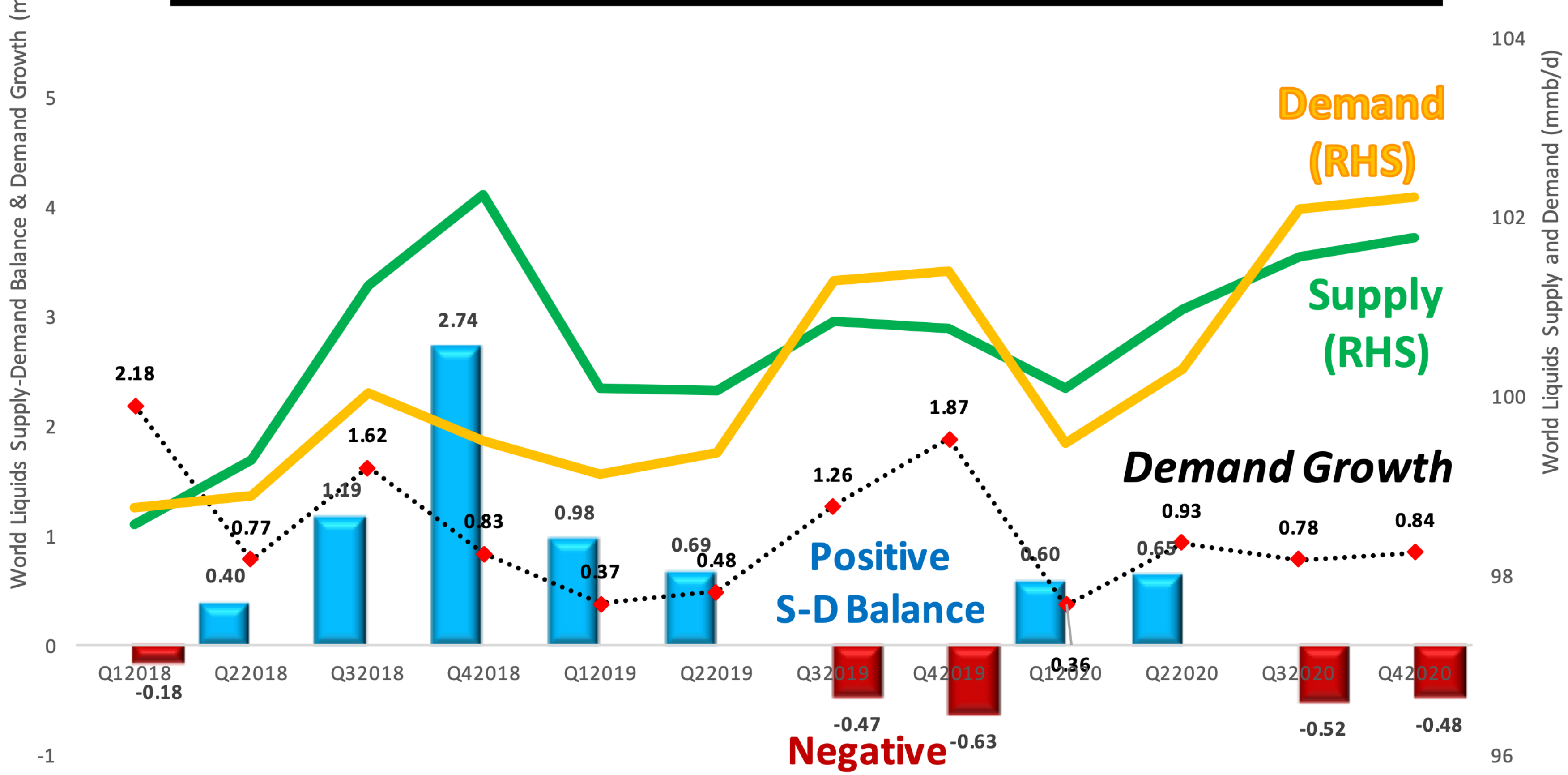
Art Berman

# MacroVoices

## February 6, 2020

# 2020 demand growth of 0.7 mmb/d using -500 kb/d demand decrease and -200 kbd OPEC+ cut in Q2 - Q4 (-0.15 mmb/d 2020 average cut) beyond January integrated IEA-OPEC-EIA pre-Coronavirus model

| *0.5 DEM & 0.2 OPEC* | Q22019 | Q32019 | Q42019 | Q12020 | Q22020 | Q32020 | Q42020 | **2020 AVG** |
|---|---|---|---|---|---|---|---|---|
| **SUPPLY GROWTH** | 0.76 | -0.40 | -1.49 | -0.02 | 0.90 | 0.73 | 1.00 | **0.65** |
| **DEMAND GROWTH** | 0.48 | 1.26 | 1.87 | 0.36 | 0.93 | 0.78 | 0.84 | **0.73** |
| **SUPPLY BALANCE** | 0.69 | -0.47 | -0.63 | 0.60 | 0.65 | -0.52 | -0.48 | **0.07** |

