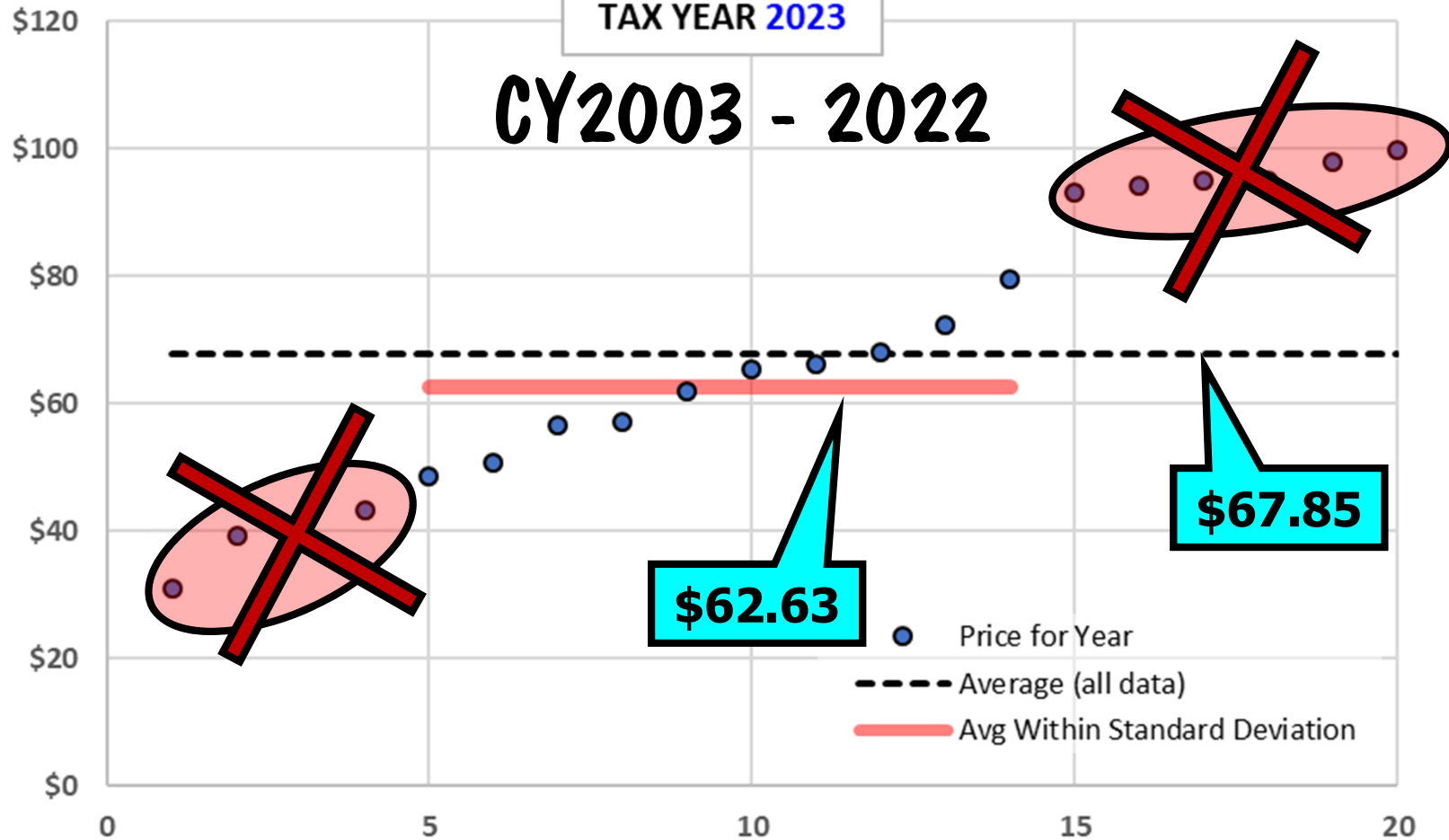
(annual prices in ascending order)

mean (avg):	\$	67.80
min:	\$	31.08
max:	\$	99.67
stand. dev:	\$	21.55
new min:	\$	46.25
new max:	\$	89.35
<b>new average:</b>		<b>\$62.63</b>

