



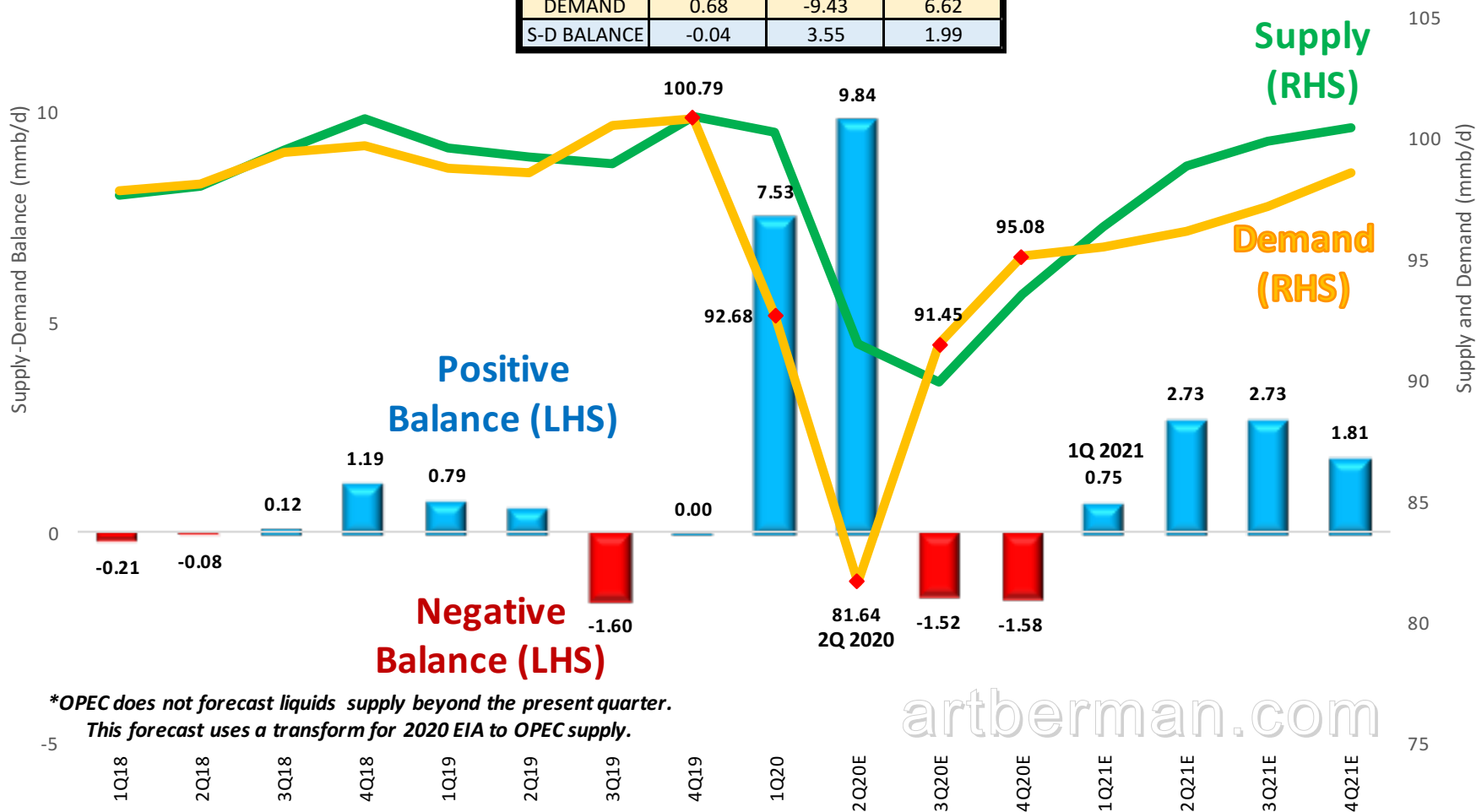
Art Berman

MacroVoices October 1, 2020



OPEC-EIA* expects a supply-demand deficit for 2H 2020 but a S-D surplus for 2021
-9.43 mmb/d demand growth and +3.55 mmb/d supply growth in 2020
+6.62 mmb/d demand growth and +1.99 mmb/d supply growth in 2021

| mmbd | 2019 | 2020 | 2021 |
|-------------|-------|-------|------|
| SUPPLY | 96.52 | -5.84 | 5.07 |
| DEMAND | 0.68 | -9.43 | 6.62 |
| S-D BALANCE | -0.04 | 3.55 | 1.99 |



*OPEC does not forecast liquids supply beyond the present quarter.
 This forecast uses a transform for 2020 EIA to OPEC supply.