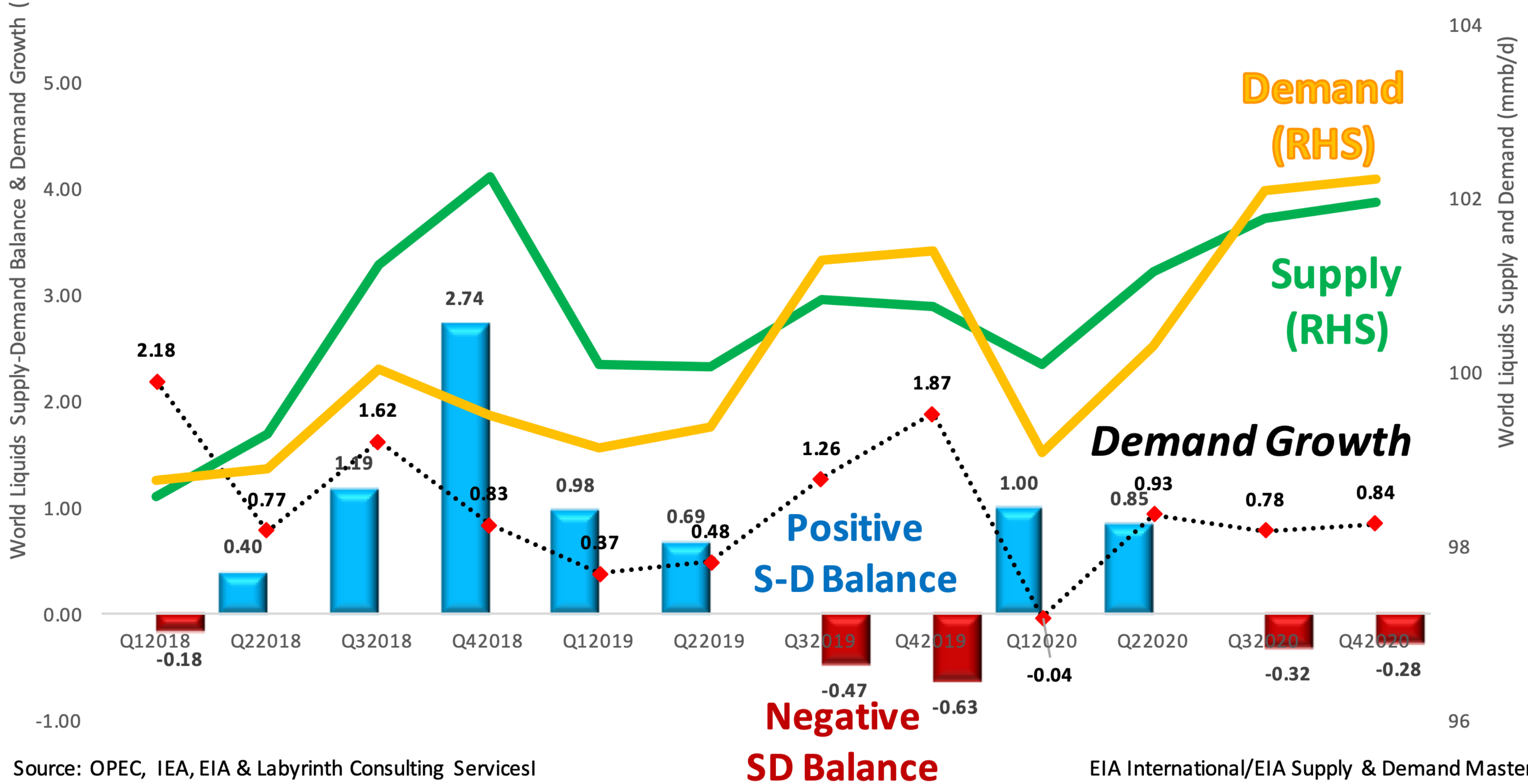



Source: OPEC, IEA, EIA & Labyrinth Consulting ServicesI

EIA International/EIA Supply & Demand Master

# 2020 demand growth of 0.6 mmb/d using -900 kb/d WoodMac Q1 demand decrease -500 kb/d in Q2-Q4 and no OPEC+ cut beyond January integrated IEA-OPEC-EIA pre-Coronavirus model

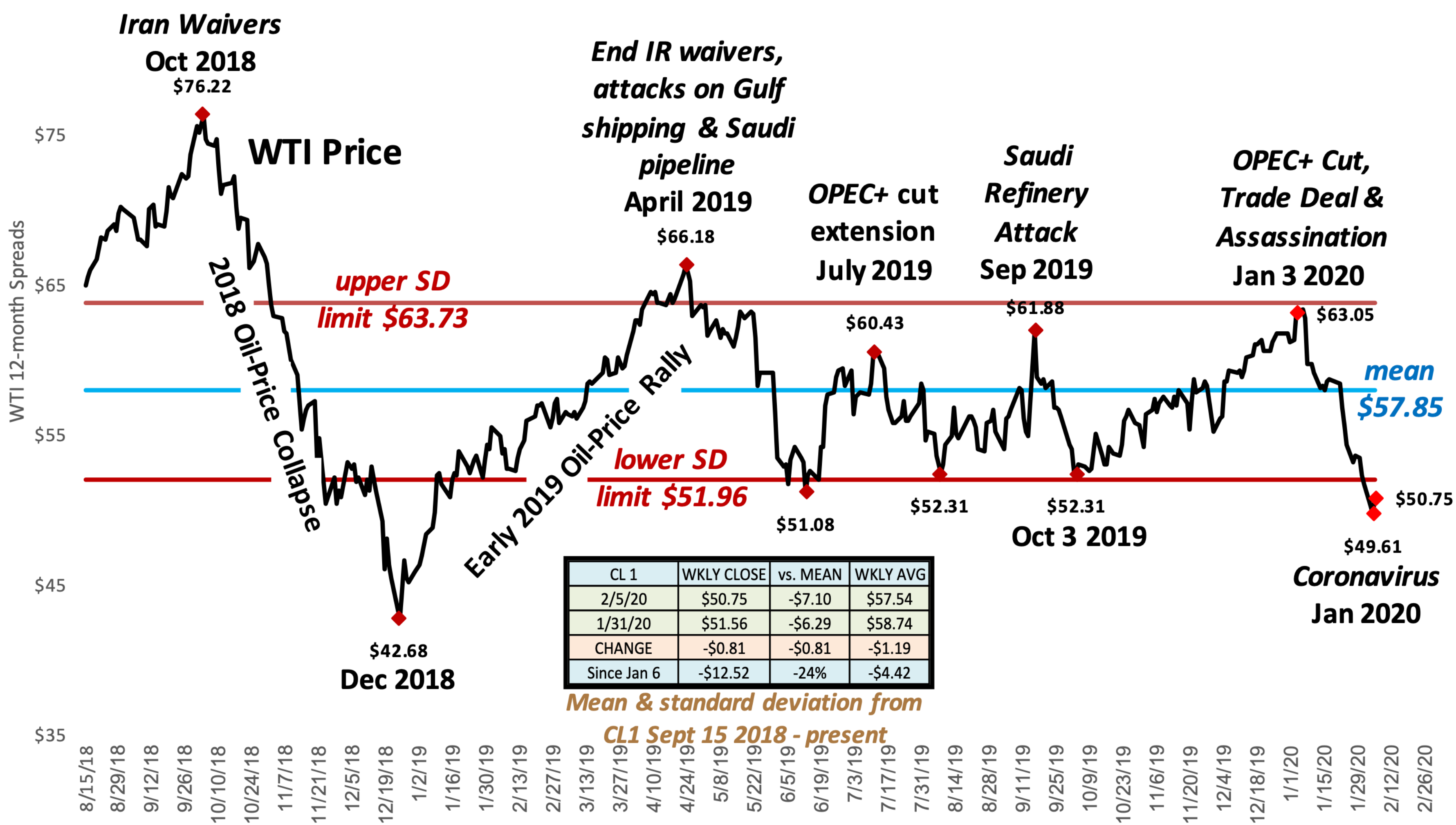
| *0.9 & 0.5 DEM & no OPEC* | Q22019 | Q32019 | Q42019 | Q12020 | Q22020 | Q32020 | Q42020 | **2020 AVG** |
|---|---|---|---|---|---|---|---|---|
| **SUPPLY GROWTH** | 0.76 | -0.40 | -1.49 | -0.02 | 1.10 | 0.93 | 1.20 | **0.80** |
| **DEMAND GROWTH** | 0.48 | 1.26 | 1.87 | -0.04 | 0.93 | 0.78 | 0.84 | **0.63** |
| **SUPPLY BALANCE** | 0.69 | -0.47 | -0.63 | 1.00 | 0.85 | -0.32 | -0.28 | **0.32** |




Source: OPEC, IEA, EIA & Labyrinth Consulting ServicesI

EIA International/EIA Supply & Demand Master

## Wednesday February 5 WTI price reversed +$1.12 (+2%) off of 13-month low
## Price remains less than lower limit that has marked the bottom of the last 3 price rallies
## Price fell -$13.60 (-22%) between January 6 and Februray 4



