MacroVoices
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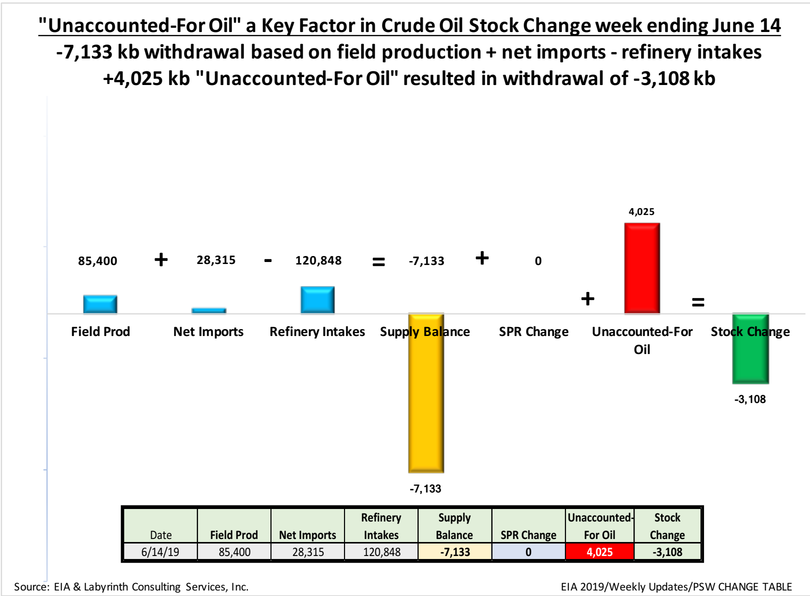
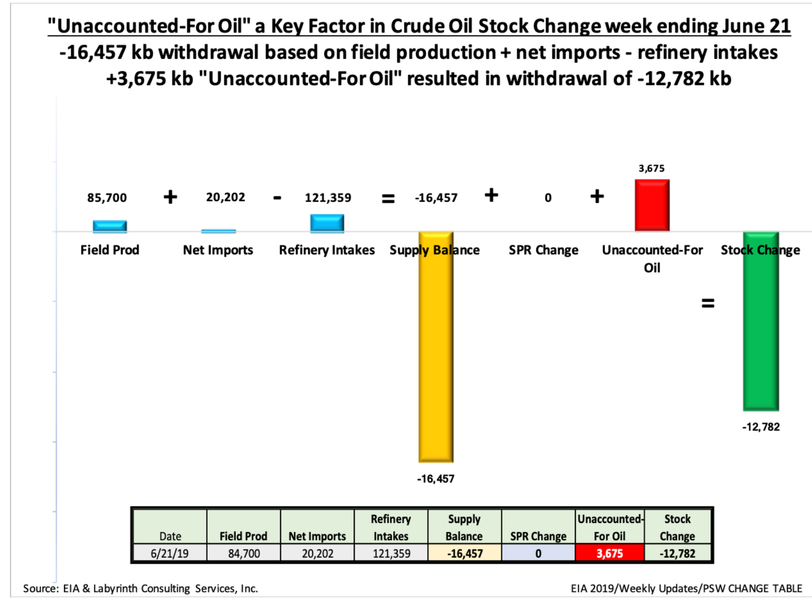
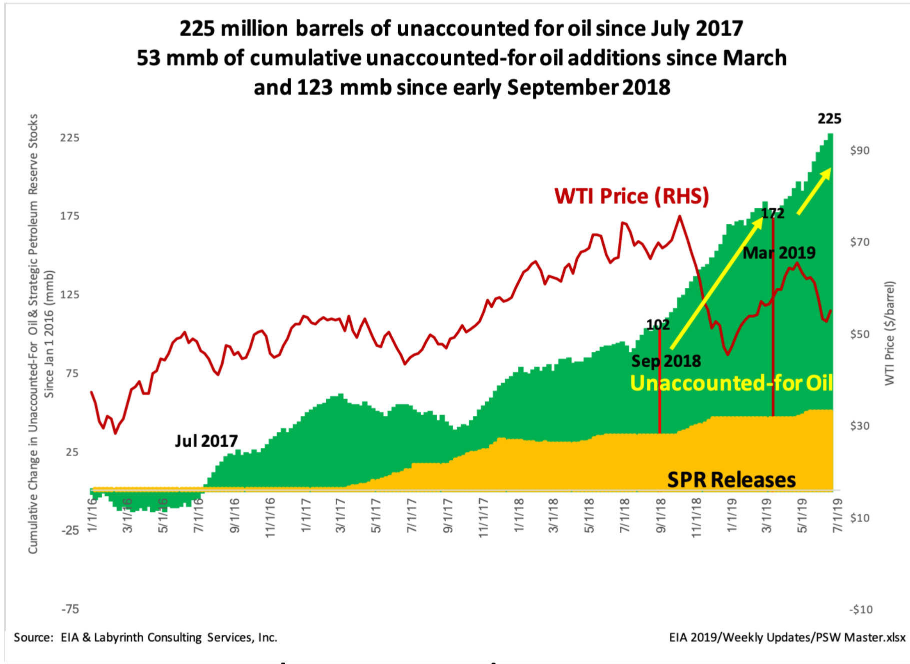
Unaccounted-for oil a key factor in U.S. inventory surpluses