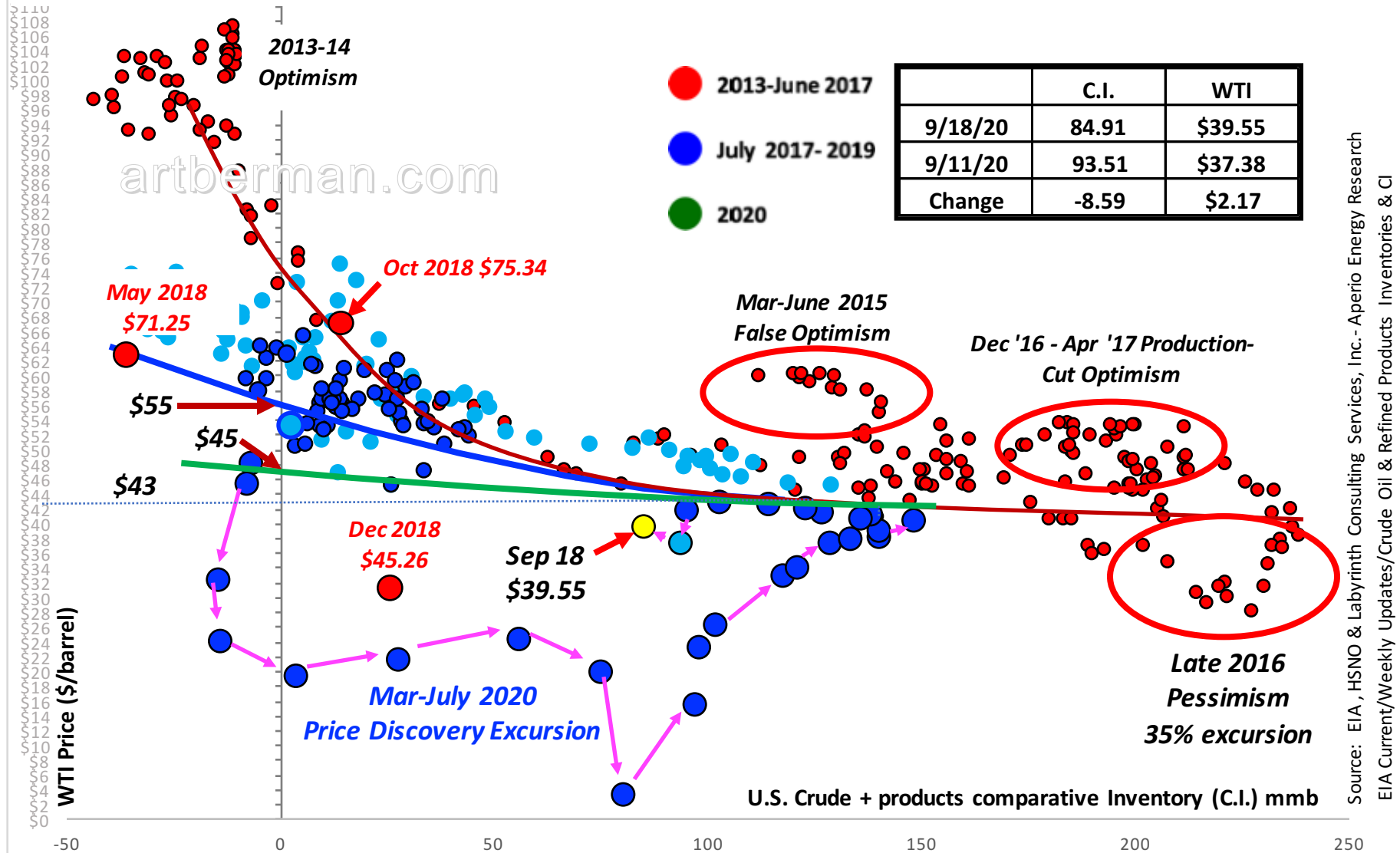
Source: OPEC, EIA & Labyrinth Consulting Services, Inc.

OPEC/Market Indicators/ OPEC Supply Demand Master

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U.S. comparative inventory fell -8.59 mmb to 85 mmb more than 5-year average

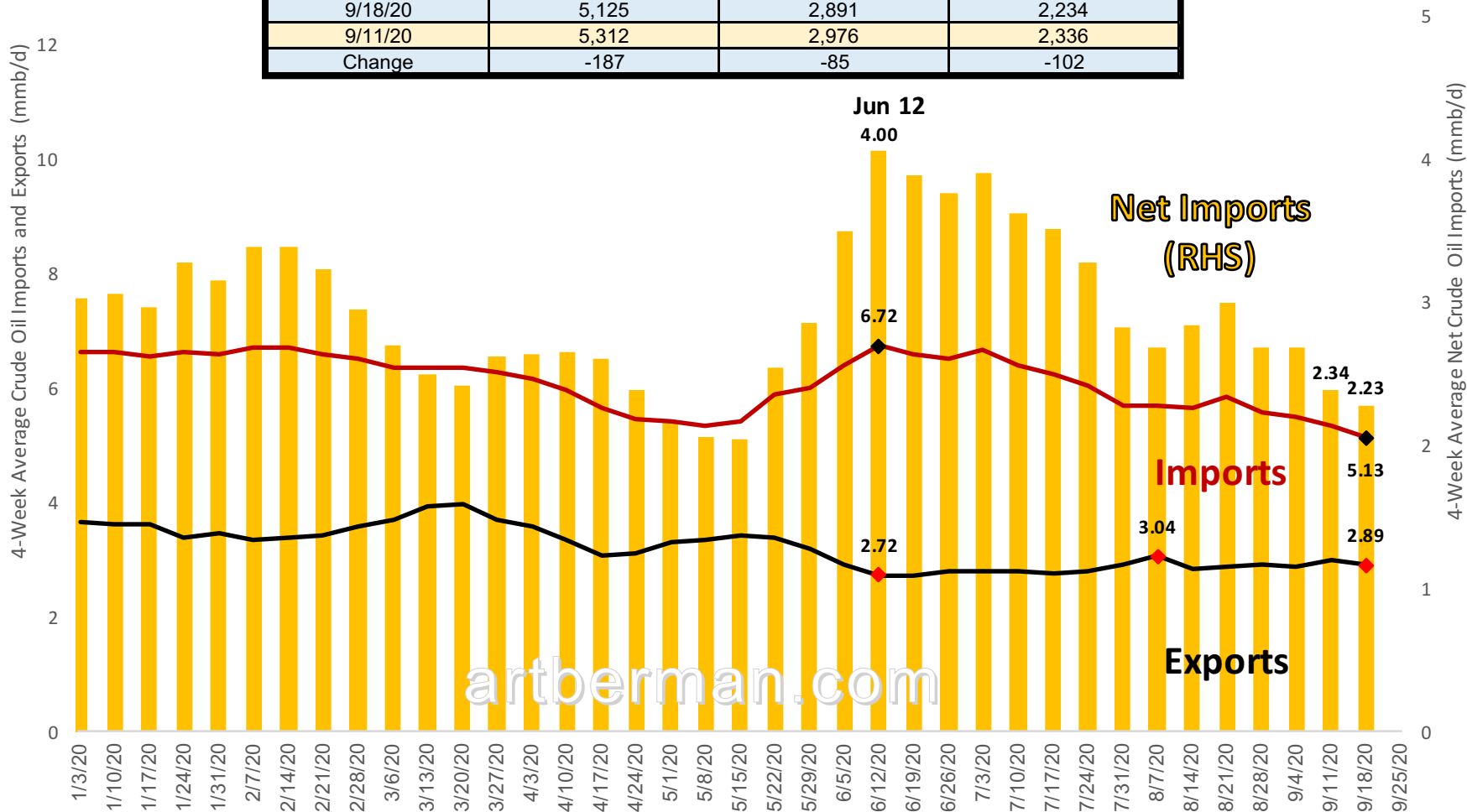
Weekly average WTI of \$39.55 is ~\$3.50 under-priced based on the green C.I. vs price yield curve



Source: EIA, HSNO & Labyrinth Consulting Services, Inc. - Aperio Energy Research
EIA Current/Weekly Updates/Crude Oil & Refined Products Inventories & CI