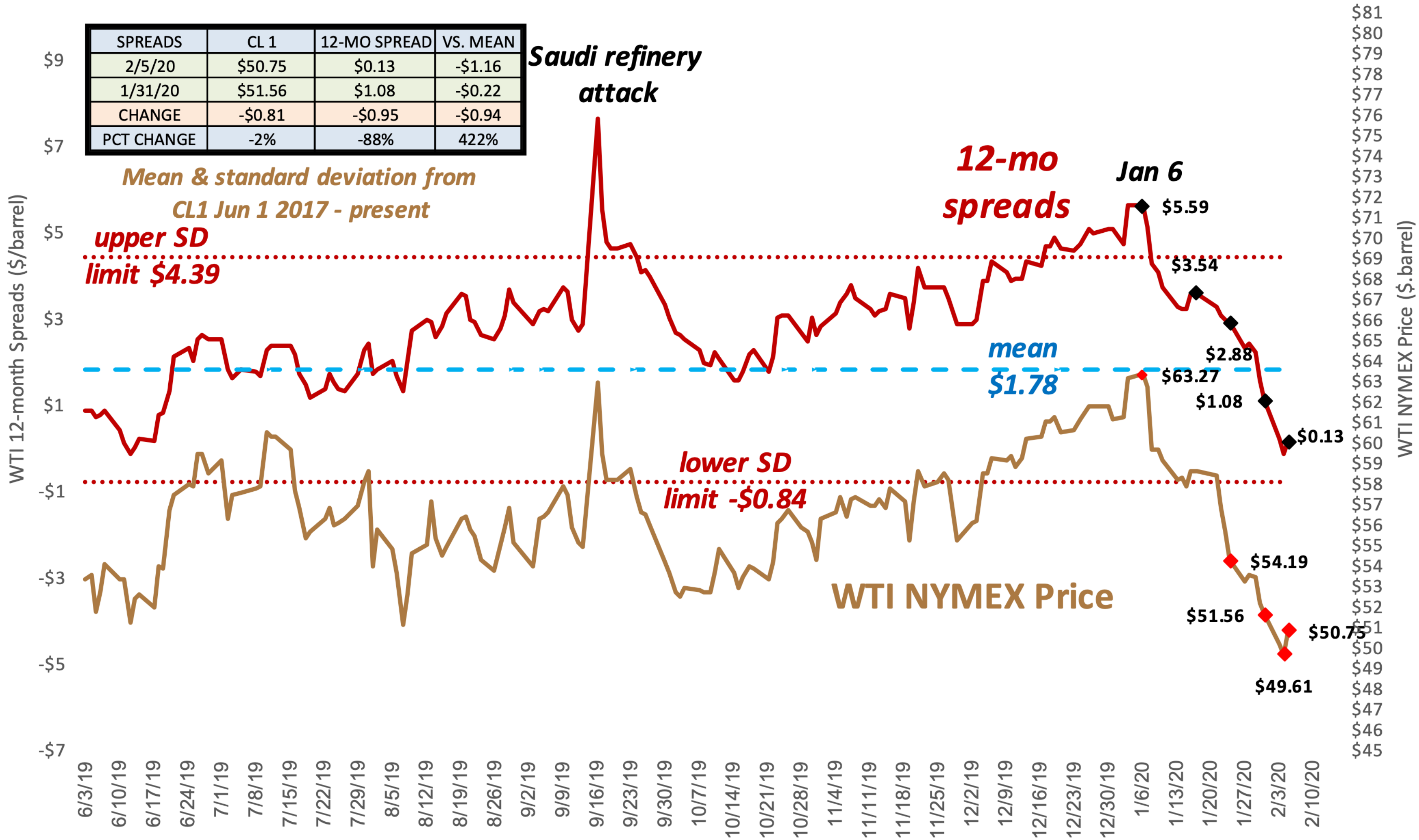

| CL 1 | WKLY CLOSE | vs. MEAN | WKLY AVG |
|---|---|---|---|
| 2/5/20 | $50.75 | -$7.10 | $57.54 |
| 1/31/20 | $51.56 | -$6.29 | $58.74 |
| CHANGE | -$0.81 | -$0.81 | -$1.19 |
| Since Jan 6 | -$12.52 | -24% | -$4.42 |

Source: Quandl & Labyrinth Consulting Services, Inc.

Oil & Gas General/Futures & Future Spreads/CL1&CL7 Futures

# WTI 12-month spreads reversed on Wednesday February 5 off of 7-month low
# Spreads have fallen -$5.74 (-103%) since Janary 6
# on over-reaction to Coronavirus effect on world oil demand

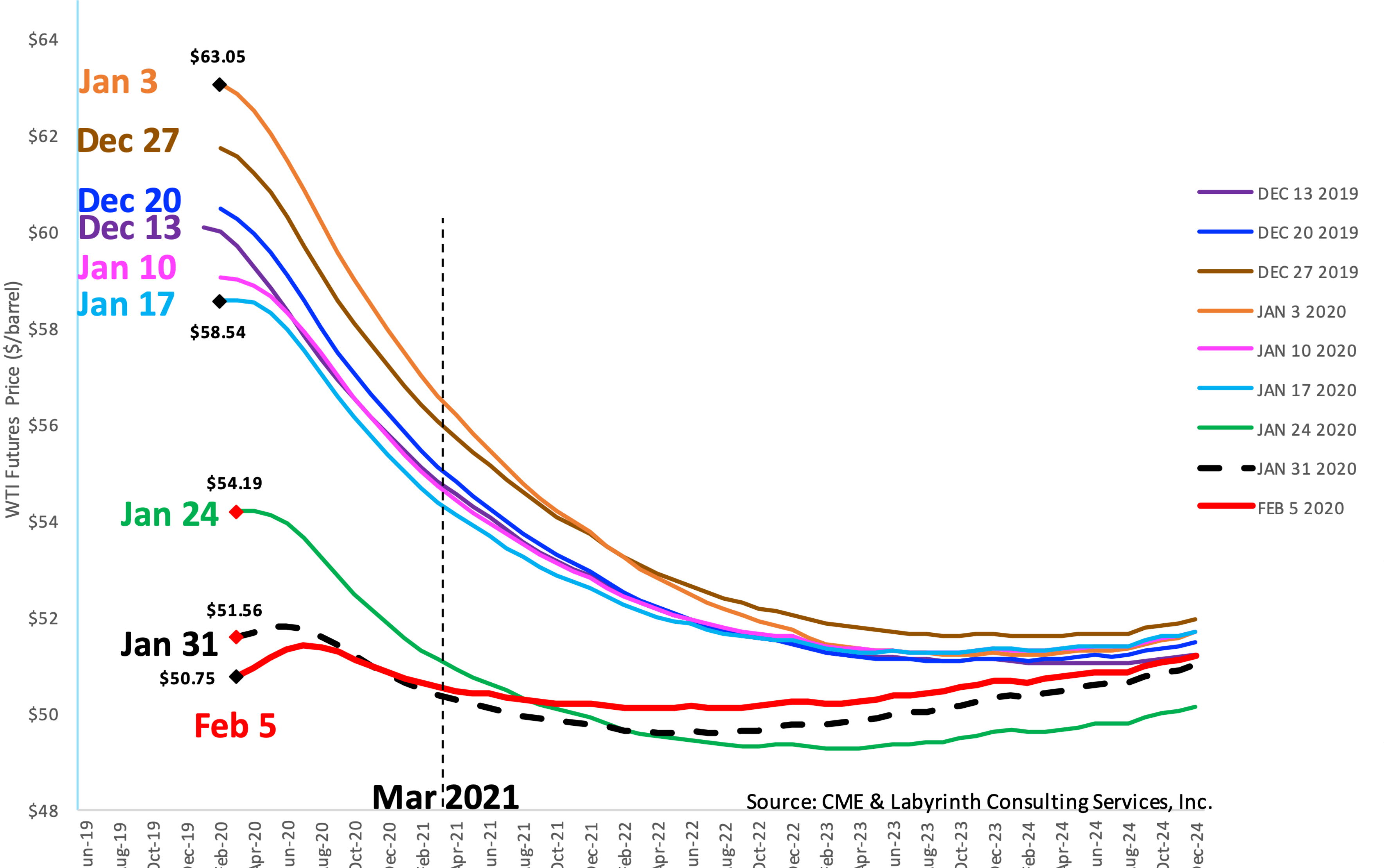
| SPREADS | CL 1 | 12-MO SPREAD | VS. MEAN |
|---|---|---|---|
| 2/5/20 | $50.75 | $0.13 | -$1.16 |
| 1/31/20 | $51.56 | $1.08 | -$0.22 |
| CHANGE | -$0.81 | -$0.95 | -$0.94 |
| PCT CHANGE | -2% | -88% | 422% |




