

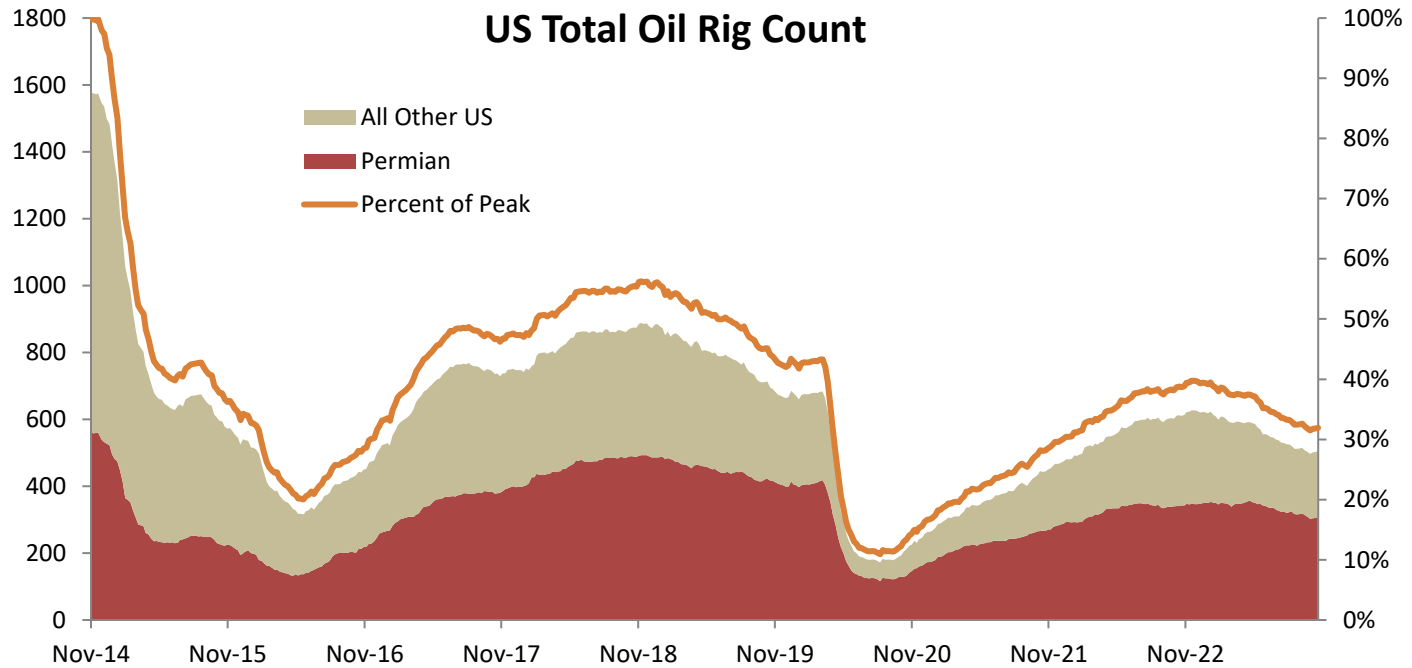
# Baker Hughes Oil Rig and Primary Vision Frac Spread Counts

27 October 2023

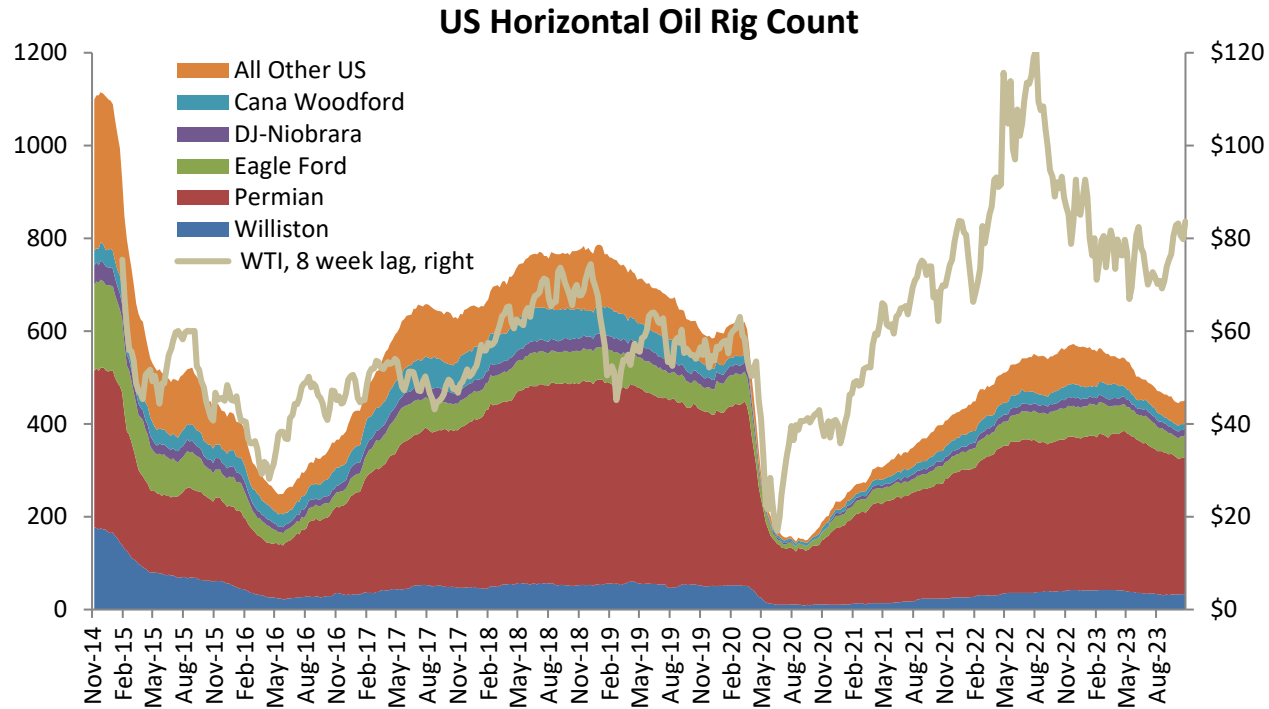
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- A clear trough has emerged, and rig counts are rising, if slowly
- Rig counts
  - Total oil rig counts: +2 to 504
  - Horizontal oil rig counts: +2 to 451
  - The Permian horizontal oil rig count: +2
  - The Canadian horizontal oil rig count saw progress this week, +1 to 119, but still 19 below this week last year
- The US horizontal oil rig count is rising at a pace of +1.0 / week on a 4 wma basis.
  - This number is positive for the first time in 48 weeks
- Frac spreads rose, +6 to 275
  - Even more than last week, there is a stark mismatch between rigs and spreads now, with DUC inventory, as measured in days of turnovers, falling to a nine-year low of 13.9 weeks
- The rig/spread relationship is even more unstable than I noted last week
  - To attain stability in the DUC count, rigs must either rise by 84 or spreads must fall by 43.
  - If the breakeven to add rigs of \$83 holds, then we should see appreciable rig additions in the coming weeks.
  - On the other hand, if rig counts fail to show material signs of life (cc +4 hz rigs per week), then we may be seeing the last hurrah of the US shale sector, with operators running down DUC inventories like an alcoholic taking a last drink before entering rehab.