U.S. crude imports fell -187 kb/d & exports fell -85 kb/d week ending September 18
Falling U.S. net crude imports have been a major factor in decreasing inventories
Net imports have fallen -1.8 mm/d (44%) since mid-June from 4 to 2.2 mmb/d

| 4-wk avg b/d | Crude Imports | Crude Exports | Net Crude Imports |
|--------------|---------------|---------------|-------------------|
| 9/18/20 | 5,125 | 2,891 | 2,234 |
| 9/11/20 | 5,312 | 2,976 | 2,336 |
| Change | -187 | -85 | -102 |

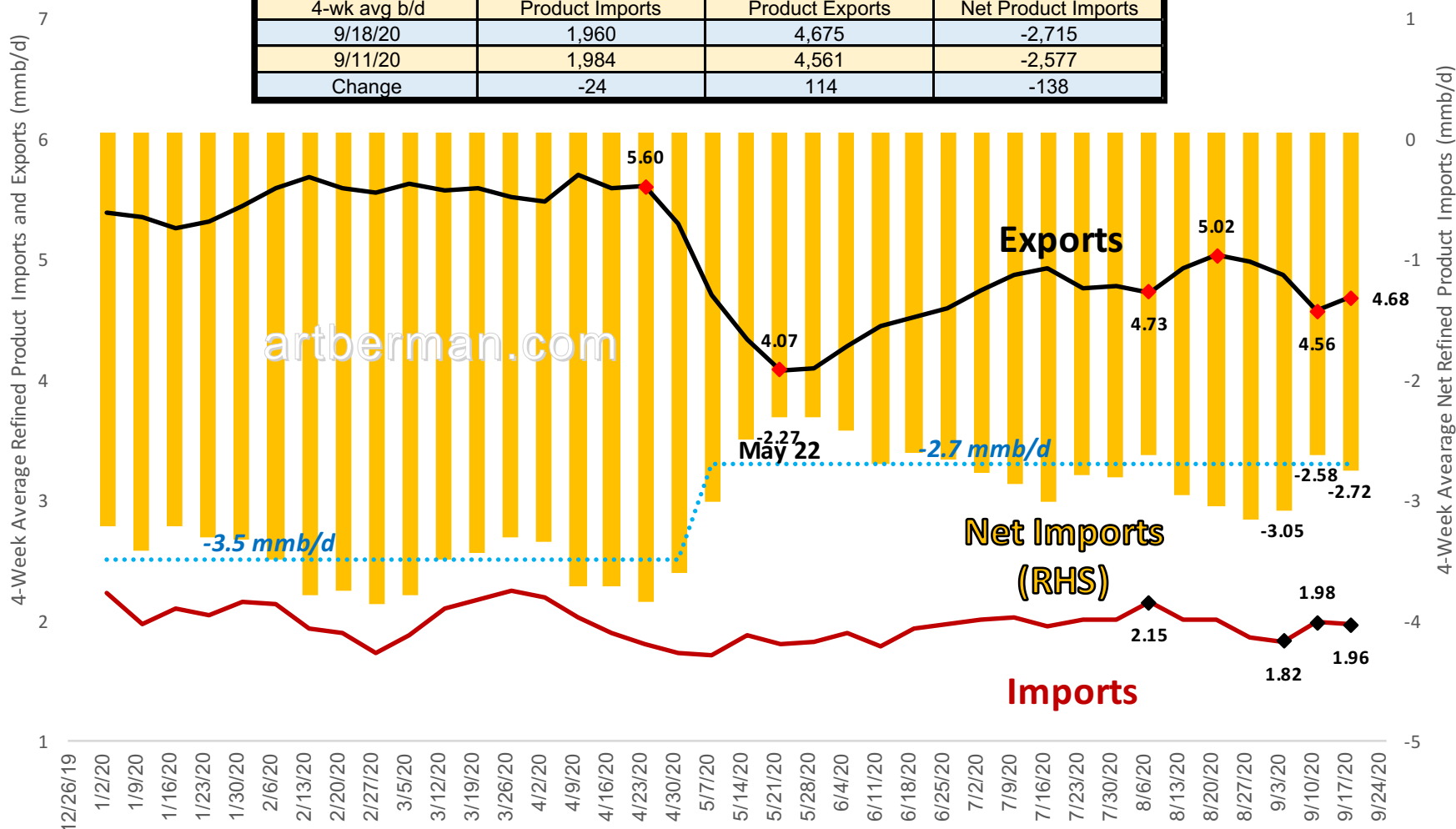


Source: EIA & Labyrinth Consulting Services, Inc.

EIA Current/Weekly Updates/PSW Master

U.S product exports rose +0.11 mmb/d from 4.56 to 4.68 mmb/d week ending Sept 18
Net imports fell -0.24 mmb/d from -2.58 to -2.72 mmb/d
Average net imports have decreased- 700 kb/d since May

| 4-wk avg b/d | Product Imports | Product Exports | Net Product Imports |
|--------------|-----------------|-----------------|---------------------|
| 9/18/20 | 1,960 | 4,675 | -2,715 |
| 9/11/20 | 1,984 | 4,561 | -2,577 |
| Change | -24 | 114 | -138 |