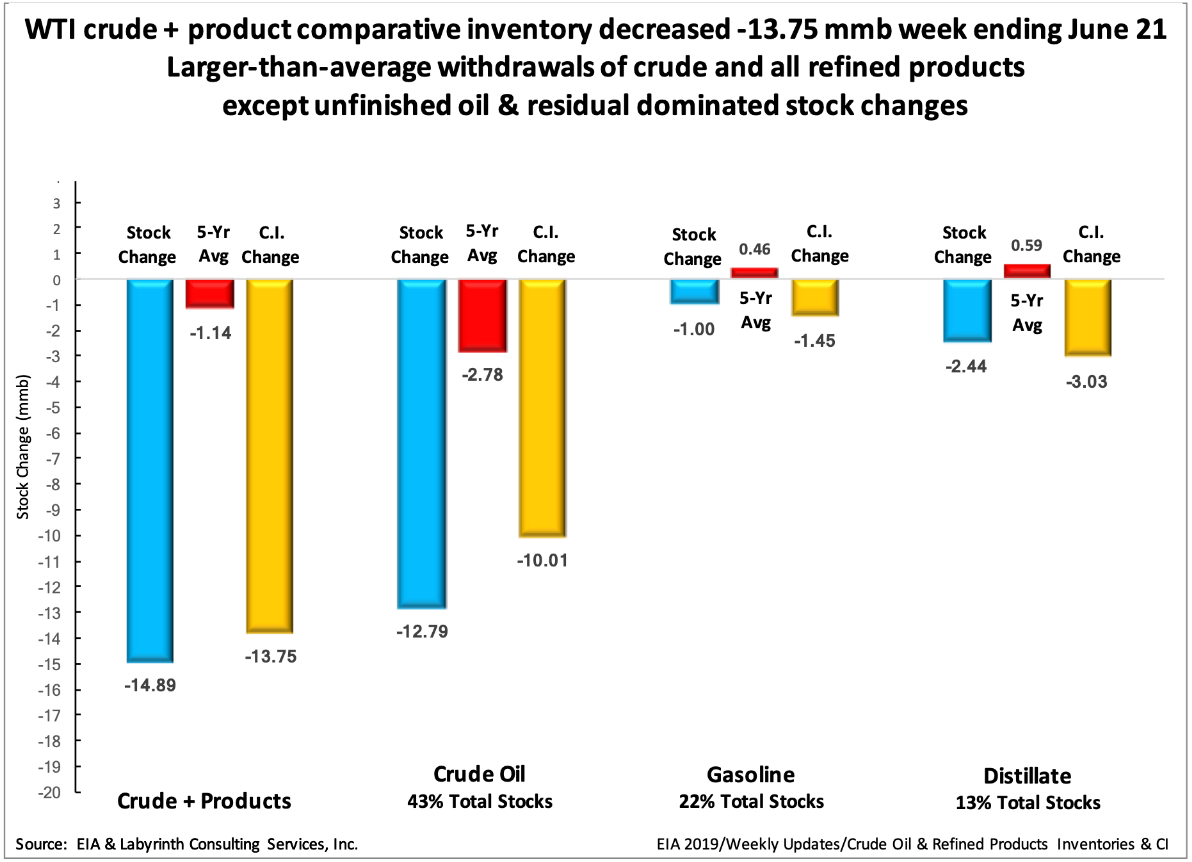
- Crude oil stock change should be a simple calculation from field production, net imports & refinery intakes. Unaccounted-for oil and SPR withdrawals may modify the calculation.
- Average unaccounted-for oil has been 5.2 mmb for last 6 weeks.
- All weeks would have resulted in a substantial crude withdrawal but UAO resulted in additions.
- This week's storage report was the first substantial withdrawal of crude + refined products since mid March.
- Even so, UAO was 3.7 mmb & only a massive -16.5 mmb crude withdrawal resulted in a net withdrawal.