Source: Quandl & Labyrinth Consulting Services, Inc.

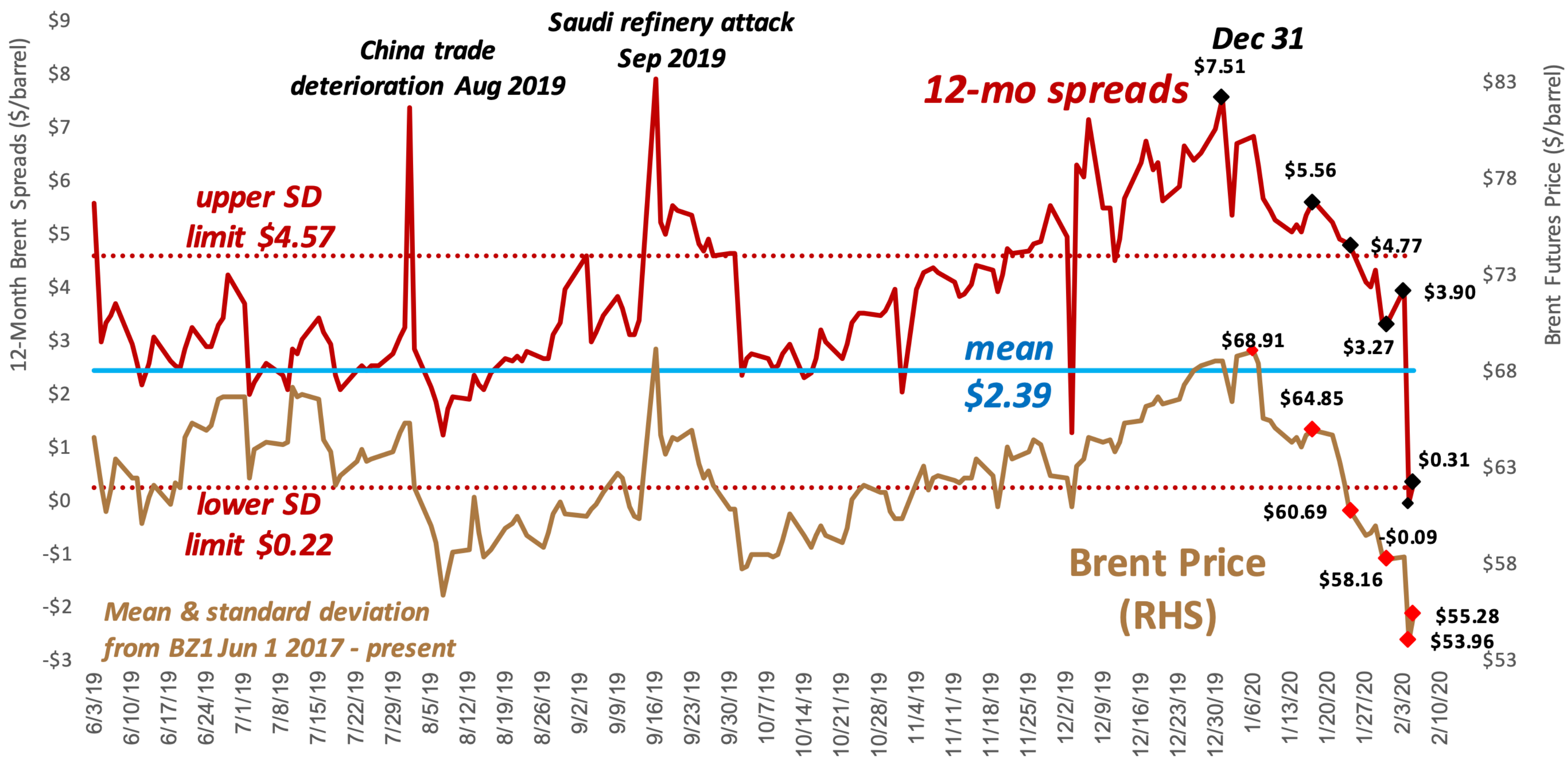
Oil & Gas General/Futures & Future Spreads/CL1&CL12 Futures

# WTI 12-month spreads have fallen -$5.74 (-103%) in last 5 weeks from $5.77 to $0.13
# Forward curve in 9-month contango vs 6-months week ending January 31
# My December 20 post "This Oil Rally Won't Last" was controversial!



# Brent 12-month spread decreased -$2.96 (-91%) from from Monday to Wednesday
# Spread has moved slightly above 1 standard deviation below the mean
# Brent front-month reversed from 28-month low of $53.96 on Tuesday