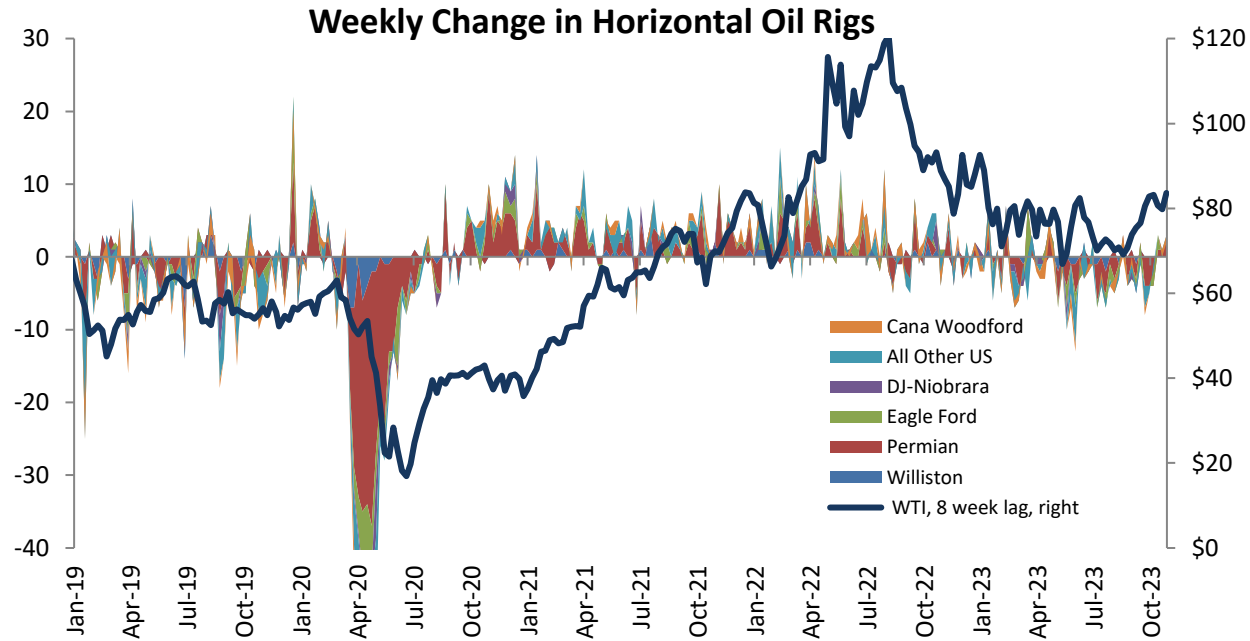


- Total oil rigs: +2 to 504
- Permian: +1
- All Other US: +1



- Horizontal oil rigs: +2 to 451
- Permian: +2
- All Other US: +0

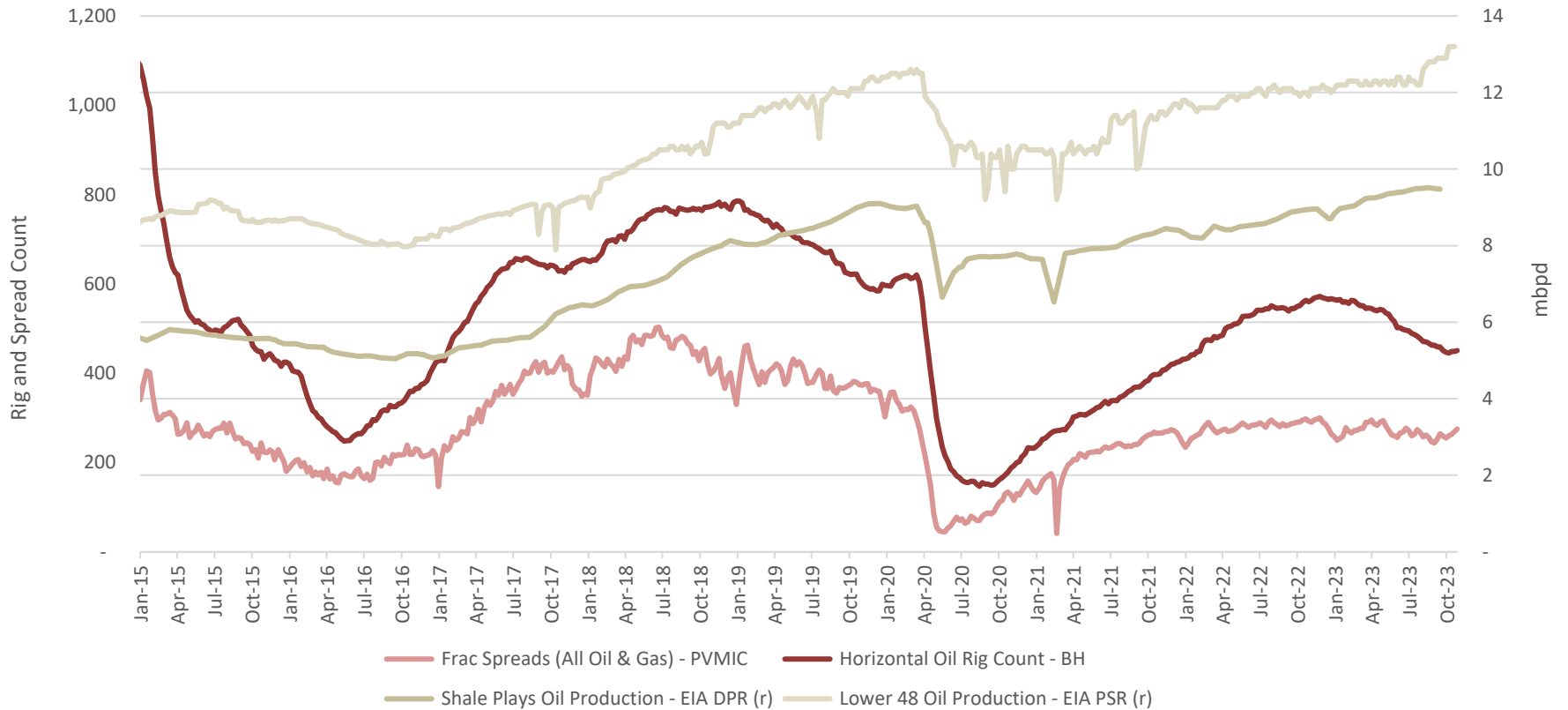
# Weekly Change in Horizontal Oil Rig Count by Basin



• By Basin	Change	Count
- Williston	0	33
- Permian	+2	296
- Eagle Ford	+1	47
- DJ Niobrara	0	14
- Cana Wdford	-1	11
- Other US	0	50
- <b>Total</b>	<b>+2</b>	<b>451</b>