Unaccounted-for oil accounts for 225 mmb of oil since mid-2017



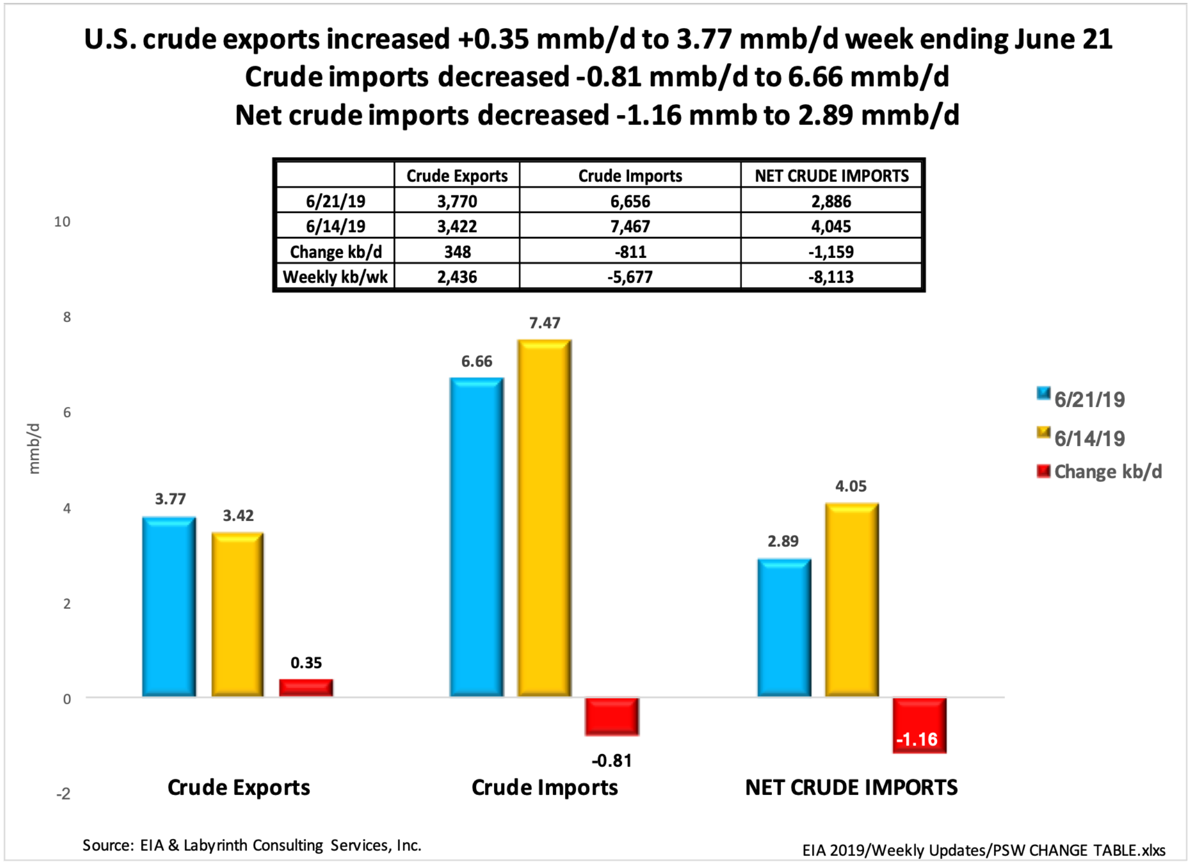
- Cumulative UAO is now +225 mmb since mid-2017.
- 53 mmb of UAO have been added since March—the last time there was a meaningful net storage withdrawal.
- UAO is real and not a fudge factor although EIA storage is based on survey and not measured data.
- It arises mostly from pipeline flow data & is unaccounted-for because it cannot be reconciled with current week production, net imports and refinery intakes.
- It is probably lease inventory that EIA stopped publishing in October 2016.
- What are the implications?

A large crude oil plus refined product withdrawal



- WTI crude + product comparative inventory decreased -13.75 mmb week ending June 21.
- Larger-than-average withdrawals of crude and all refined products except unfinished oil & residual dominated stock changes.