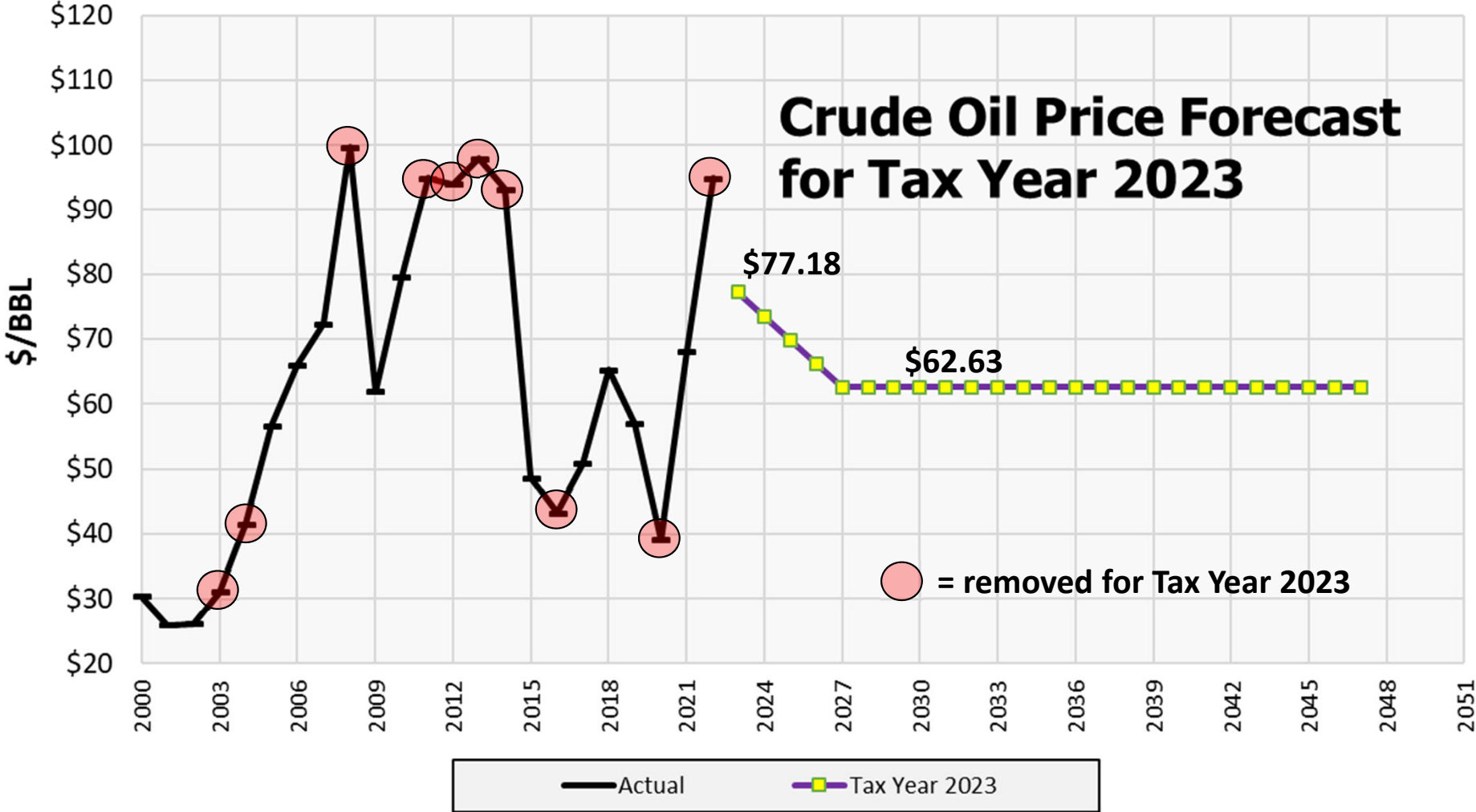
# Cushing OK WTI Spot Price FOB (\$/bbl)