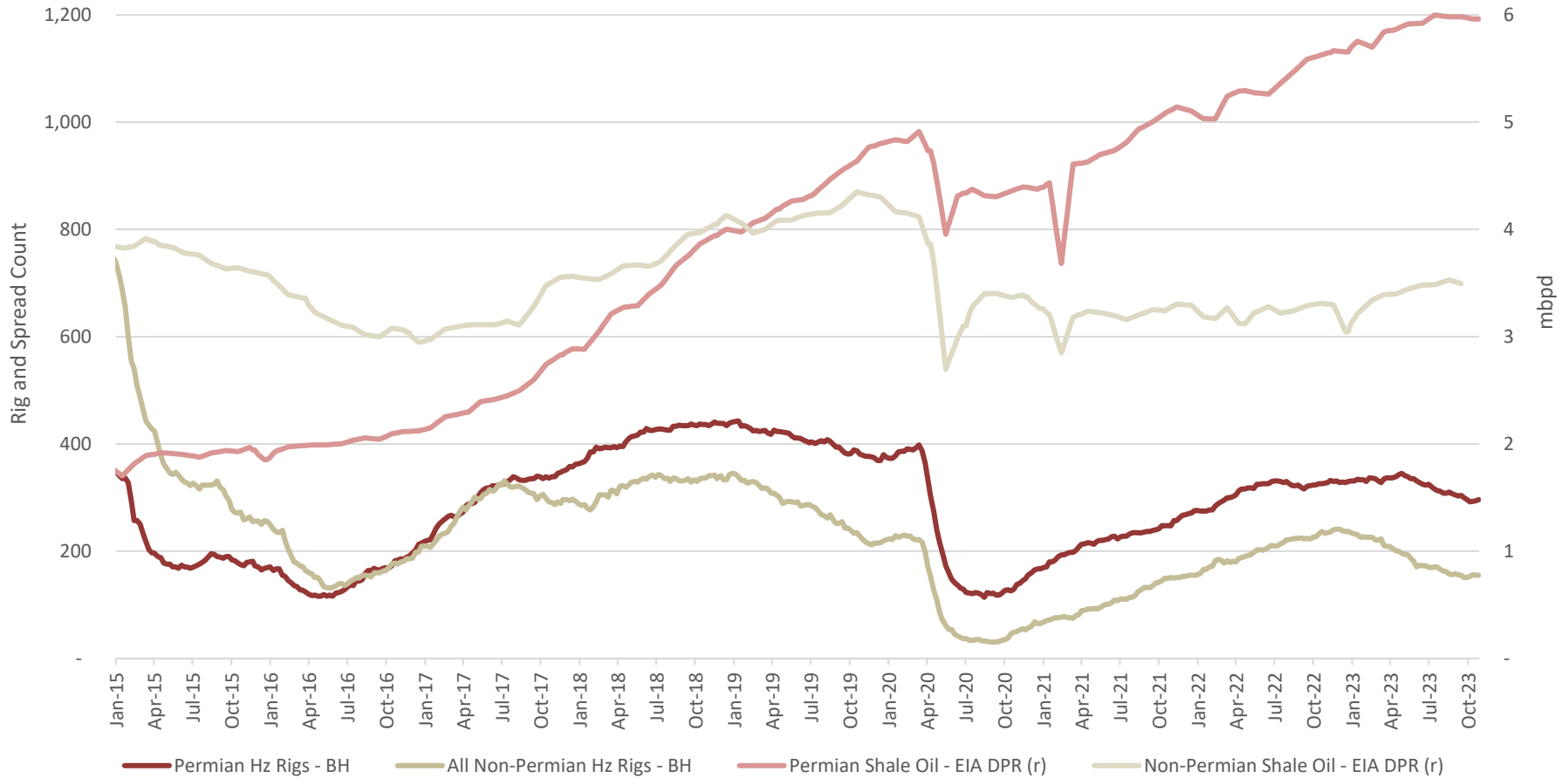
# Rigs, Spreads and US Oil Production

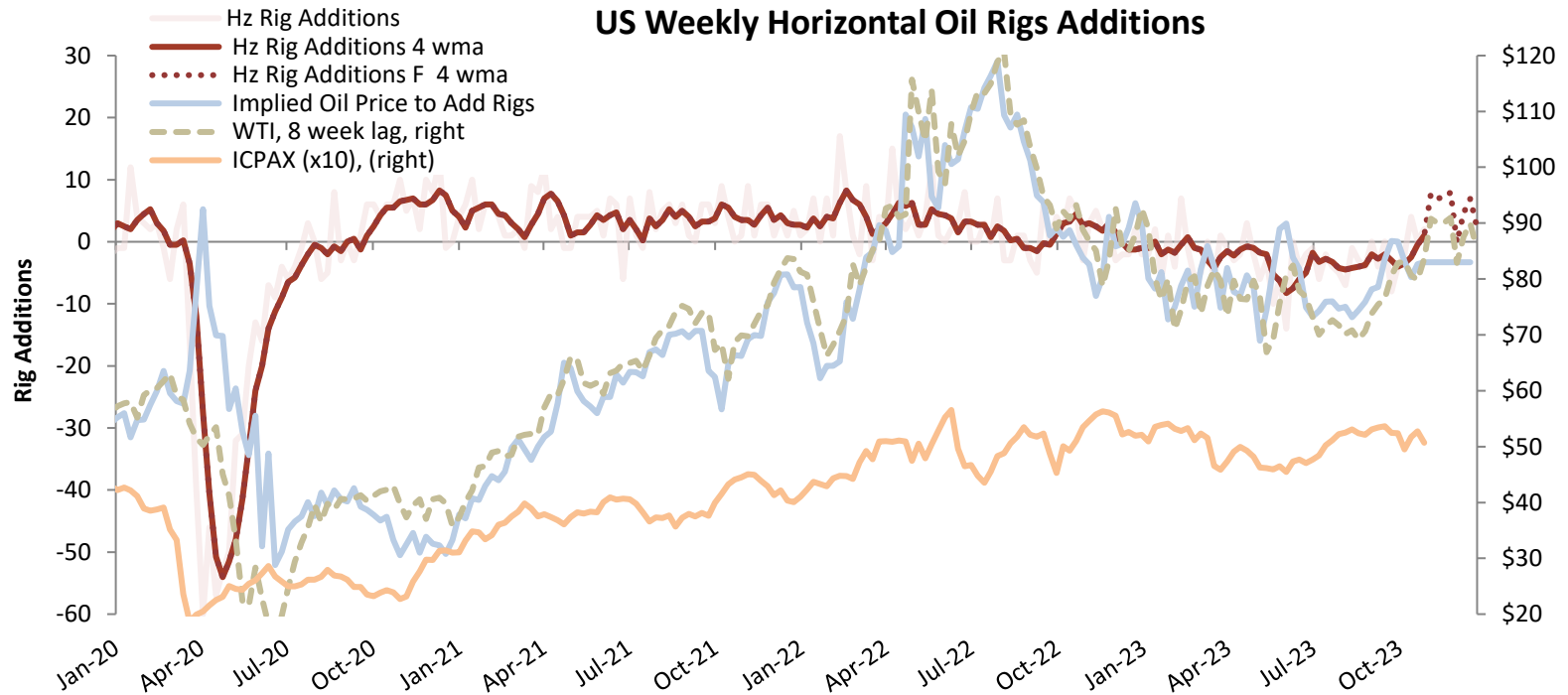
## Rigs, Spreads and US Crude and Condensate Production