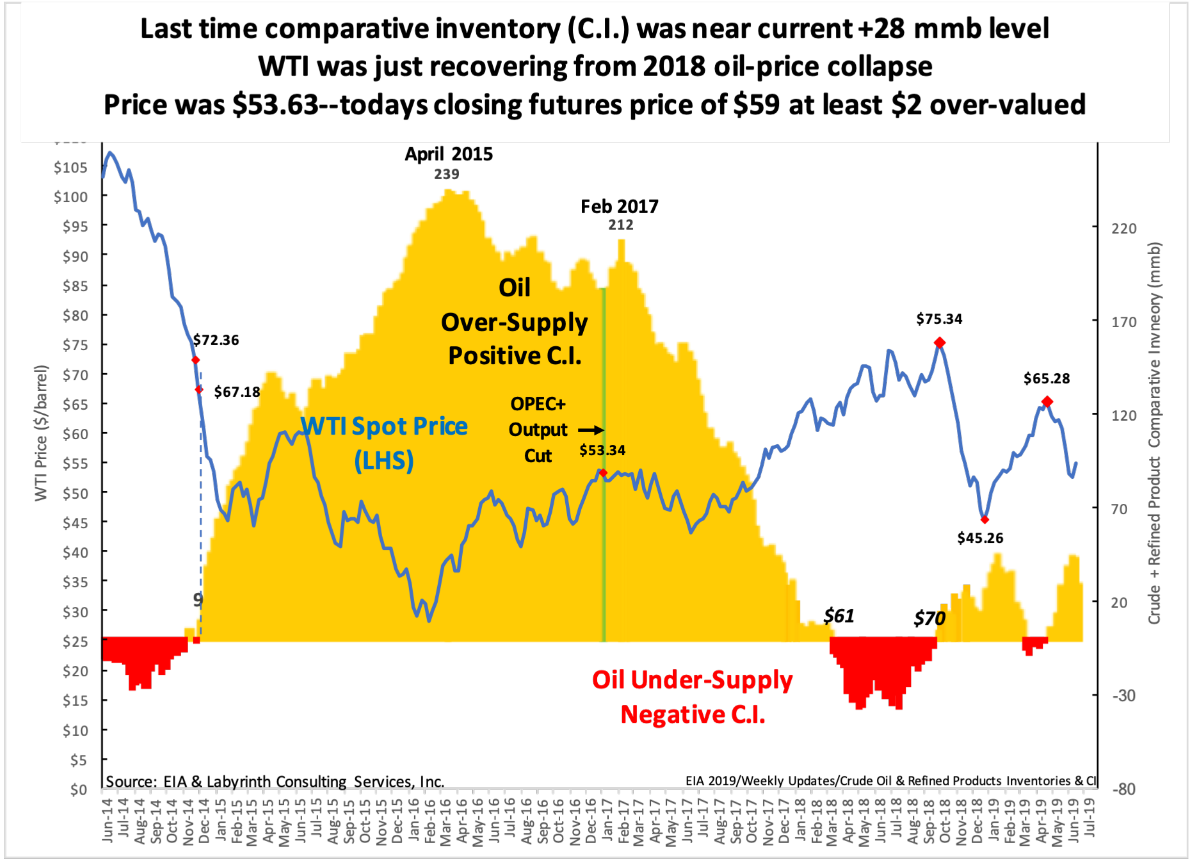
Record crude oil exports



	Crude Exports	Crude Imports	NET CRUDE IMPORTS
6/21/19	3,770	6,656	2,886
6/14/19	3,422	7,467	4,045
Change kb/d	348	-811	-1,159
Weekly kb/wk	2,436	-5,677	-8,113

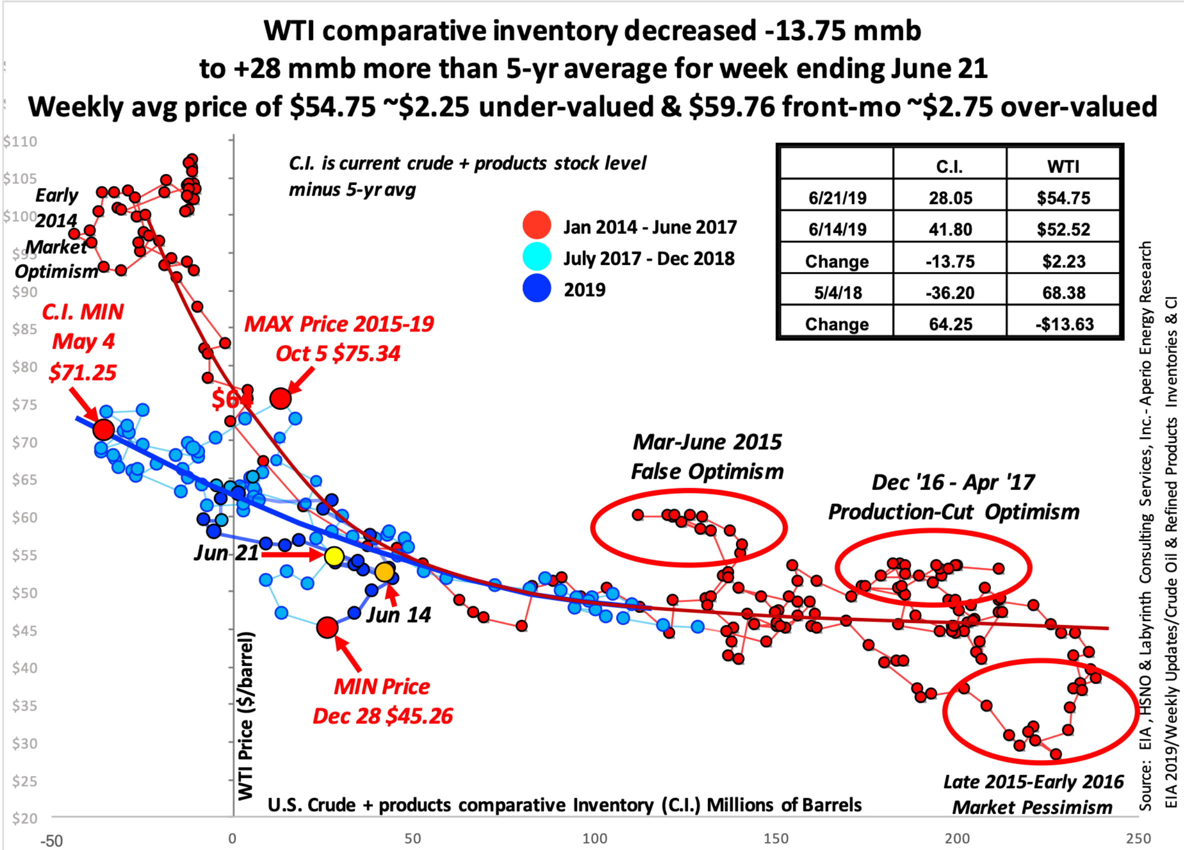
- Record high 3.77 mmb/d crude oil exports week ending June 21.
- Near-record low 2.89 mmb/d net crude imports.
- Low net crude imports of -1.16 mmb/d accounted for 2/3 of crude stock decrease.