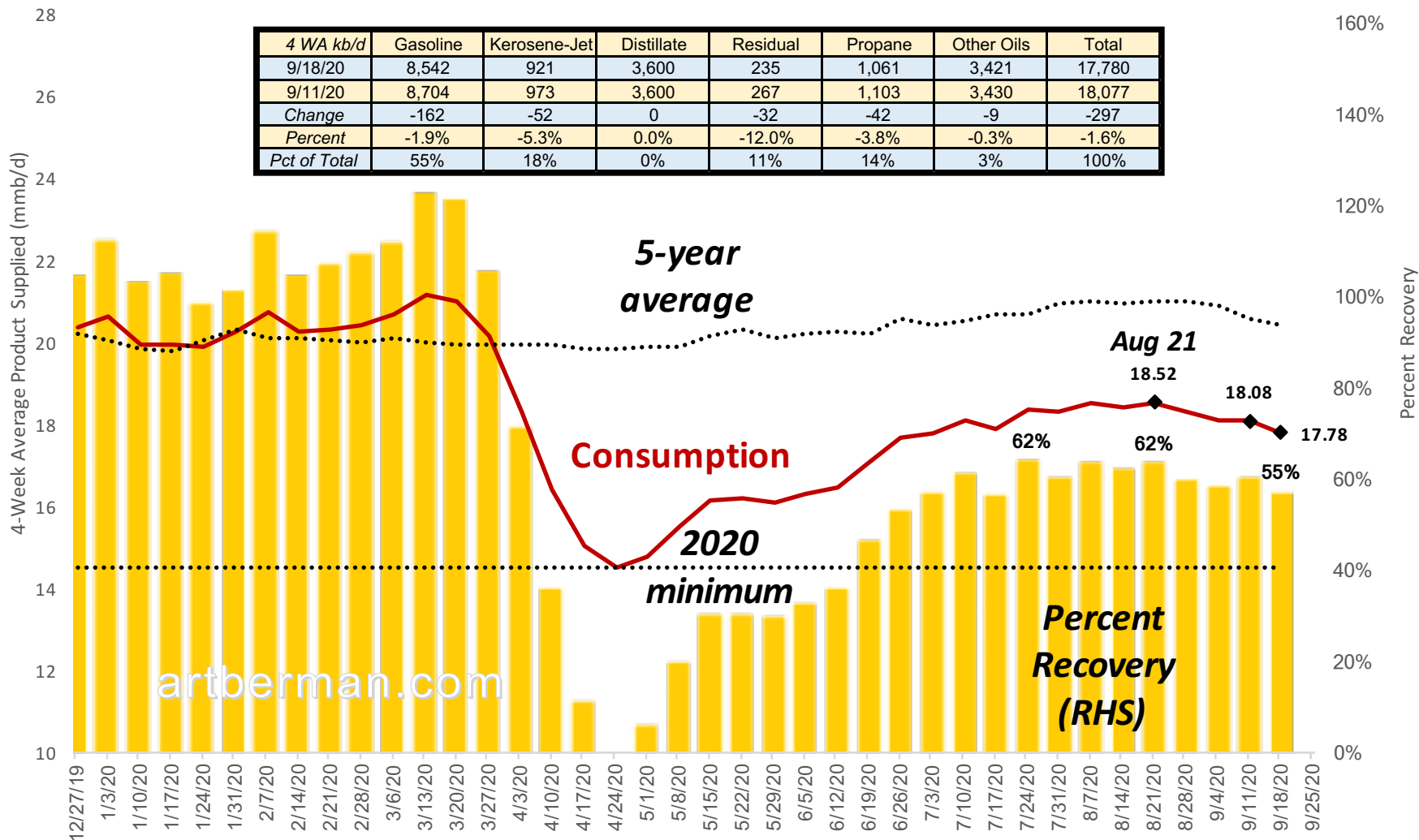


Source: EIA & Labyrinth Consulting Services, Inc.

EIA Current/Weekly Updates/PSW Master

U.S. refined product consumption has fallen -717 kb/d (-4%) from 18.52 to 17.78 mmb/d since August 21

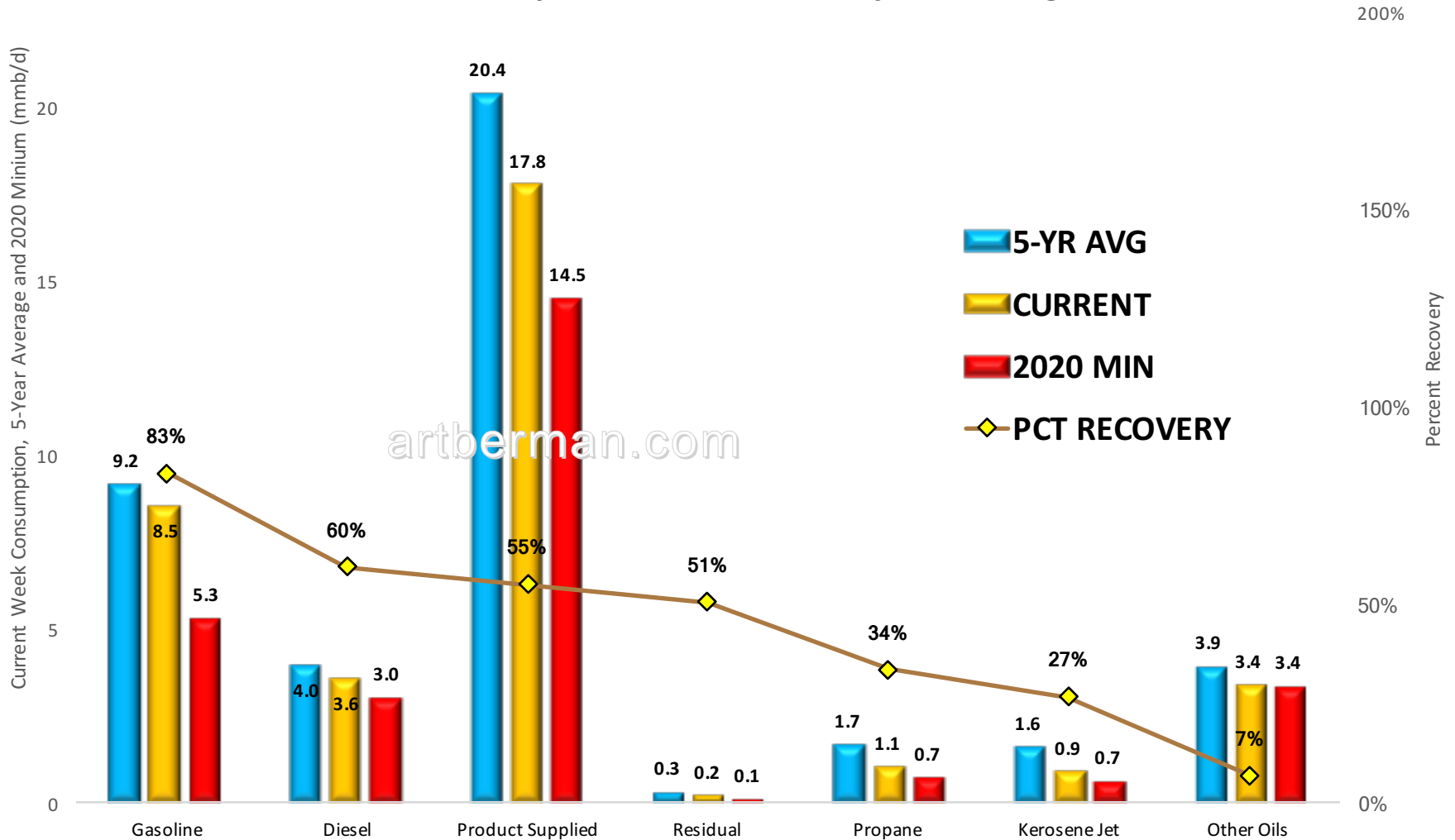
Recovery fell from 59% to 55% of the 5-year average week ending September 18