# Permian & Non-Permian Shale Oil Production and Hz Oil Rigs

Permian and Non-Permian Shale Oil Production and Horizontal Rigs



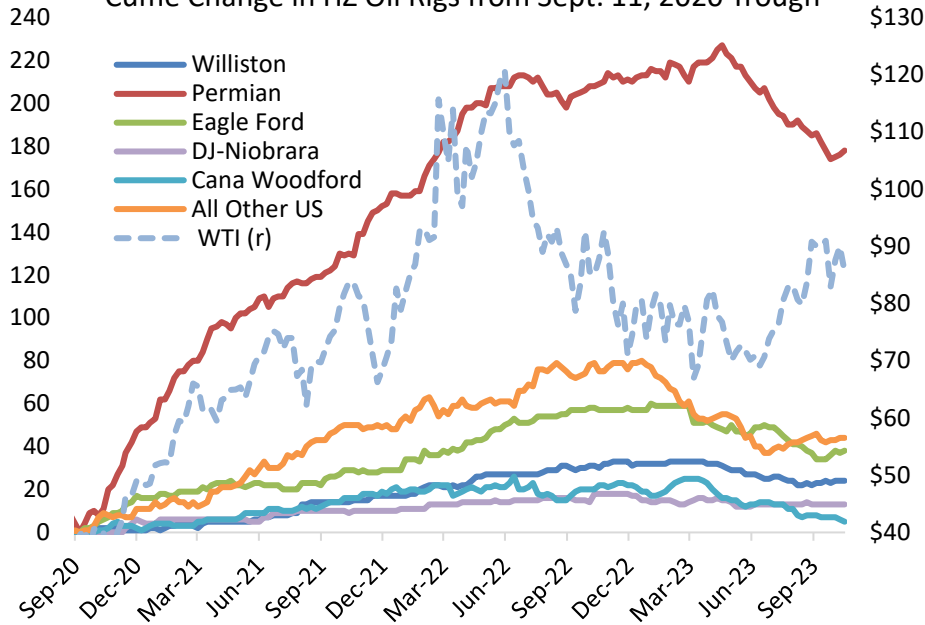


- The 4 wma pace of horizontal rig additions rose to +1.0 / week, positive for the first time in 48 weeks
- With an eight-week lag, the breakeven to add horizontal oil rigs stands at \$83 / barrel on a WTI basis with \$86 on the screen