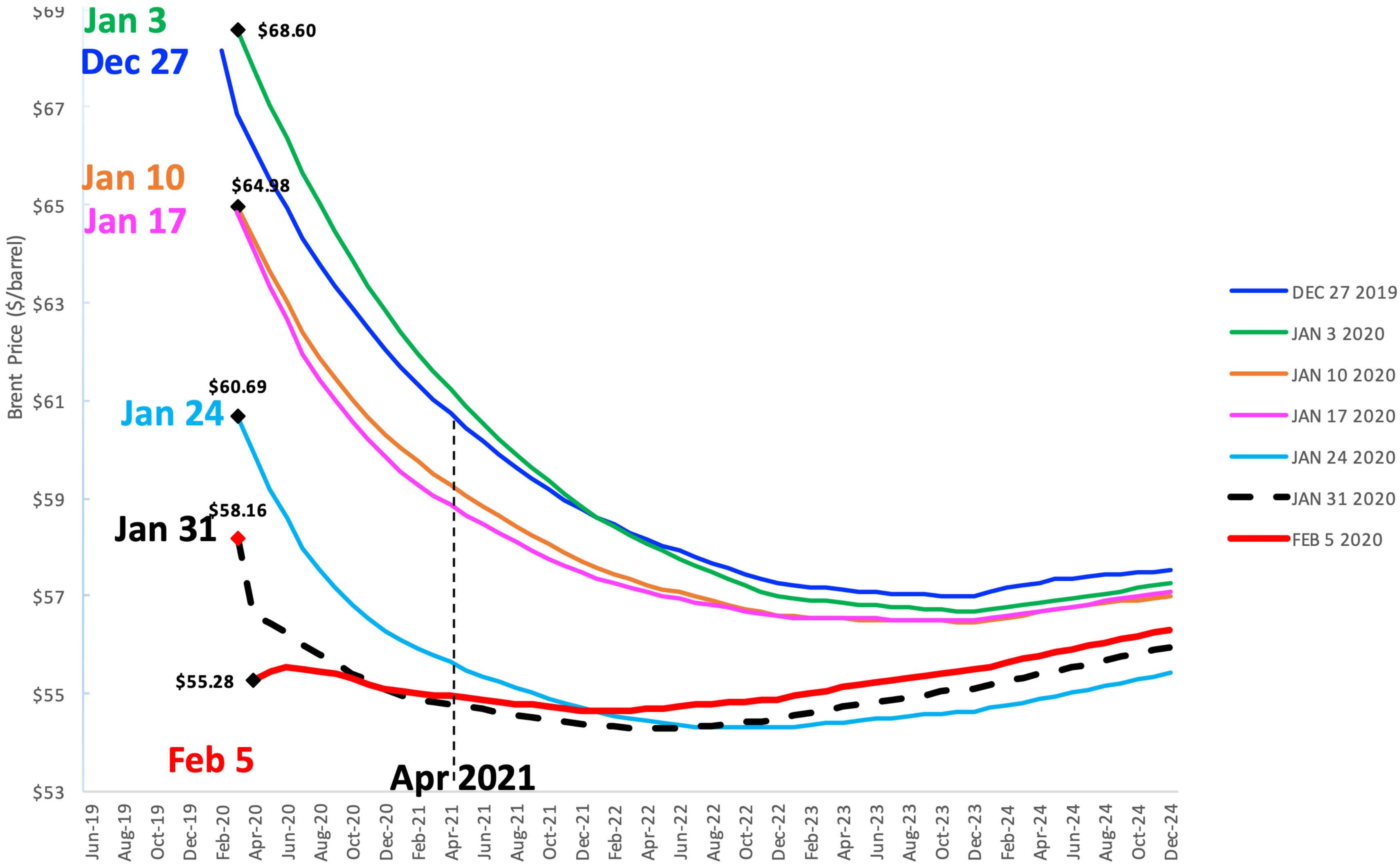
| SPREAD | BZ 1 | 12-MO SPREAD | VS. MEAN |
|---|---|---|---|
| 2/5/20 | $55.28 | $0.31 | -$2.08 |
| 1/31/20 | $58.16 | $3.27 | $0.87 |
| CHANGE | -$2.88 | -$2.96 | -$2.96 |
| PCT CHANGE | -5% | -91% | -338% |




Source: Quandl & Labyrinth Consulting Services, Inc.

Oil & Gas General/Futures & Future Spreads/BZ1-BZ12 FUTURES

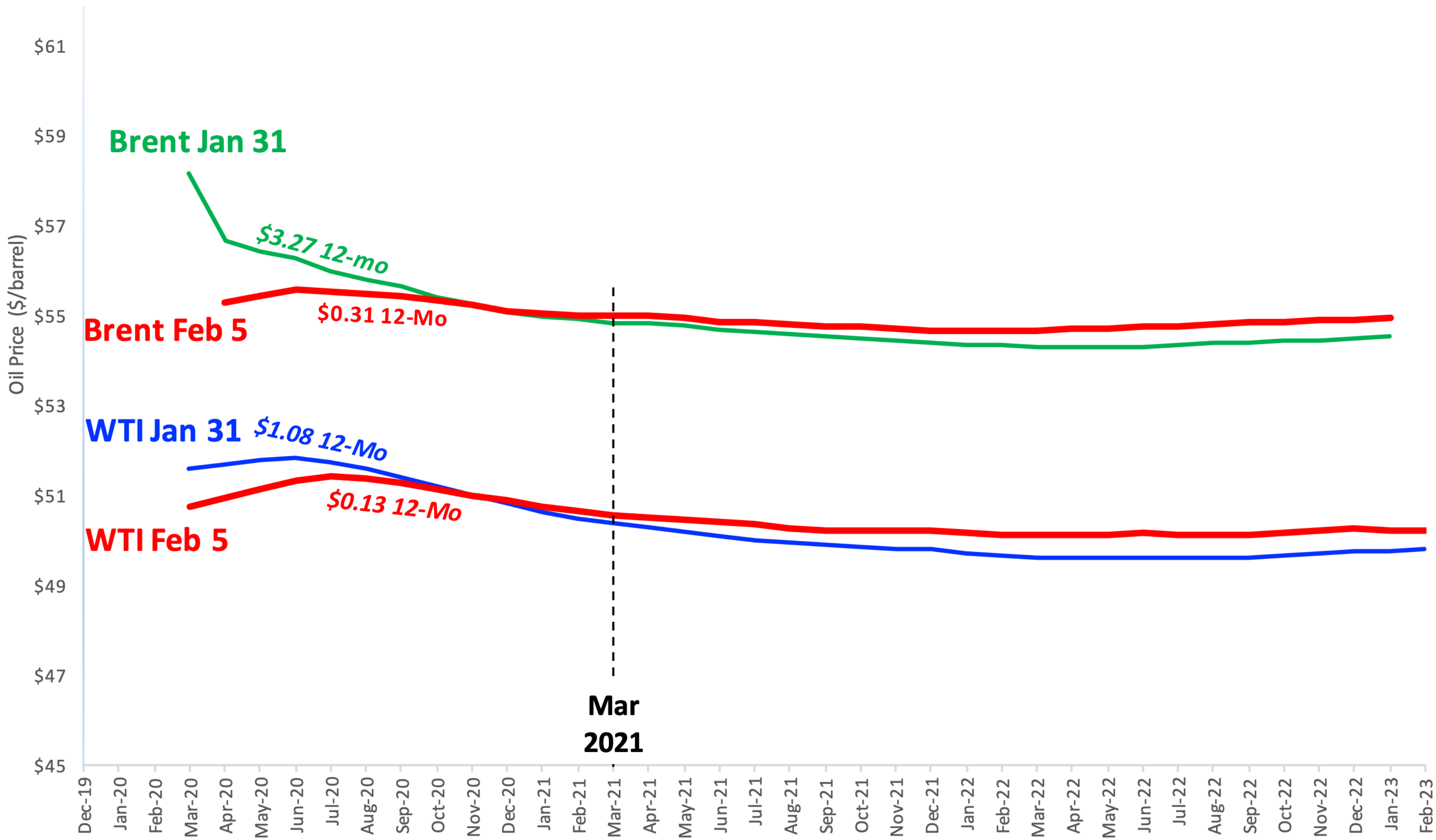
# Brent 6-month spread moved from steep backwardation week ending January 31 to 6-month contango on Wednesday, February 5
# 12-month spread fell -$2.96 (-91%) from Monday to Wednesday




Source: CME & Labyrinth Consulting Services, Inc.