U.S. refined product consumption has recovered to 55% of the 5-year average

Gasoline has recovered to 83% and diesel to 60%

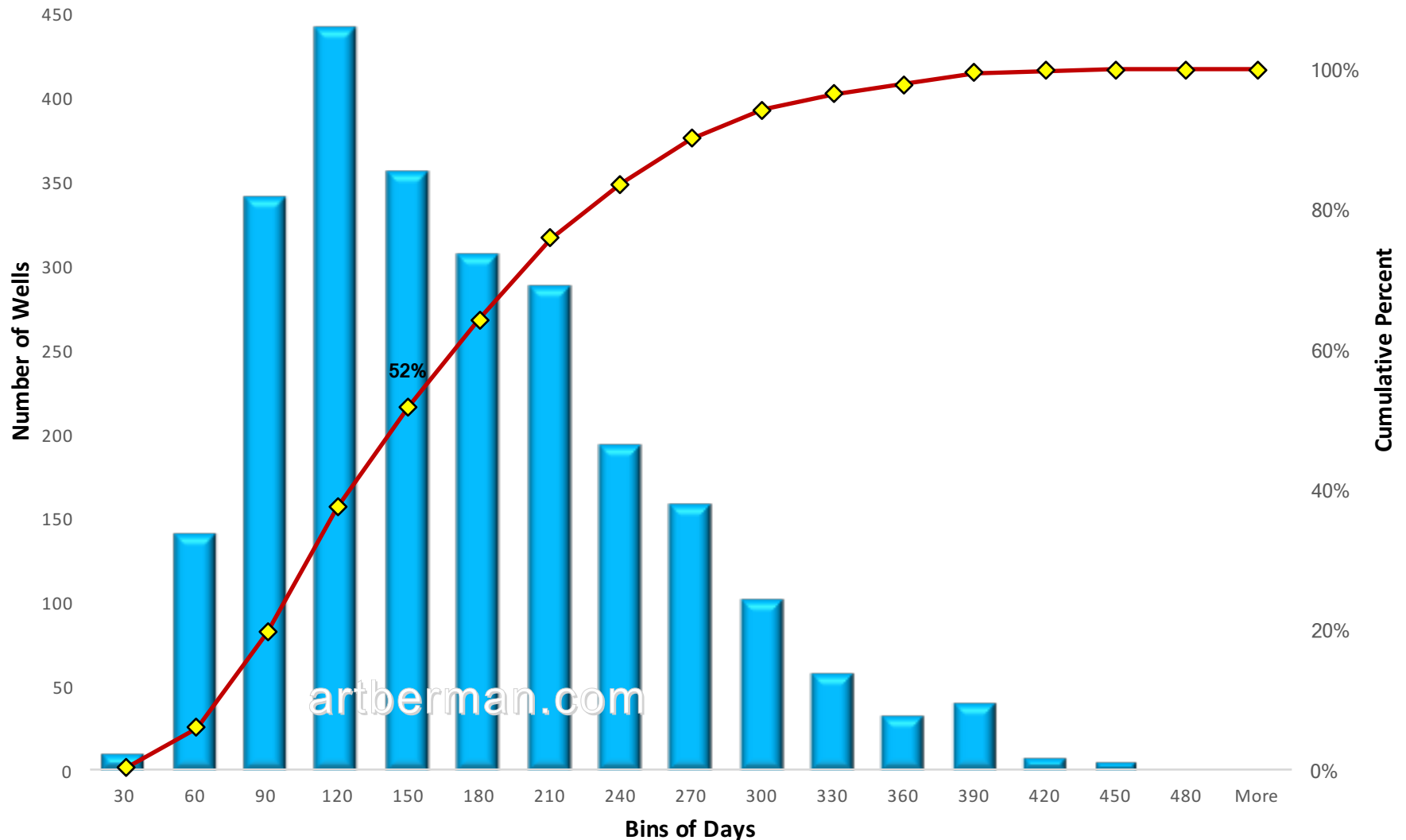
Kerosene jet is at 27% of its 5-year average



Source: EIA & Labyrinth Consulting Services, Inc.

EIA Current/Weekly Updates/Product Supplied Weekly

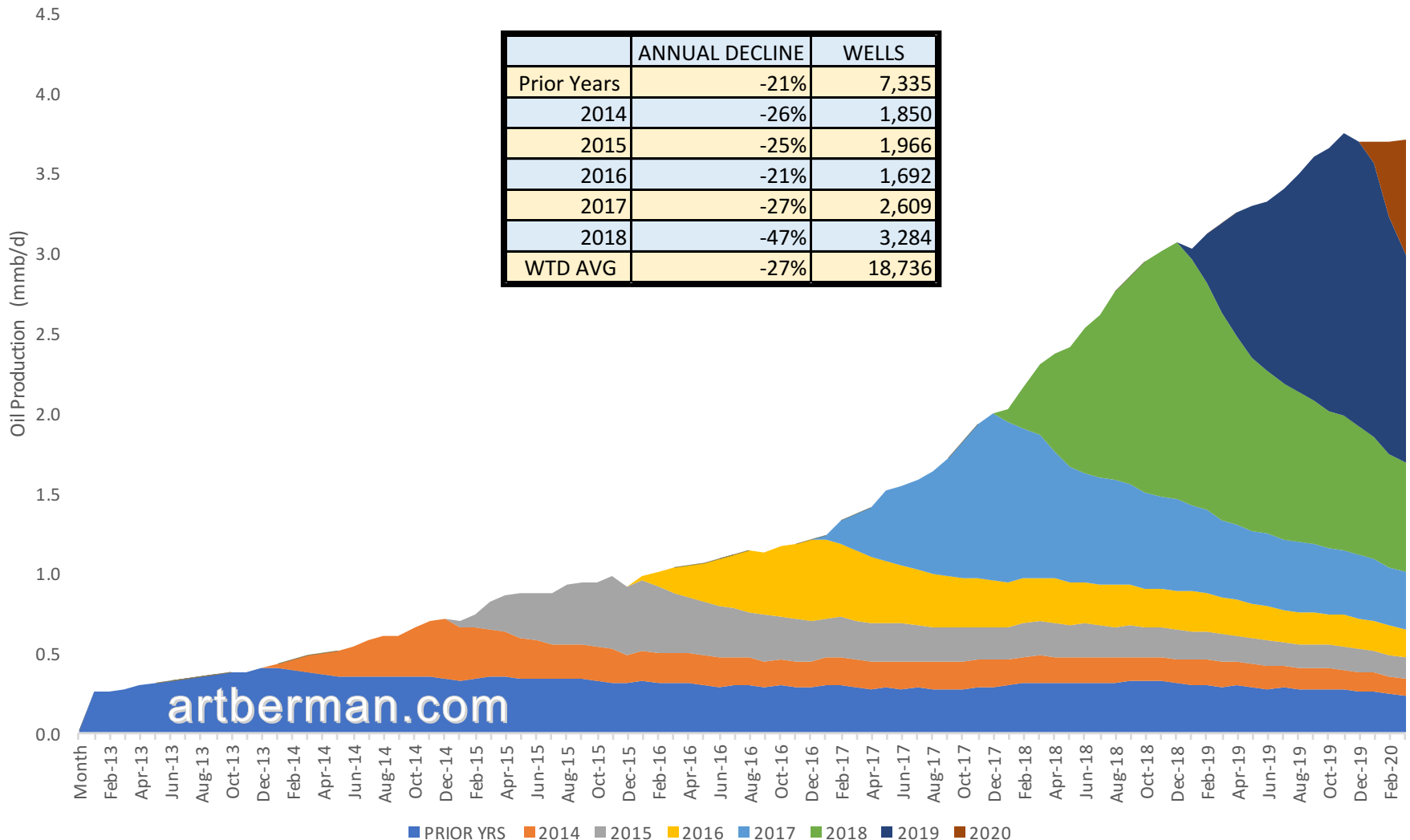
5 to 6 months from well spud to first production for Permian tight oil plays