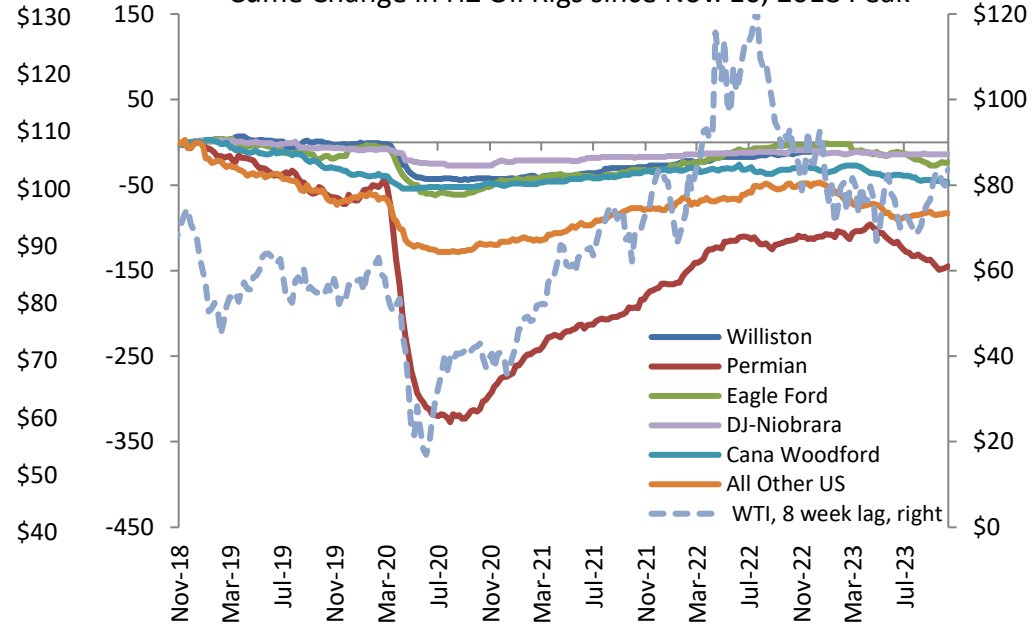


# US Horizontal Oil Rig Change from Peak and Trough

Cume Change in HZ Oil Rigs from Sept. 11, 2020 Trough

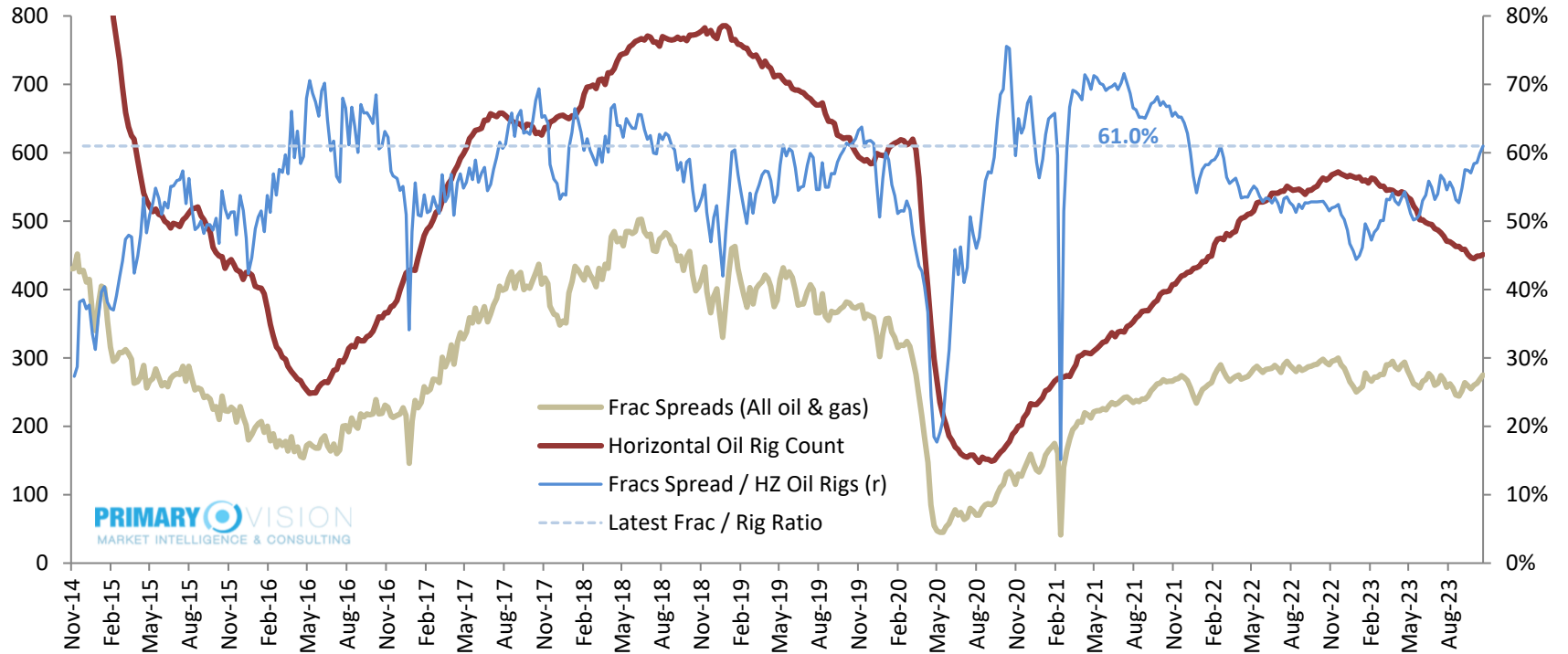


Cume Change in HZ Oil Rigs since Nov. 16, 2018 Peak

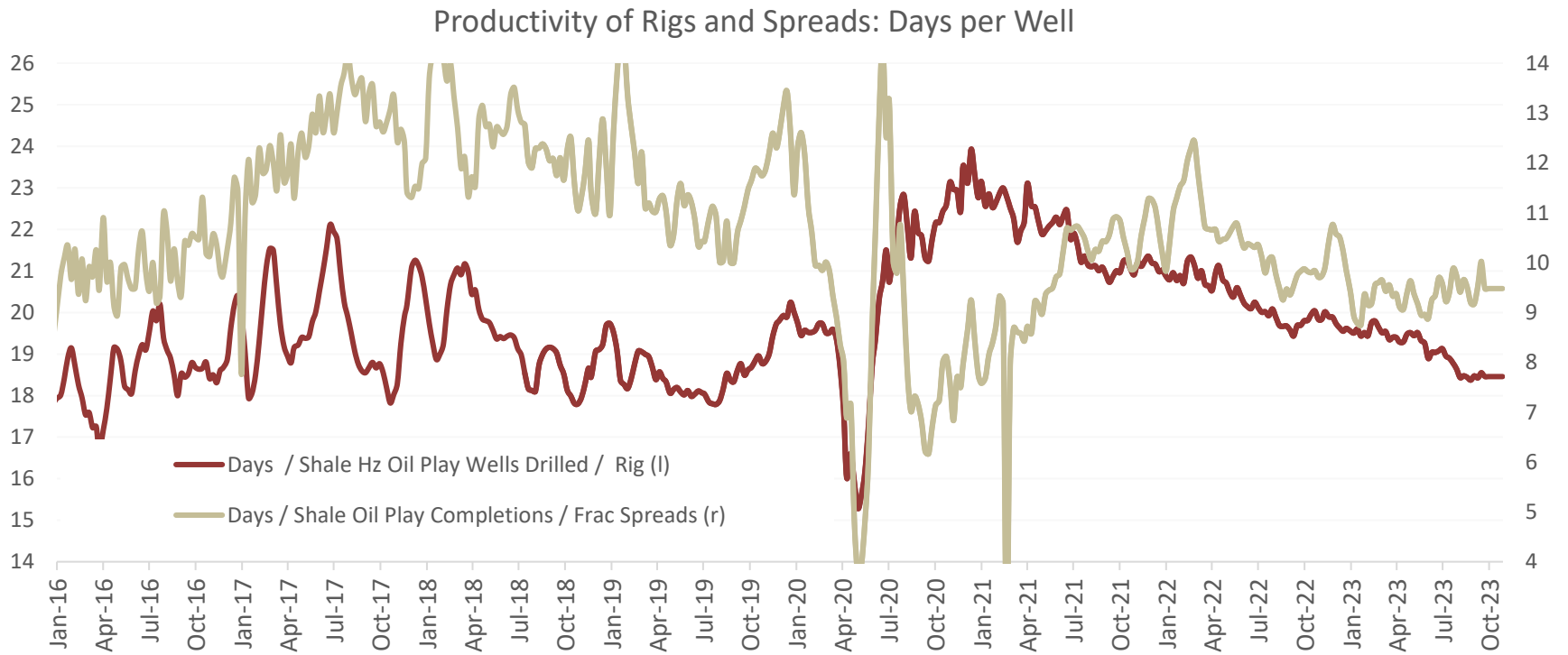


	Latest HZ Rig Count	Trough August 14, 2020				Prior Peak Nov. 16, 2018			
		Trough Count	Rig Change	Percent Change	Pct of Rig Gained	Peak Count	Rig Change	Percent Change	Pct of Rigs Lost
- Williston	33	11	22	200%	7%	53	(20)	-38%	6%
- Permian	296	114	182	160%	60%	441	(145)	-33%	44%
- Eagle Ford	47	10	37	370%	12%	70	(23)	-33%	7%
- DJ Niobrara	14	1	13	1300%	4%	28	(14)	-50%	4%
- Cana Wdford	11	6	5	83%	2%	58	(47)	-81%	14%
- Other US	50	5	45	900%	15%	133	(83)	-62%	25%
- <b>Total</b>	<b>451</b>	<b>147</b>	<b>304</b>	<b>207%</b>	<b>100%</b>	<b>783</b>	<b>(332)</b>	<b>-42%</b>	<b>100%</b>
		<i>05/22/20</i>							
- <b>Frac Spreads</b>	<b>275</b>	<b>45</b>	<b>230</b>	<b>511%</b>		<b>433</b>	<b>(158)</b>	<b>-36%</b>	
<i>Spread Ratio</i>	<i>61.0%</i>	<i>30.6%</i>				<i>55.3%</i>			