Oil & Gas General/Futures & Futures Spreads/FUTURES CONTRACTS MASTER

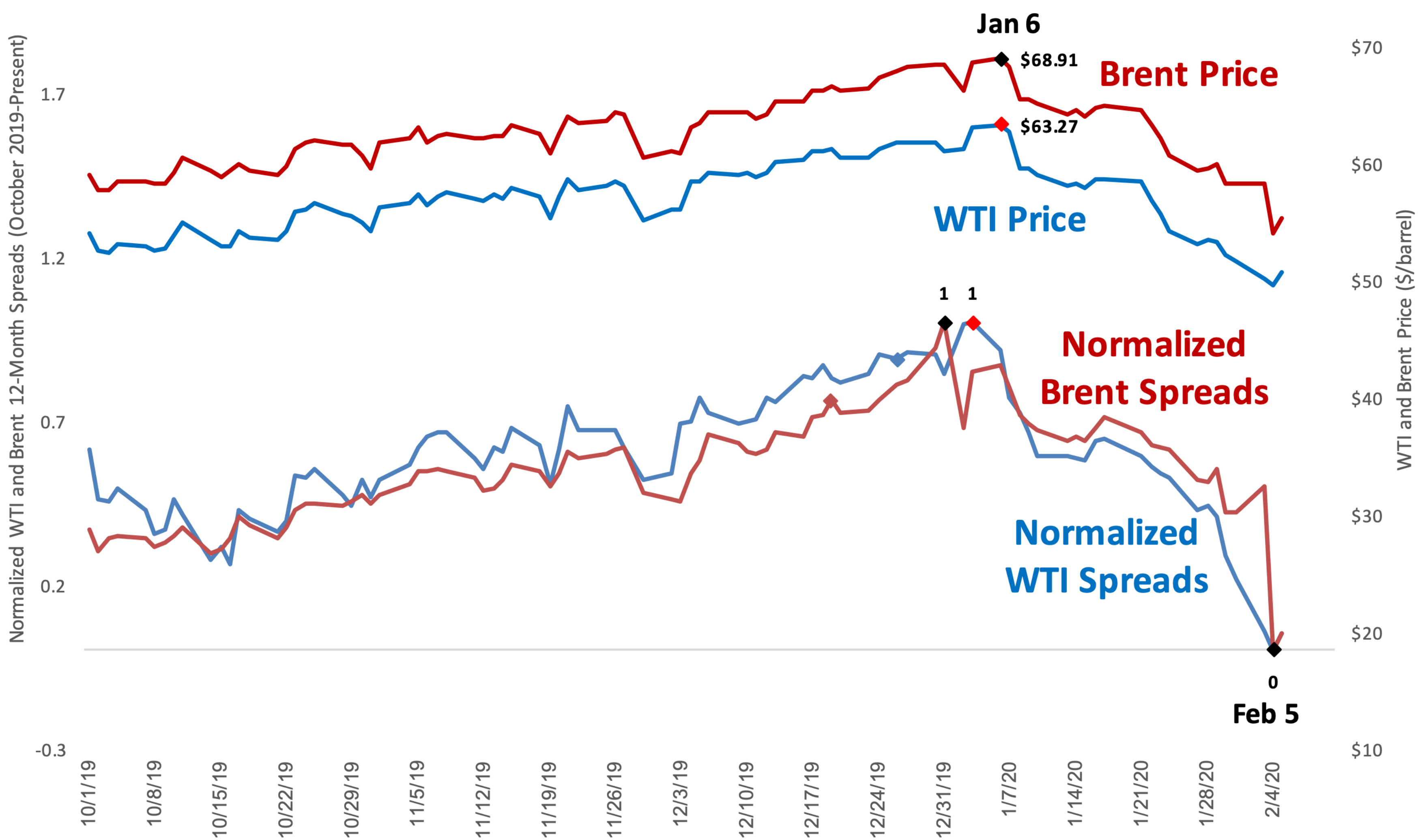
## WTI 12-month spreads decreased -$0.95 (-88%) Friday Jan 31 to Weds Feb 5
## Brent 12-month spreads fell -$2.96 (-91%)
## Brent price and spreads had remained stronger than WTI until this week




Source: CME & Labyrinth Consulting Services, Inc.

Oil & Gas General/Futures & Future Spreads/FUTURES CONTRACTS MASTER

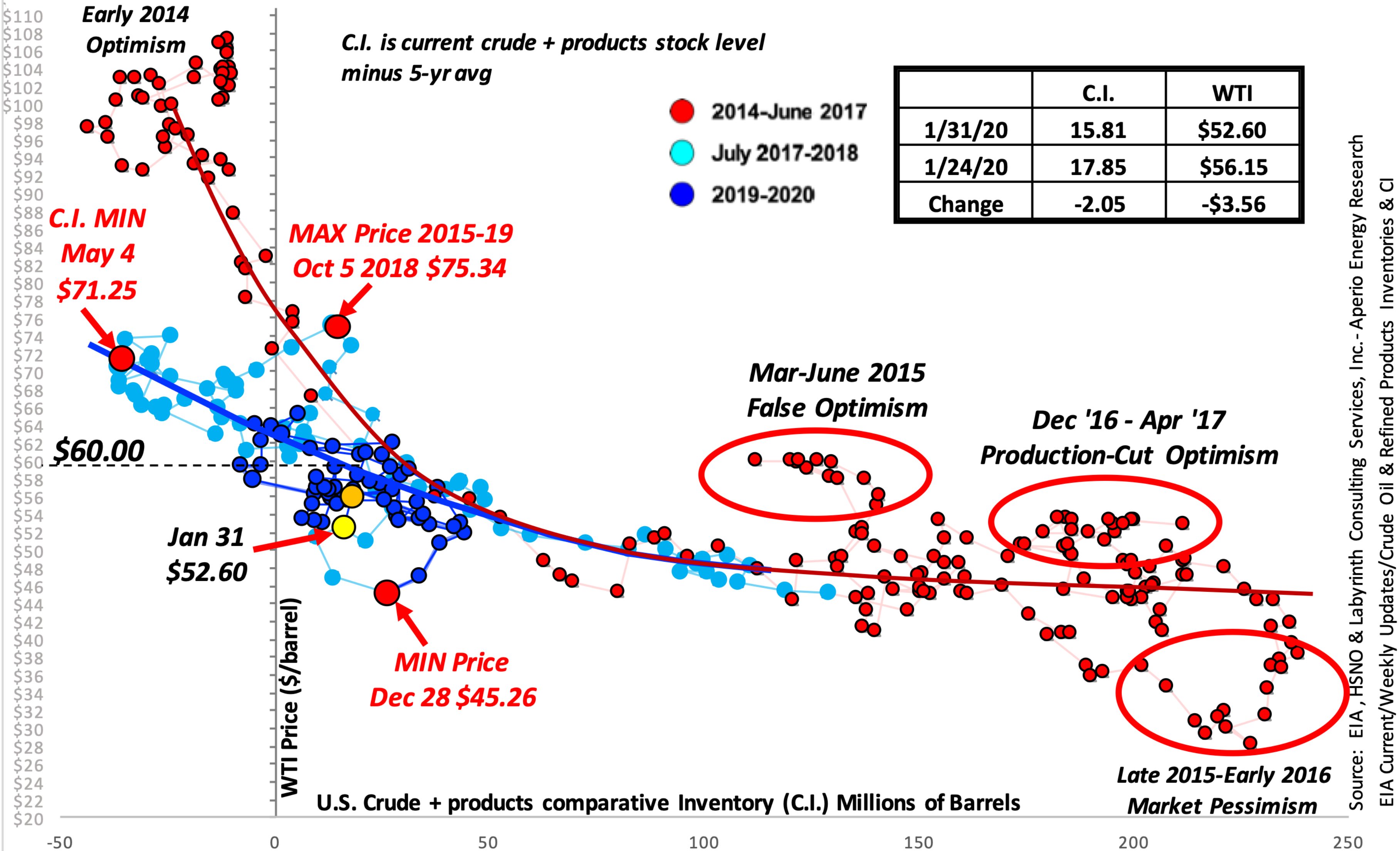
# Brent and WTI 12-month spreads followed somewhat different paths since November but both ended up at the same point in early February