Source: Enverus & Labyrinth Consulting Services, Inc.

Shale Plays/Permian 2020/2019 Spud to 1st Oil

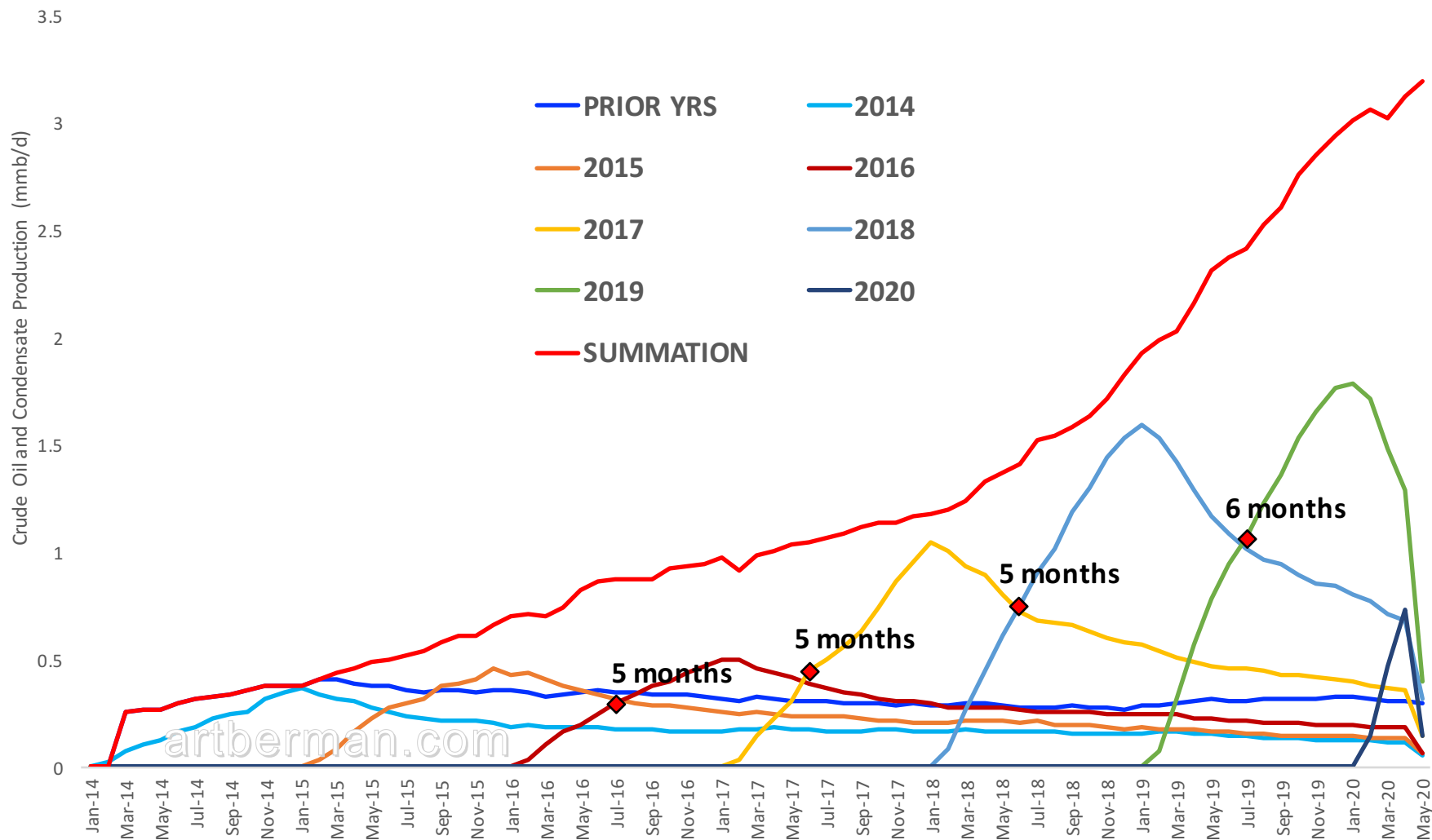
Permian basin annual decline rate is 27% for horizontal tight oil wells
Decline rates generally increase for wells drilled in more recent years
because of higher initial production rates



Source: Enverus & Labyrinth Consulting Services, Inc.