Keeping this week's drawdown in perspective



- Last time comparative inventory (C.I.) was near current +28 mmb level, WTI was just recovering from the 2018 oil-price collapse.
- Price was $53.63.
- Todays closing futures price of $59 at least $2 over-valued.

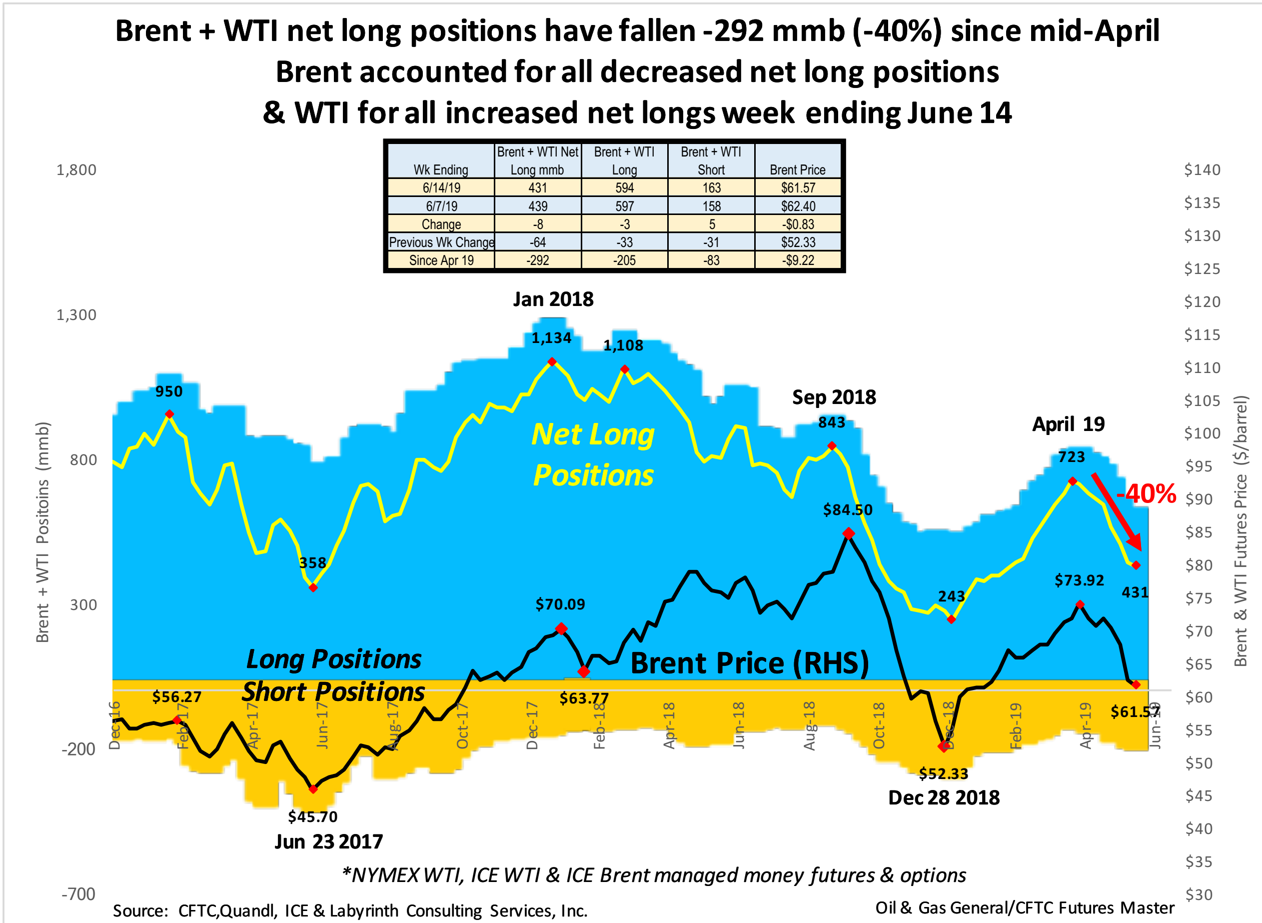
Keeping this week's drawdown in perspective



	C.I.	WTI
6/21/19	28.05	$54.75
6/14/19	41.80	$52.52
Change	-13.75	$2.23
5/4/18	-36.20	68.38
Change	64.25	-$13.63

- One week is not a trend.
- When WTI was $71.25 in May 2018, C.I. was 64 mmb less than it is today.