Source: Quandl & Labyrinth Consulting Services, Inc.

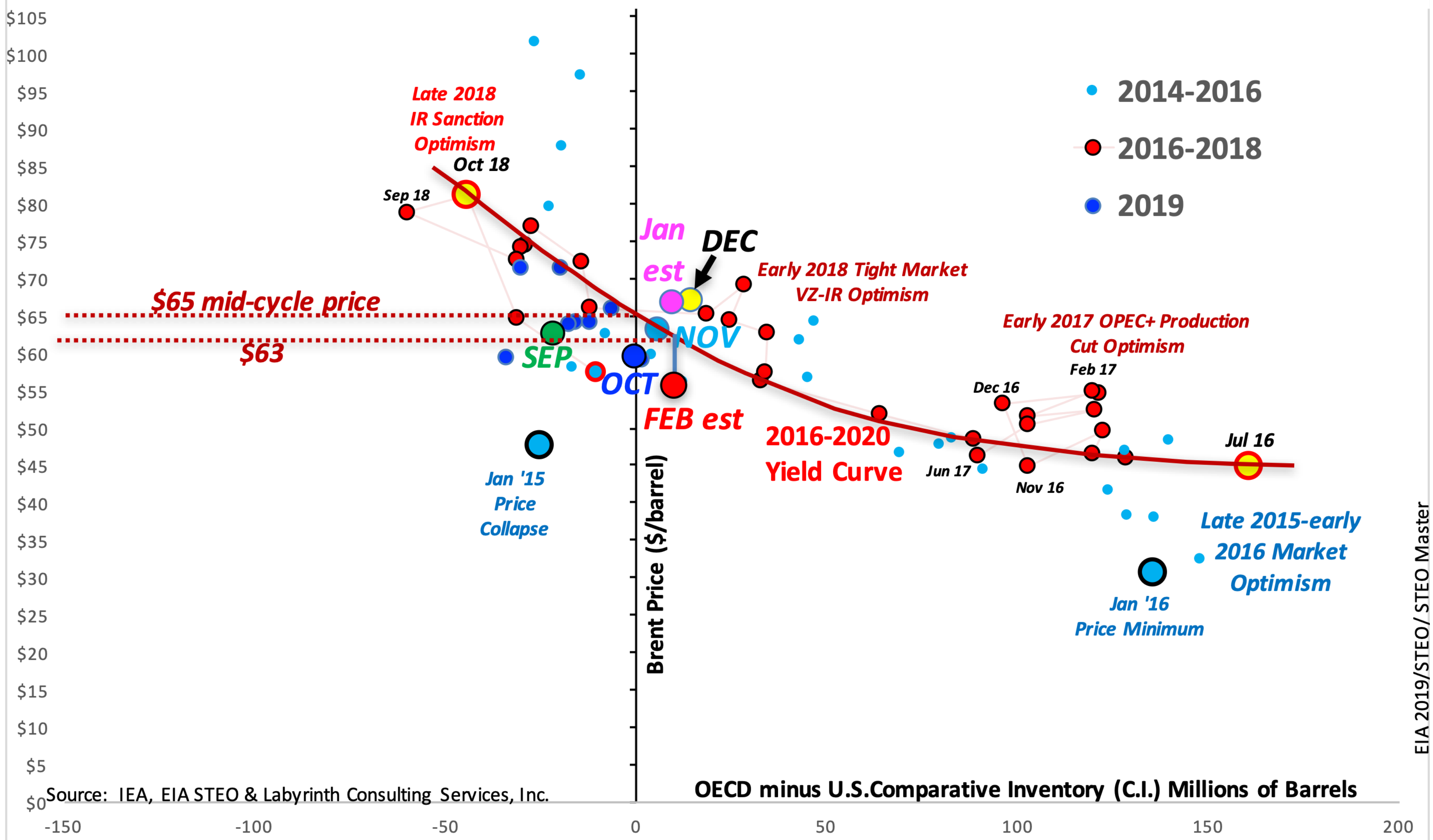
Oil & Gas General/Futures & Future Spreads/CL1-CL12 Futures

# WTI comparative inventory decreased -2.05 mmb week ending January 31
# WTI weekly average price of $52.60 ~$7.50 under-valued based on C.I. yield curve
# Current front-month price of $51 ~-$9.00 under-valued