TAX YEAR 2023

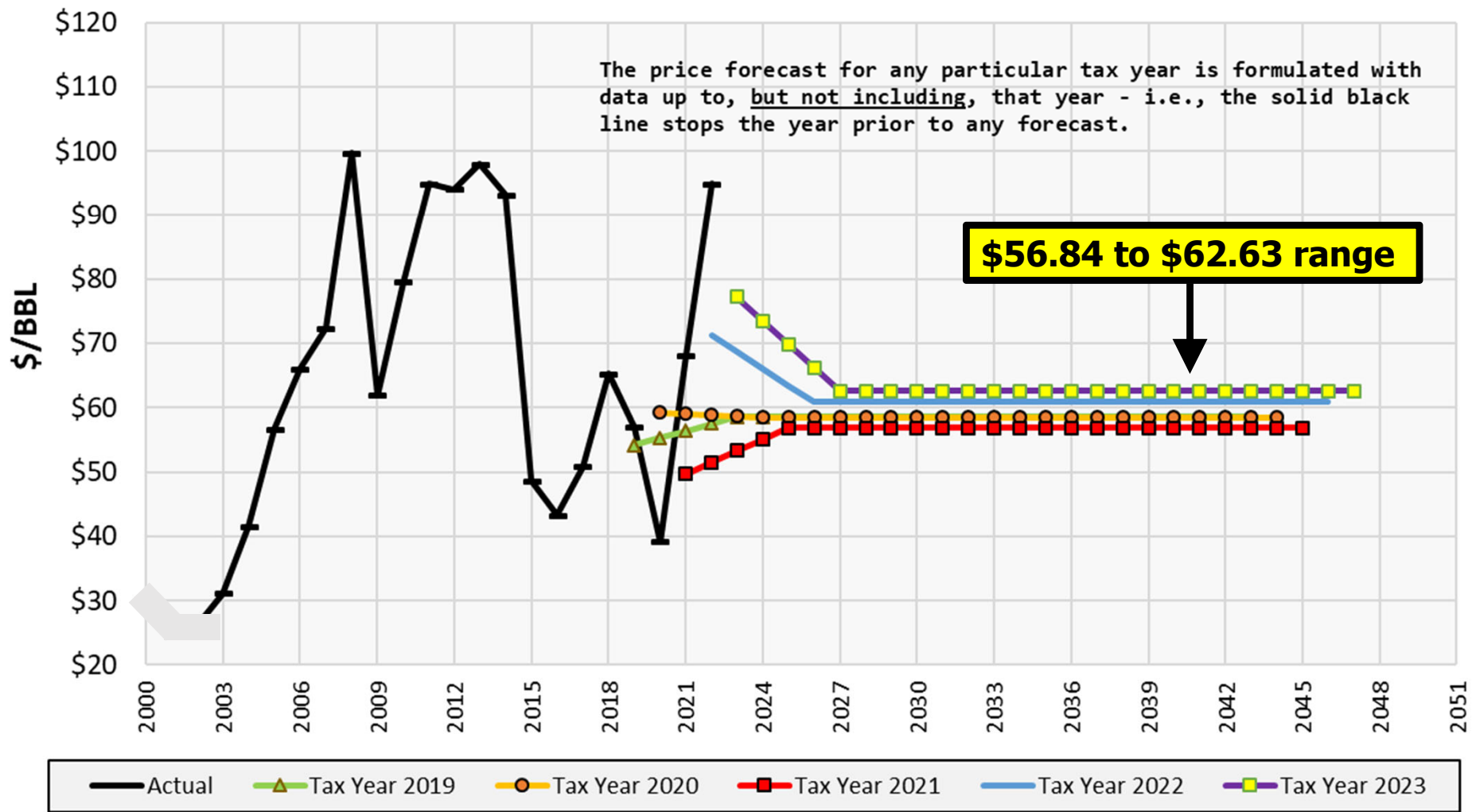
## CY2003 - 2022



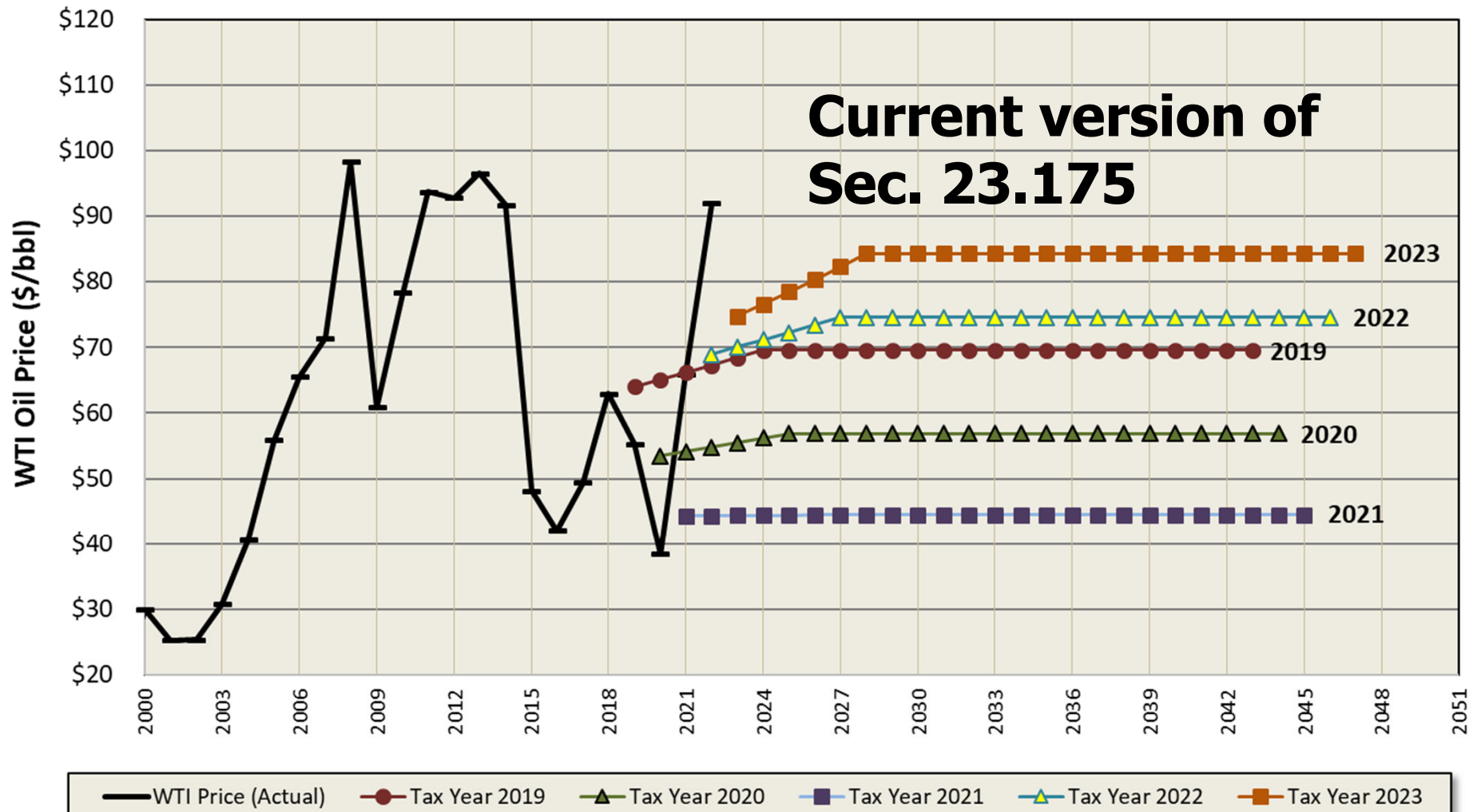
### Cushing OK WTI Spot Price FOB (\$/bbl)



## Cushing OK WTI Spot Price FOB (\$/bbl)



## Historical Oil Price Forecasts Per Property Tax Code, Sec. 23.175





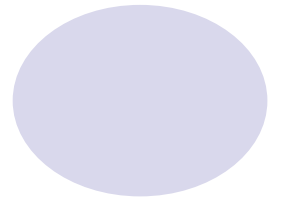
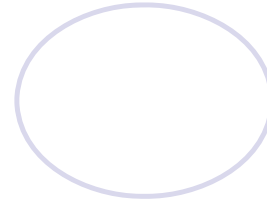
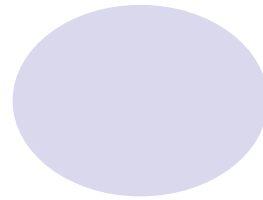
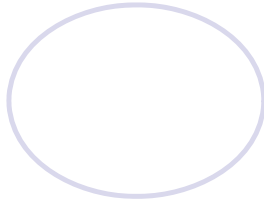
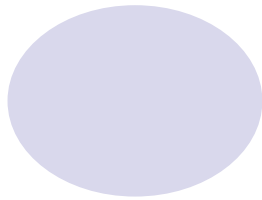
# **PRICE FORECAST SCENARIO** **LOUISIANA – TAX YEAR 2023**

Table 907.D-1  
Oil and Gas Price Forecast Scenario

<b>Year of Discounted Cash Flow</b>	<b>Oil Price (%)</b>	<b>Gas Price (%)</b>
1	-18.68%	-23.68%
2	-4.71%	-3.98%
3	-4.95%	-4.14%
4	-5.20%	-4.32%
5	-5.49%	-4.52%
Thereafter	0	0

## **6. MAIN TAKEAWAYS**

- Price forecasting is always dicey, but necessary to perform DCF appraisals
- The 2<sup>nd</sup> escalation factor in Sec. 23.175 is highly flawed, working exactly opposite of how it should
- To better reflect marketplace of willing buyers and sellers, a universal price forecast scenario should be applied to arrive at a reasonable long-term price by year 5
- Methodology presented here promotes valuation stability while also being imminently fair to all stakeholders



*Thank You for choosing*

***PRITCHARD & ABBOTT, INC.***  
***VALUATION CONSULTANTS***  
***for all your property tax needs!***



[www.pandai.com](http://www.pandai.com)