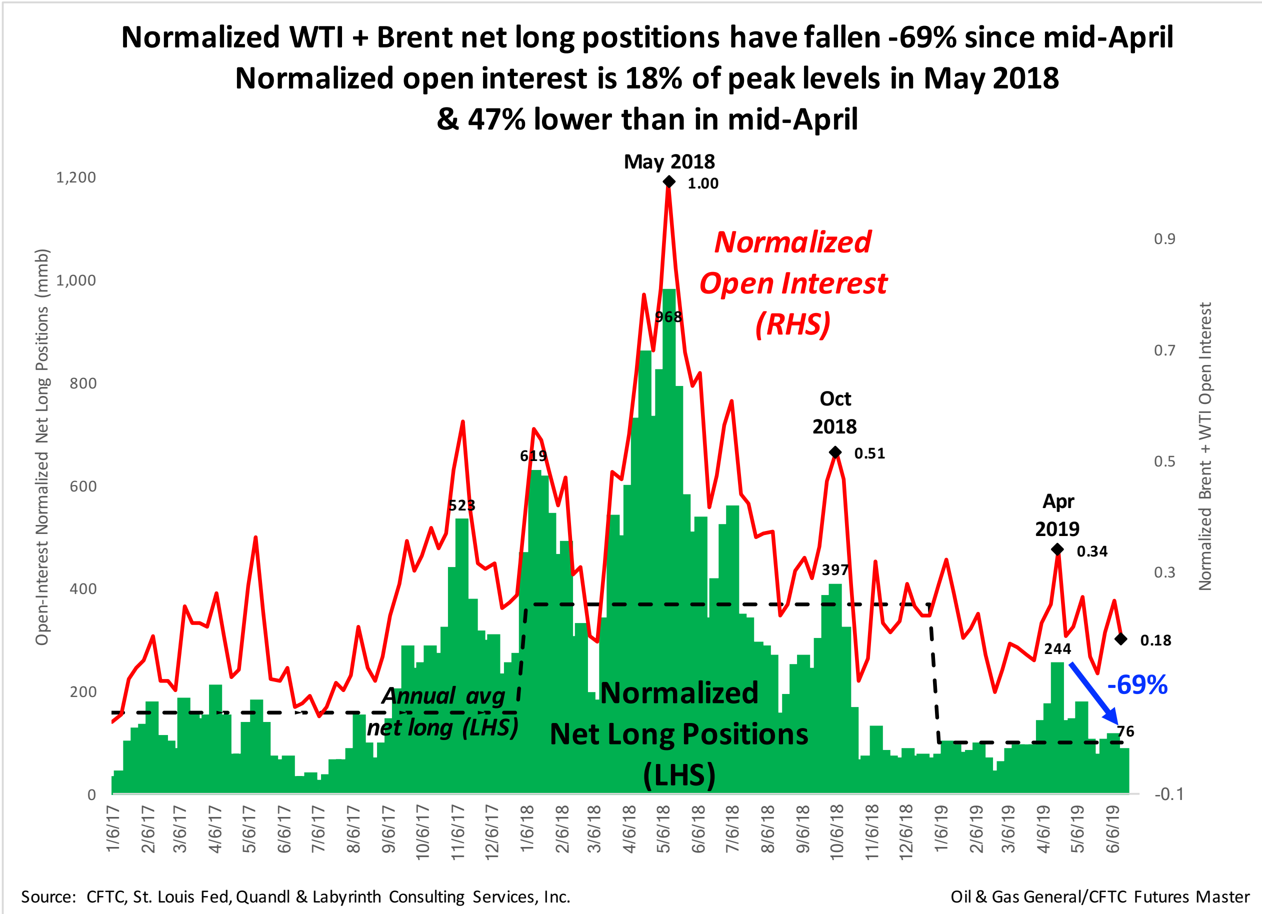
40% decrease in Brent + WTI net long positions since April



Wk Ending	Brent + WTI Net Long mmb	Brent + WTI Long	Brent + WTI Short	Brent Price
6/14/19	431	594	163	$61.57
6/7/19	439	597	158	$62.40
Change	-8	-3	5	-$0.83
Previous Wk Change	-64	-33	-31	$52.33
Since Apr 19	-292	-205	-83	-$9.22