### Frac Spreads and Horizontal Oil Rigs



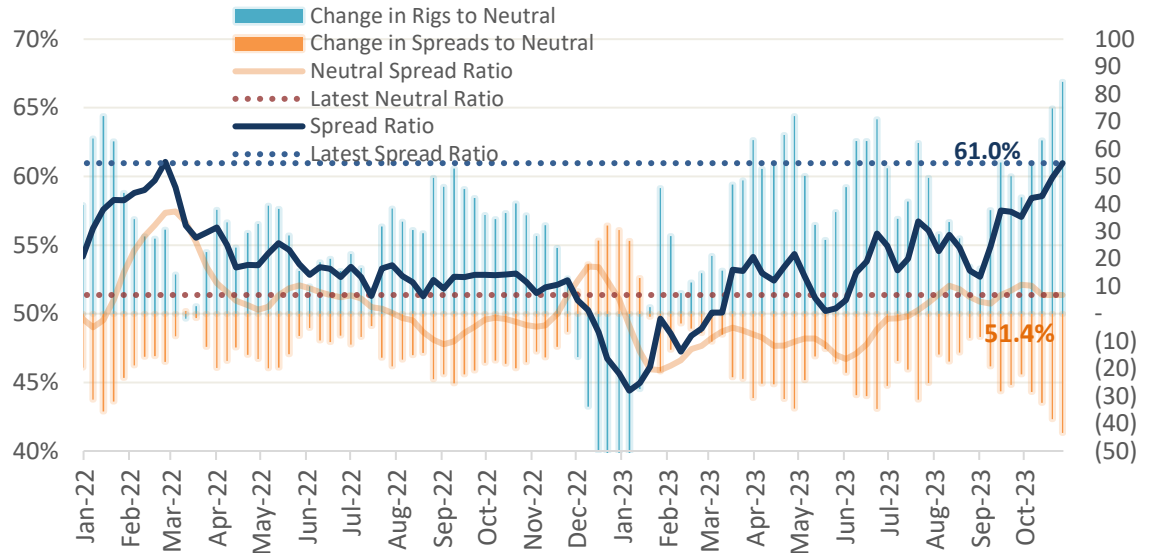
- Frac spreads were +6 to 275



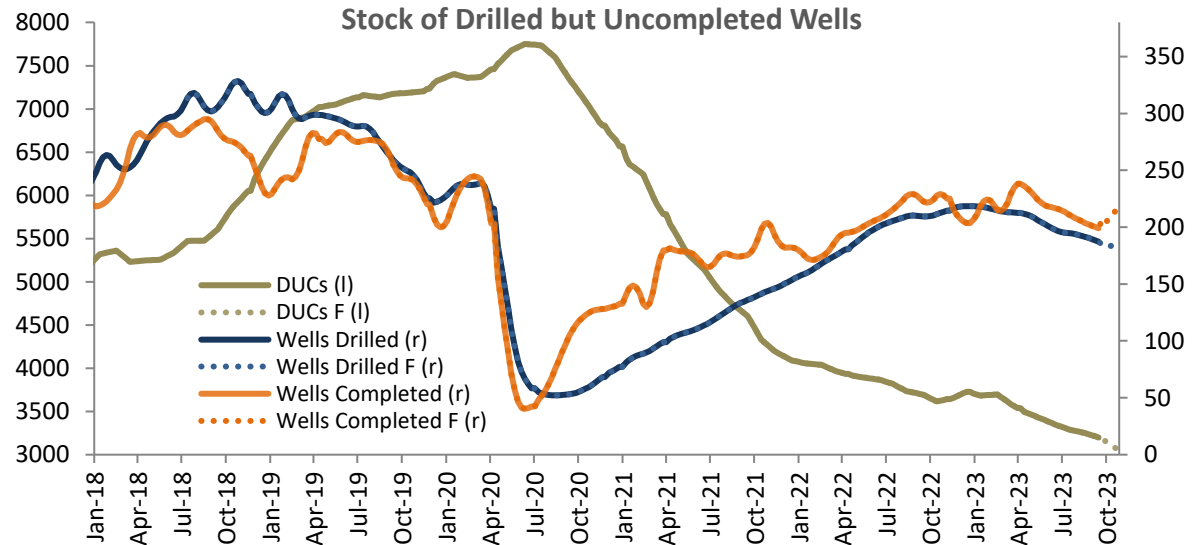
# Rig and Spread Productivity

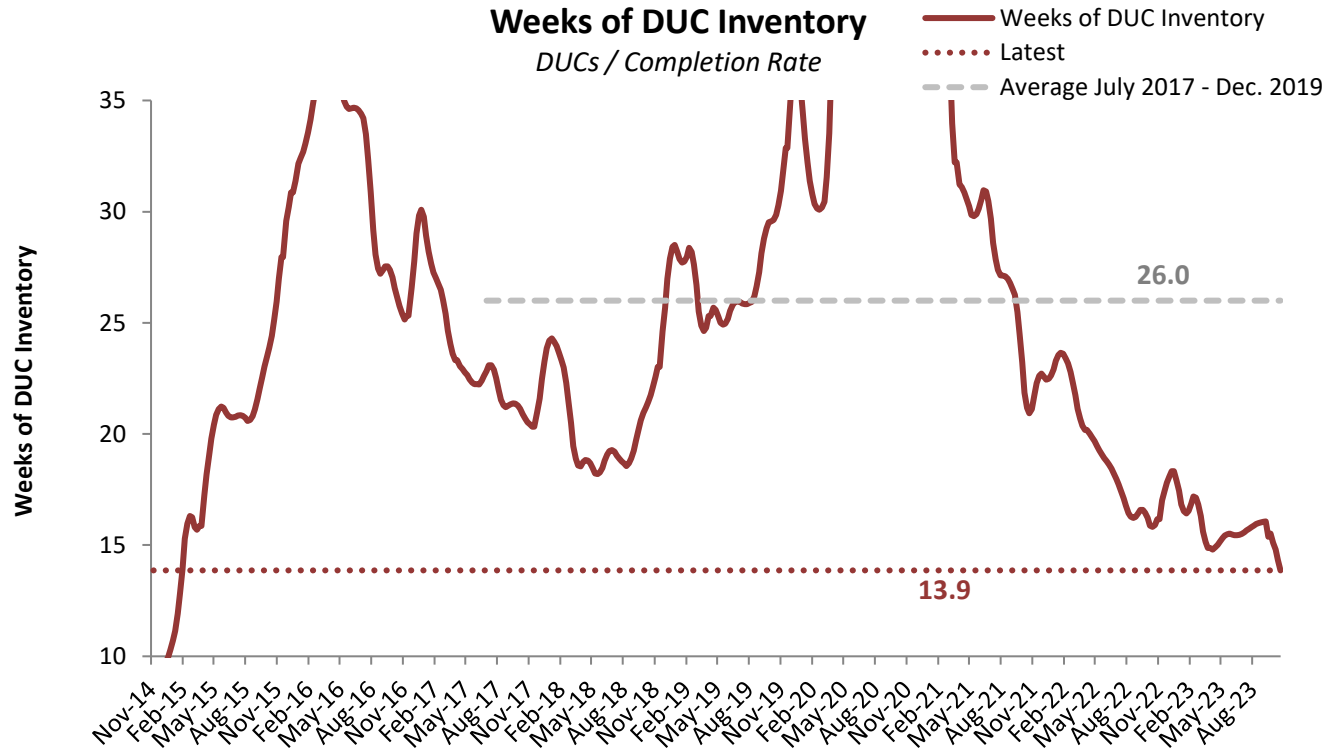
- At estimated productivity levels and current rig and spread counts, the DUC inventory is declining
- To hold DUCs constant, rigs would have to fall by 84 or spreads would have to rise by 43