Shale Plays/Permian 2020/PERMIAN TIGHT OIL DECLINE JUN 2020

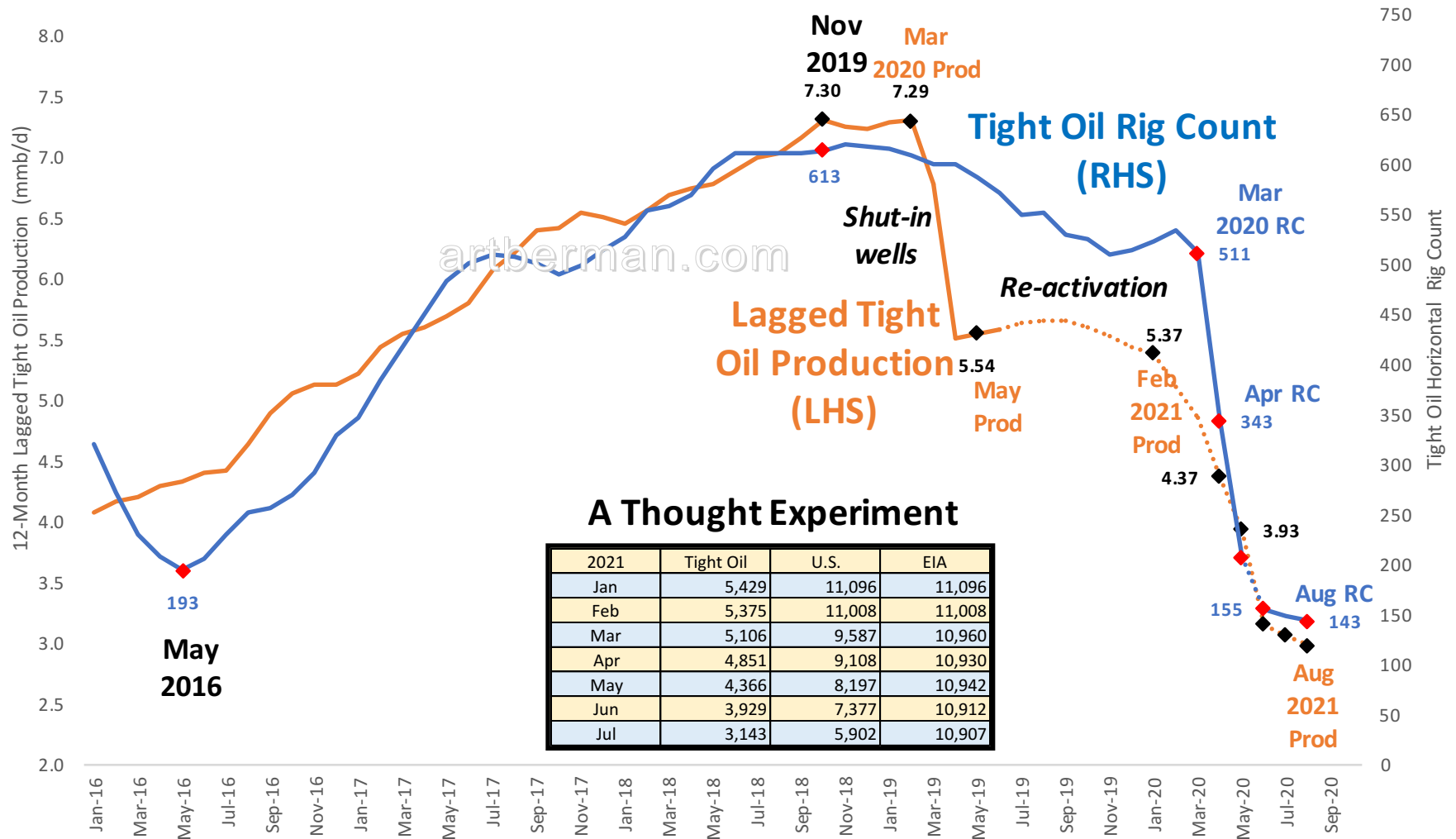
5 to 6 months before new well production offsets decline from previous year output for Permian tight oil plays



Source: Enverus & Labyrinth Consulting Services, Inc.

Shale Plays/Permian 2020/PERMIAN TIGHT OIL DECLINE JUN 2020

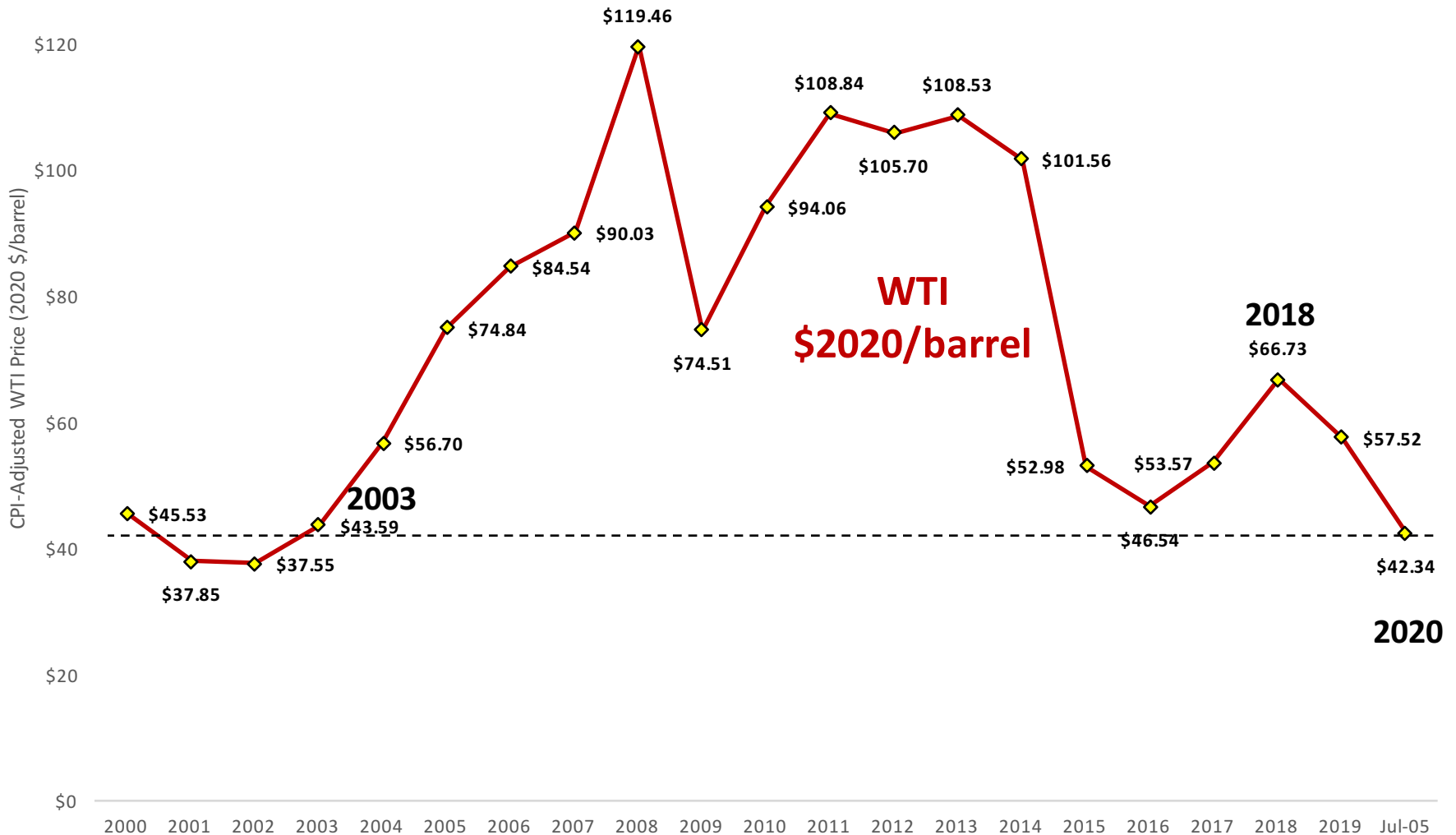
**Tight oil rig count is 143, 32% of 450 rigs needed to maintain
5.5 mmb/d tight oil/11 mmb/d total U.S. output
Tight oil output may decline to 3 mmb/d & U.S. to 6 mmb/d in Q3 2021**