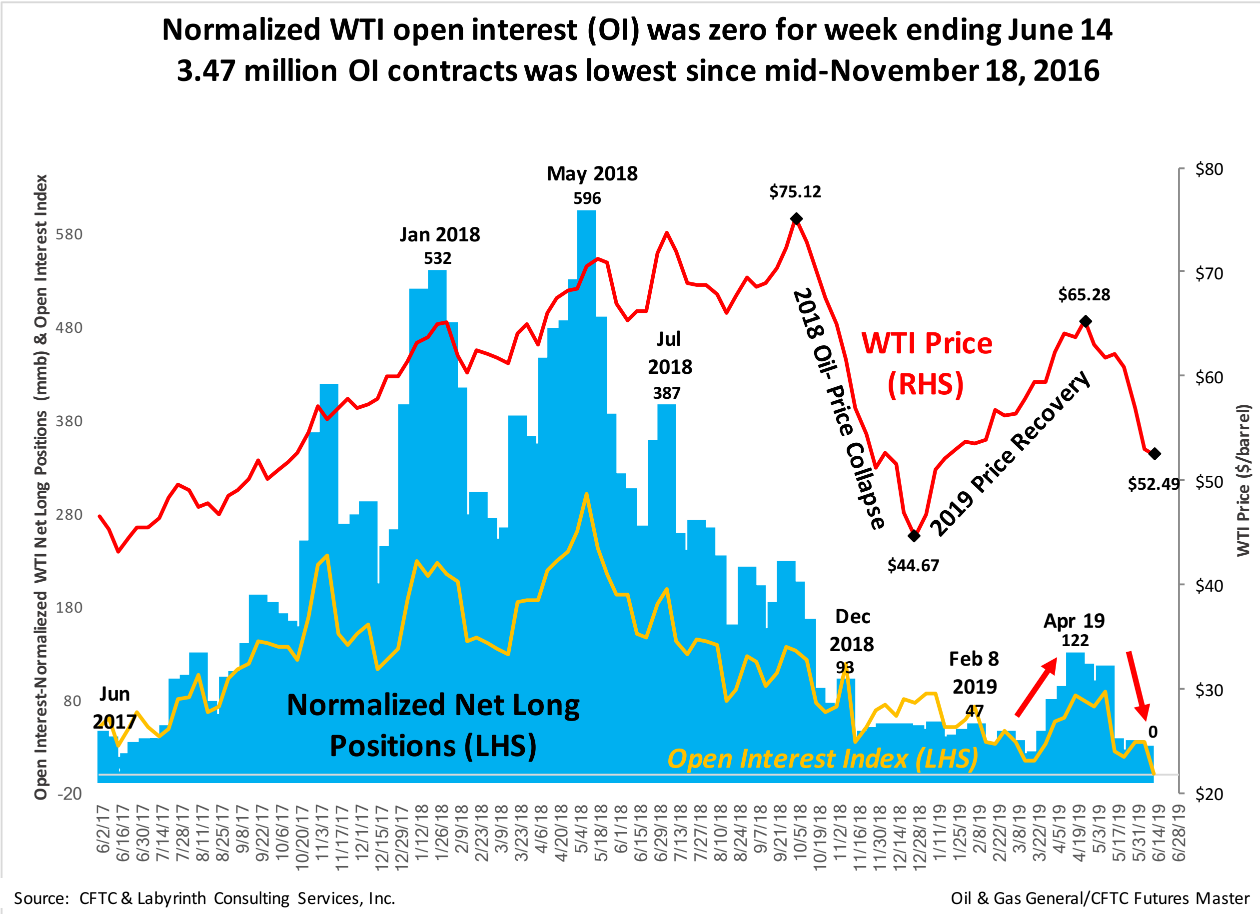
- Brent + WTI net long positions have fallen -292 mmb (-40%) since week ending April 19.
- Brent accounted for all decreased net long positions & WTI for all increased net longs week ending June 14.

Open-interest normalized positions have fallen 69%



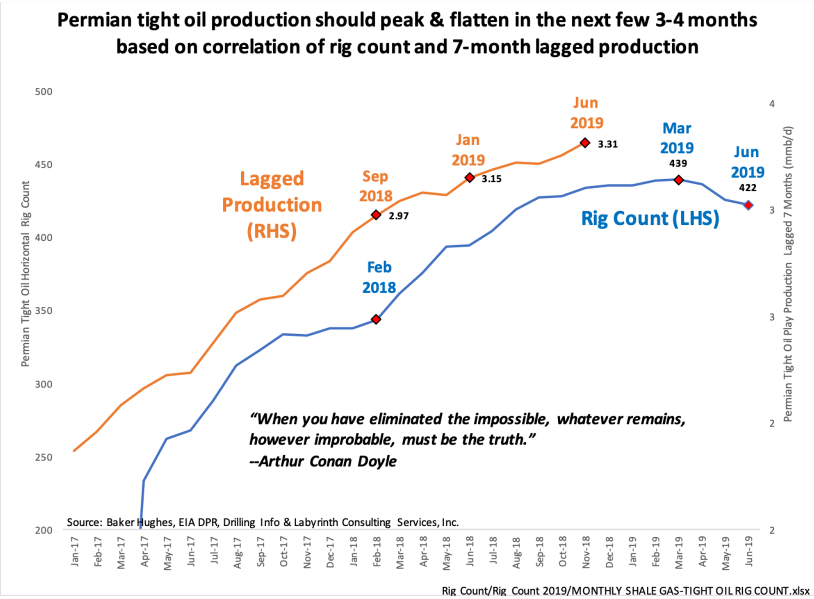
- Normalized open interest is 18% of peak levels in May 2018 & 47% lower than in mid-April.