The Spread Ratio and Rigs and Spreads for DUC Neutrality



Horizontal Oil Wells Drilled and Completed per Week

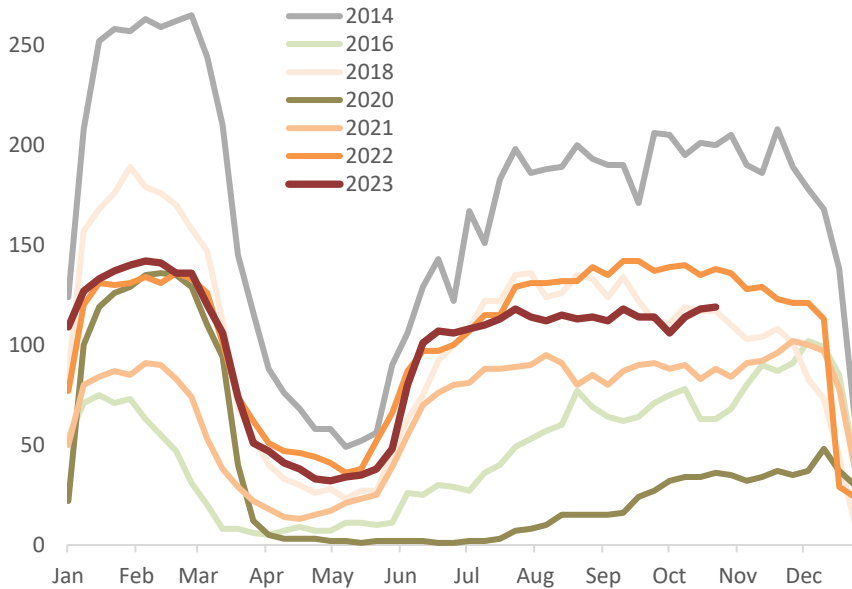




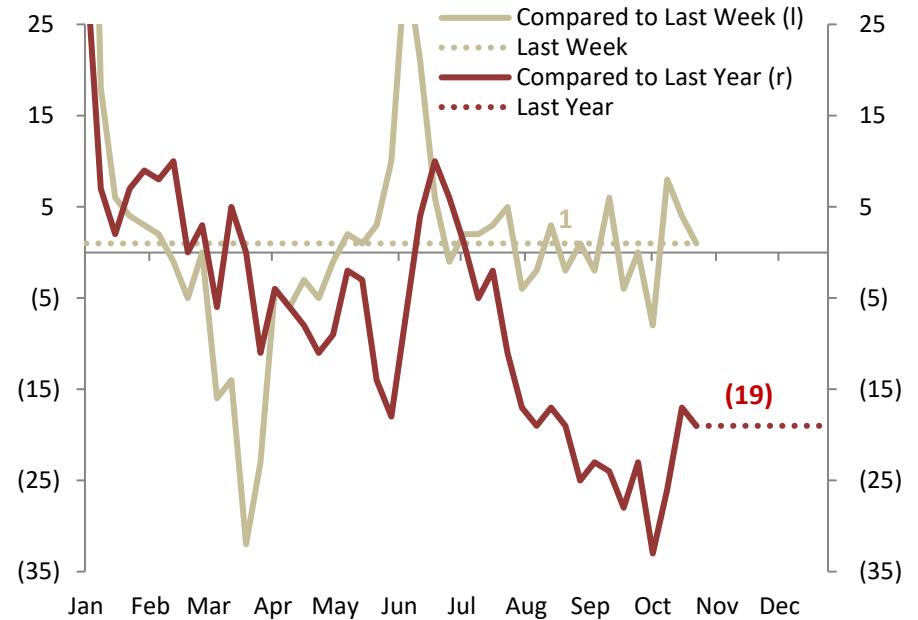
- DUC inventories have fallen back a new year low of 13.9 weeks

# Canada Horizontal Oil Rig Count

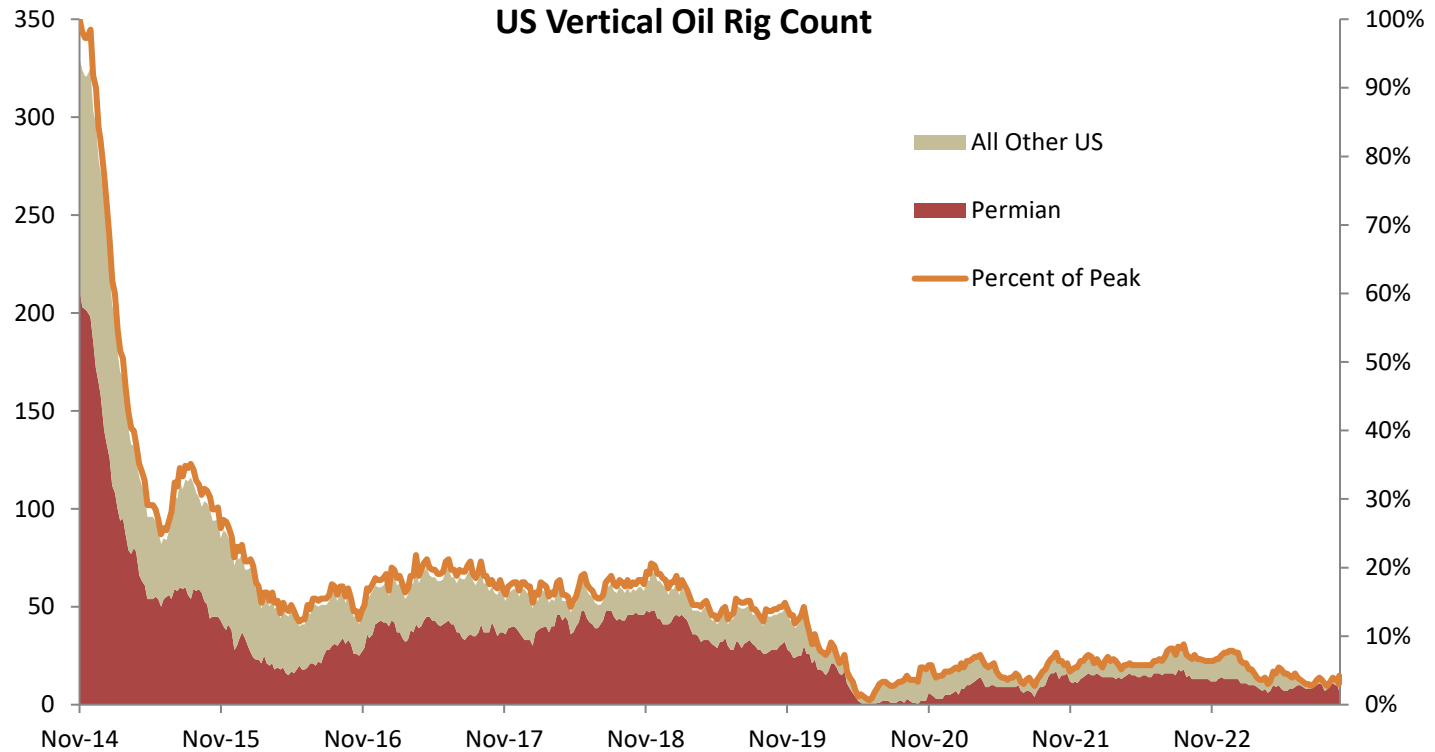
## Canada Horizontal Oil Rigs



## Compared to Previous Week, Previous Year

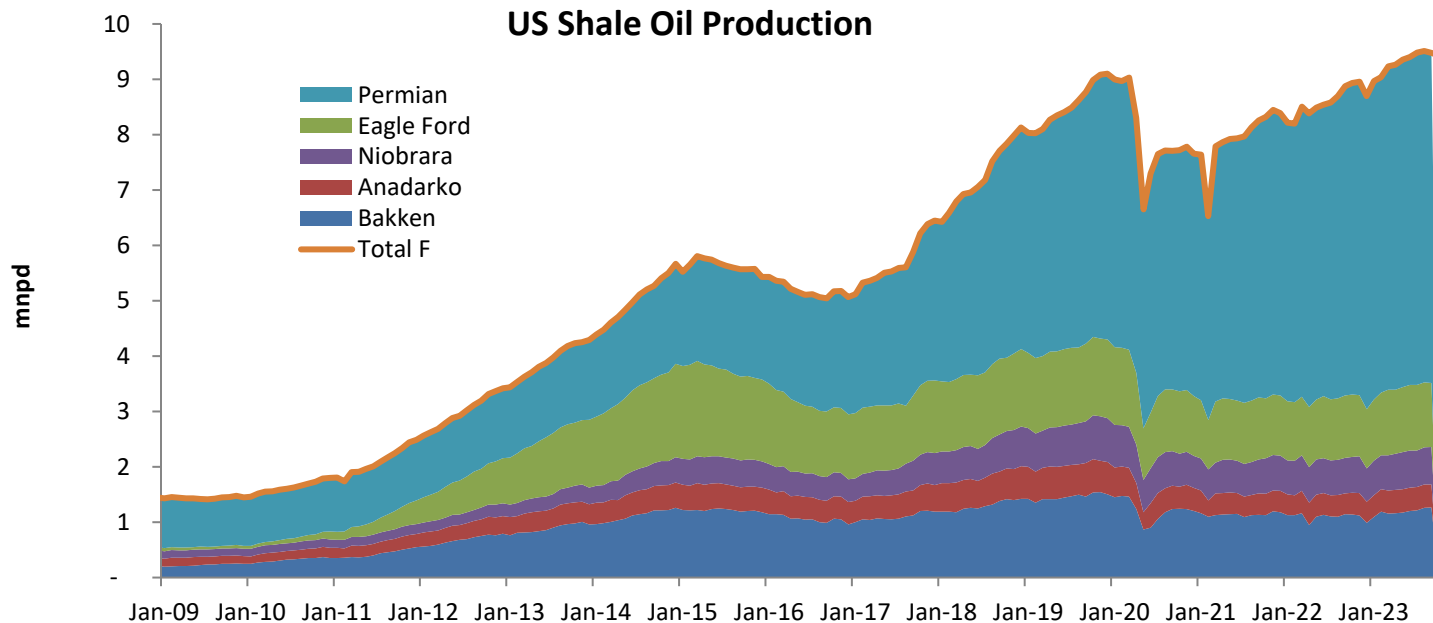


- Canada horizontal oil rigs were +1 to 119 last week
- Rigs counts were -19 compared to the same week last year