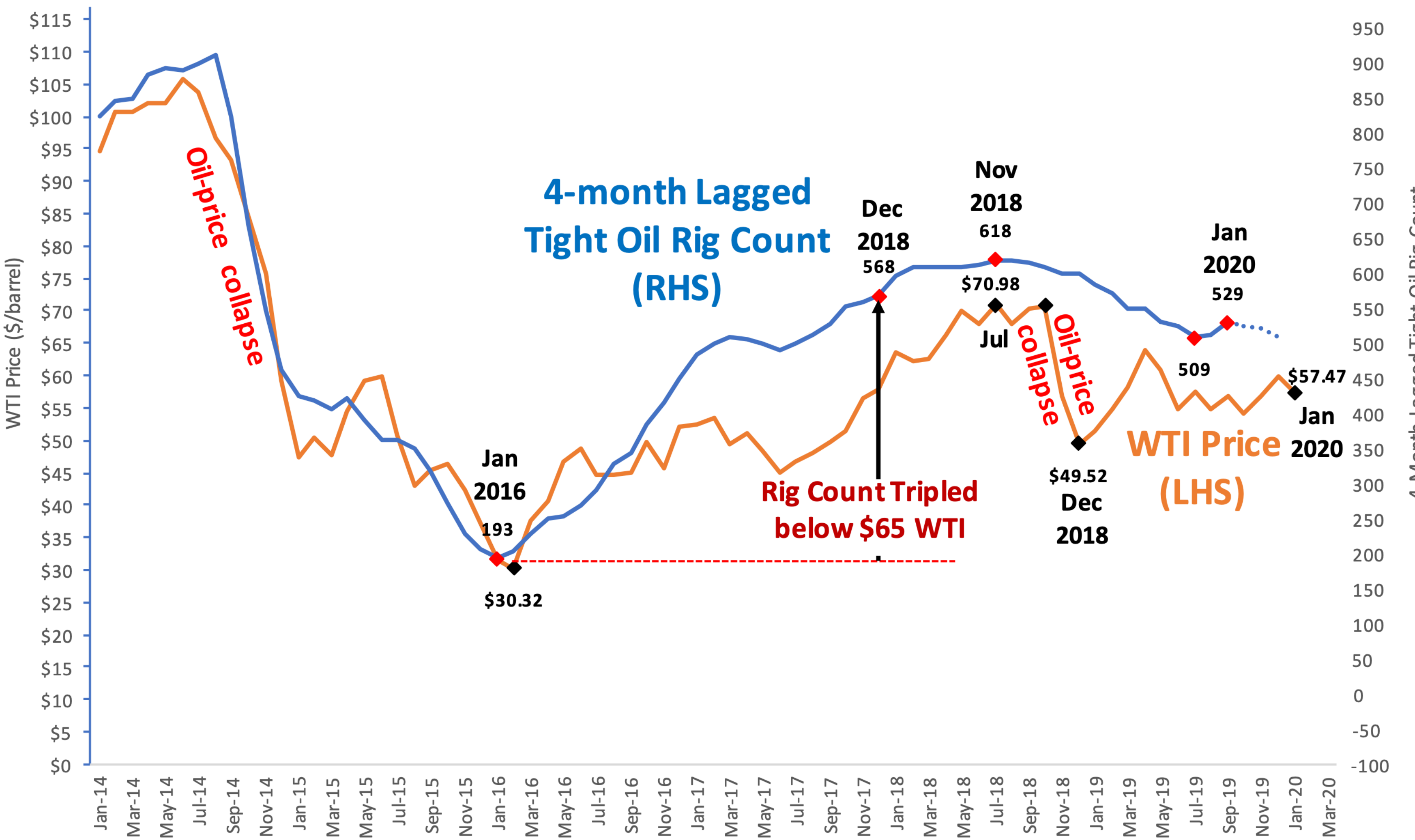



| | C.I. | WTI |
|---|---|---|
| 1/31/20 | 15.81 | $52.60 |
| 1/24/20 | 17.85 | $56.15 |
| Change | -2.05 | -$3.56 |

# Current Brent front-month price of $55 is approximately $8 under-valued based on comparative inventory 2016-2020 red yield curve and December inventory data from EIA STEO



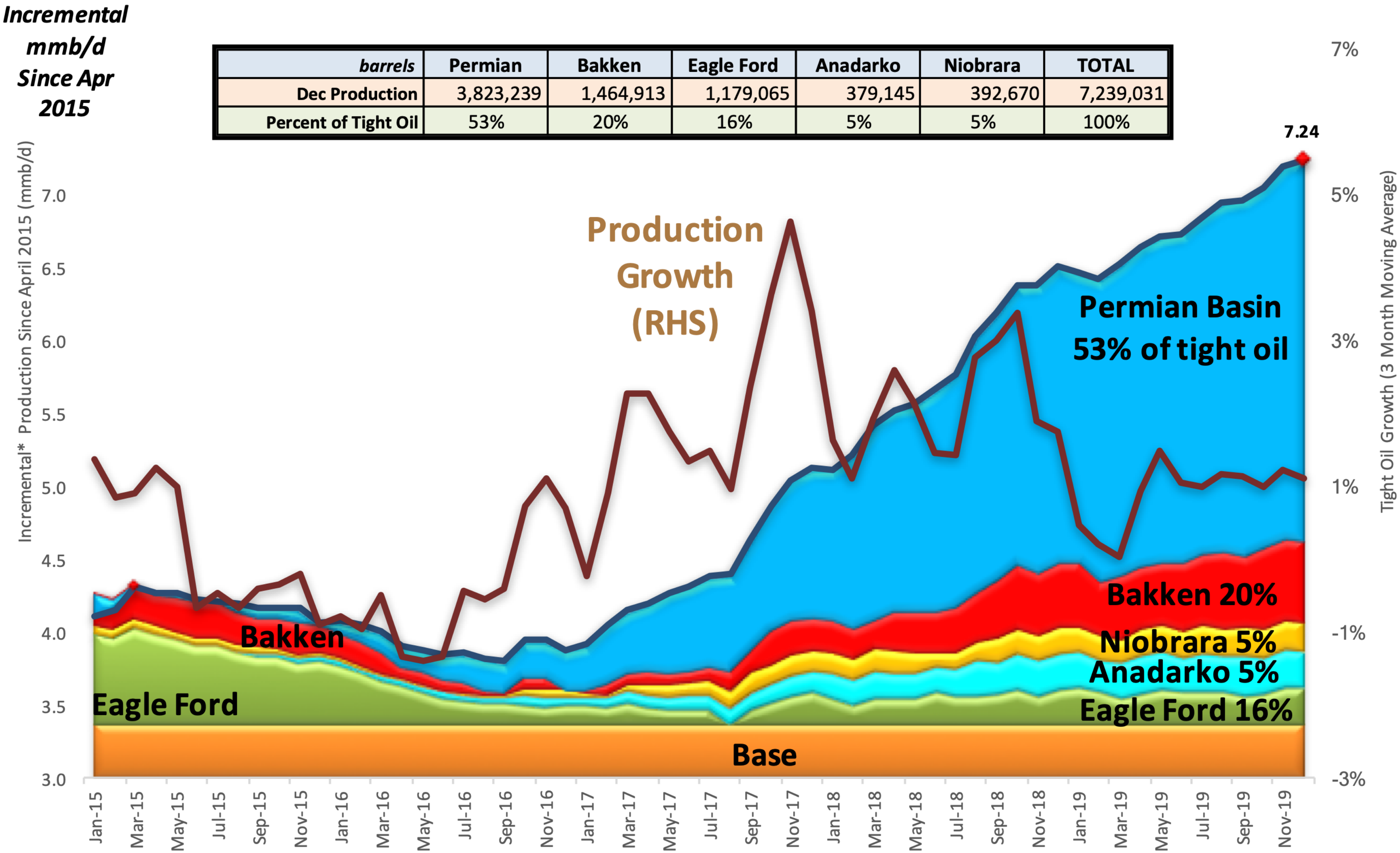
## Tight oil rig count has increased +20 from 509 to 529 since November 2019
## Production continues to increase at ~ 1% or 45 kb/d per month
## Its future trajectory depends on capital availability and oil price




Source: Baker Hughes, EIA DPR, Drilling Info & Labyrinth Consulting Services, Inc. Rig Count/Rig Count 2019/MONTHLY SHALE GAS-TIGHT OIL RIG COUNT

# December tight oil production 7.24 mmb/d---an increase of +44 kb/d from November Production growth has been fairly consistent at about 1% since June, 2019

| *barrels* | Permian | Bakken | Eagle Ford | Anadarko | Niobrara | TOTAL |
|---|---|---|---|---|---|---|
| Dec Production | 3,823,239 | 1,464,913 | 1,179,065 | 379,145 | 392,670 | 7,239,031 |
| Percent of Tight Oil | 53% | 20% | 16% | 5% | 5% | 100% |




Source: EIA, Drilling Info & Labyrinth Consulting Services, Inc.

EIA 2019/DUC-DPR/dpr-data_MASTER