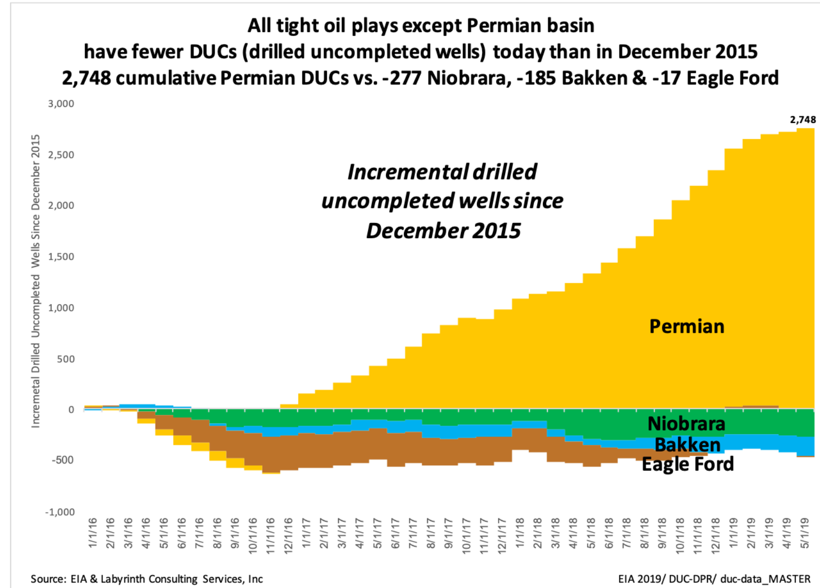
WTI open interest is at lowest level since 2016



- Normalized WTI open interest (OI) was zero for week ending June 14.
- 3.47 million OI contracts was lowest since mid-November 18, 2016.

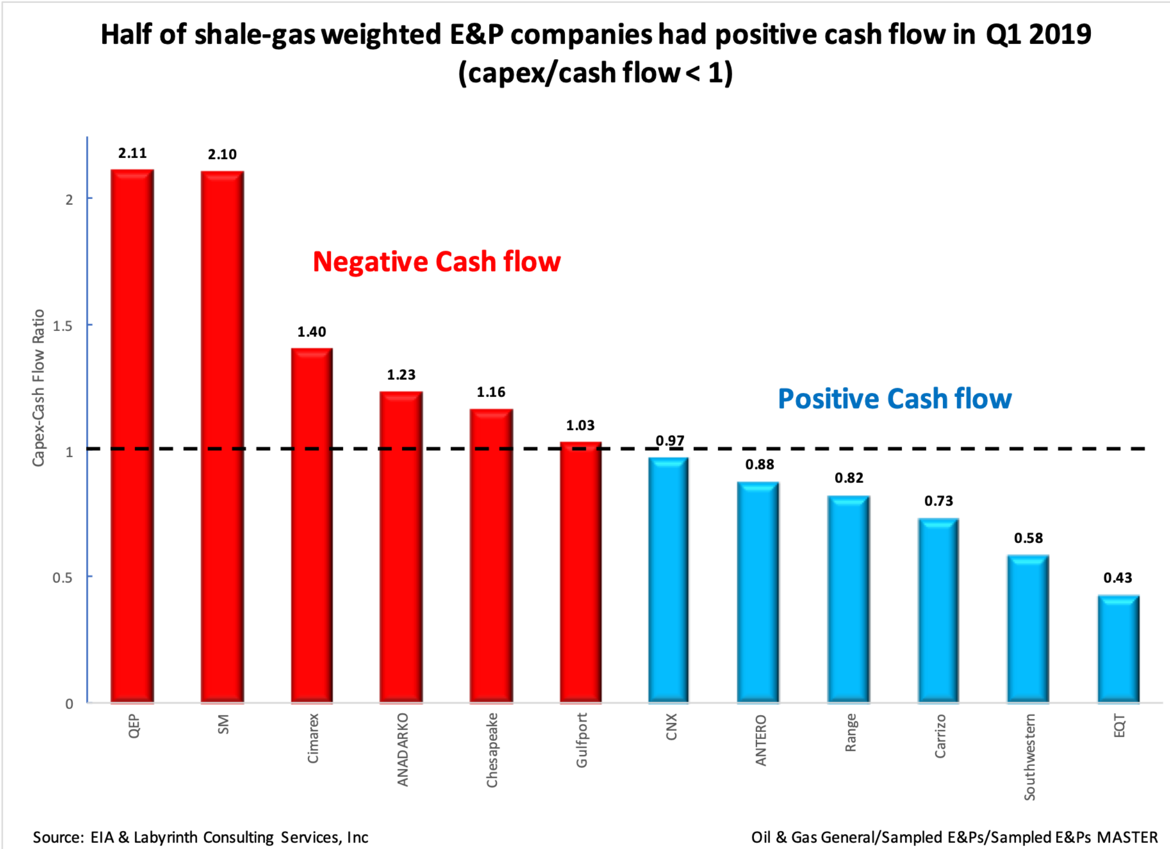
Permian rig counts have fallen





- Permian basin rig count has fallen -17 from March peak—not really than much.
- Still, it is likely that production will flatten in a few months.
- Unless DUCs are completed,
- There are probably about 2,750 DUCs drilled since December 2015.

Shale gas “unmitigated disaster”



- Shale gas industry called “unmitigated disaster” by Steve Schlotterbeck, former chief executive of EQT.
- Generally true but the timing of his well-publicized comment is curious.
- Half of shale-gas weighted E&Ps had positive cash flow in Q1 2019.