Source: Baker Hughes, EIA DPR, Enverus & Labyrinth Consulting Services, Inc.

Rig Count/Rig Count Current/MONTHLY SHALE GAS-TIGHT OIL RIG

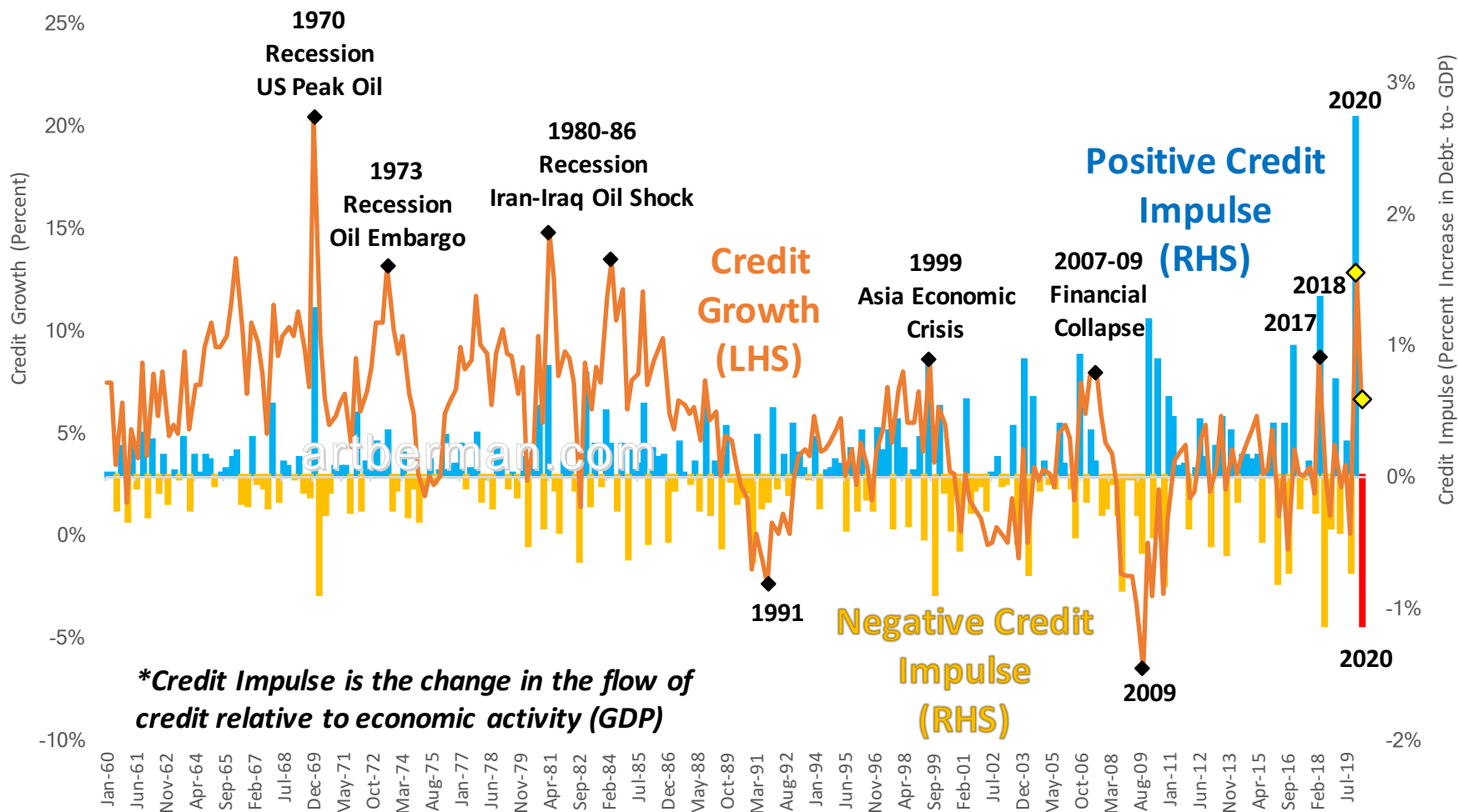
**August 2020 WTI price of \$42.34 has recovered almost to 2003 price of \$43.59
but is lower than average price of each of 16 successive years**



Source: U.S. Bureau of Labor Statistics, EIA & Labyrinth Consulting Services, Inc.

Oil & Gas General/CPI MASTER

Largest quarterly U.S. credit decrease (-10.7%) on record in Q2 2020
Largest quarterly drop in credit impulse (3.8%)
since 1970 recession and U.S. peak conventional oil



Source: St. Louis Federal Reserve Bank & Labyrinth Consulting Services, Inc.

Oil & Gas General/US DEBT-GDP-CREDIT IMPULSE