- Vertical oil rigs: -1 to 12
- Permian: -1
- All Other US: +0

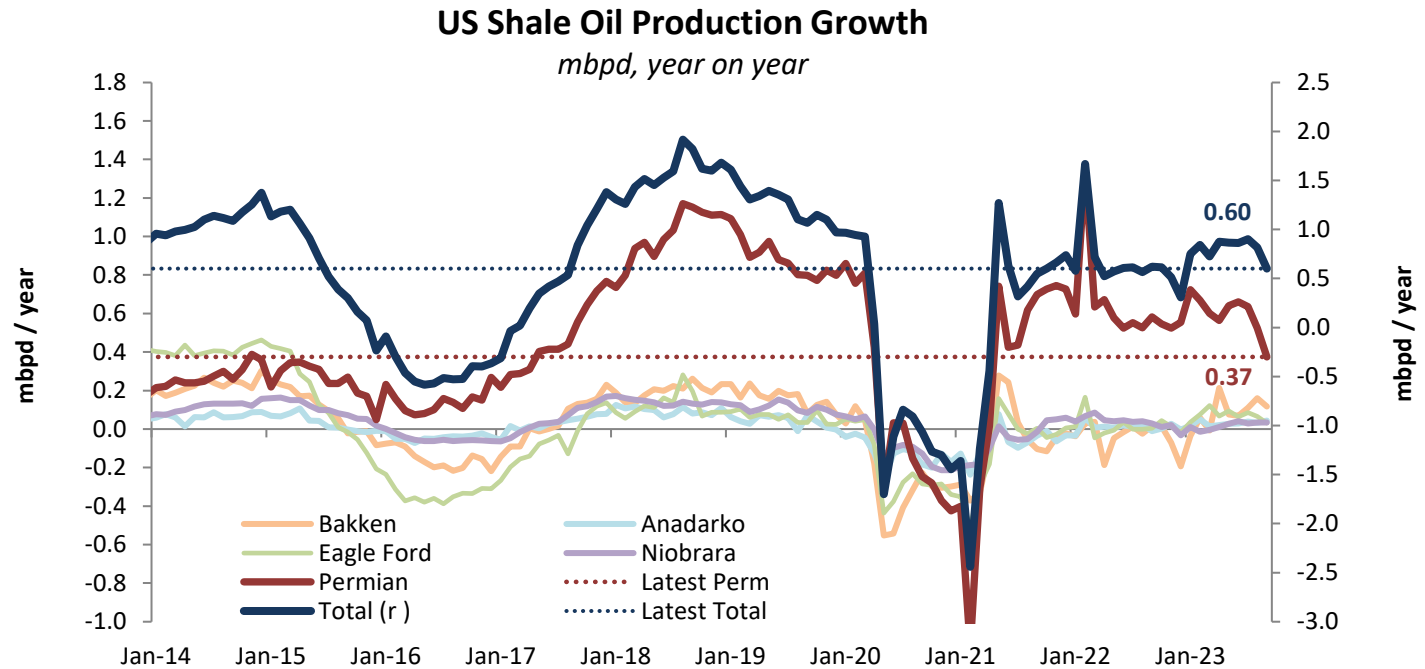
# US Shale Production Growth (Oct. DPR)



- In the October DPR report, September crude and condensate production from key shale plays fell to 9.47 mbpd, down 34 kbpd from August.
- However, total August C+C production was revised up a whopping 237 kbpd, and the May-August period was revised up by an eye-popping 182 kbpd on average
- The EIA continues to see peak shale oil output for July 2023. Having said that, revisions have been so large lately that my confidence in reported numbers is at a low at present. The EIA has been in a revision spree lately – which happens sometimes – but it does make the data hard to interpret, and reliable month-to-month comparability may not be restored until early next year.

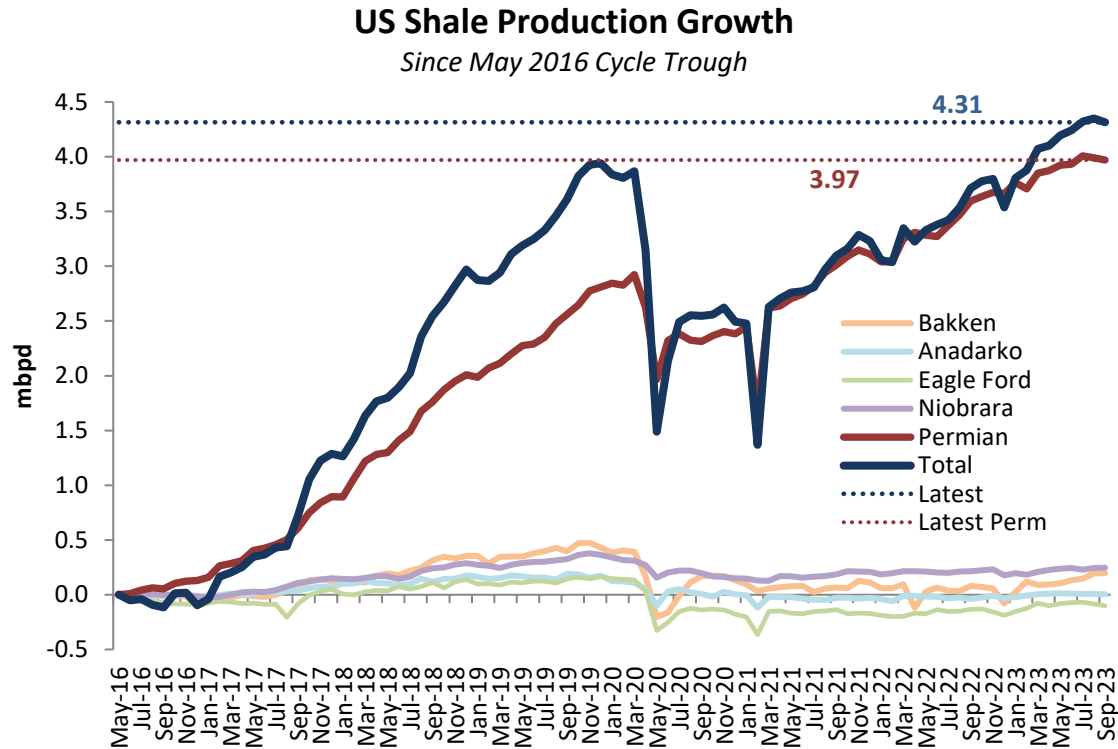


# US Shale Production Growth (Oct. DPR)



- Compared to last year, total shale oil production is up 0.6 mbpd
- The Permian is up 0.4 mbpd
- As before, annual Permian growth is rapidly decelerating

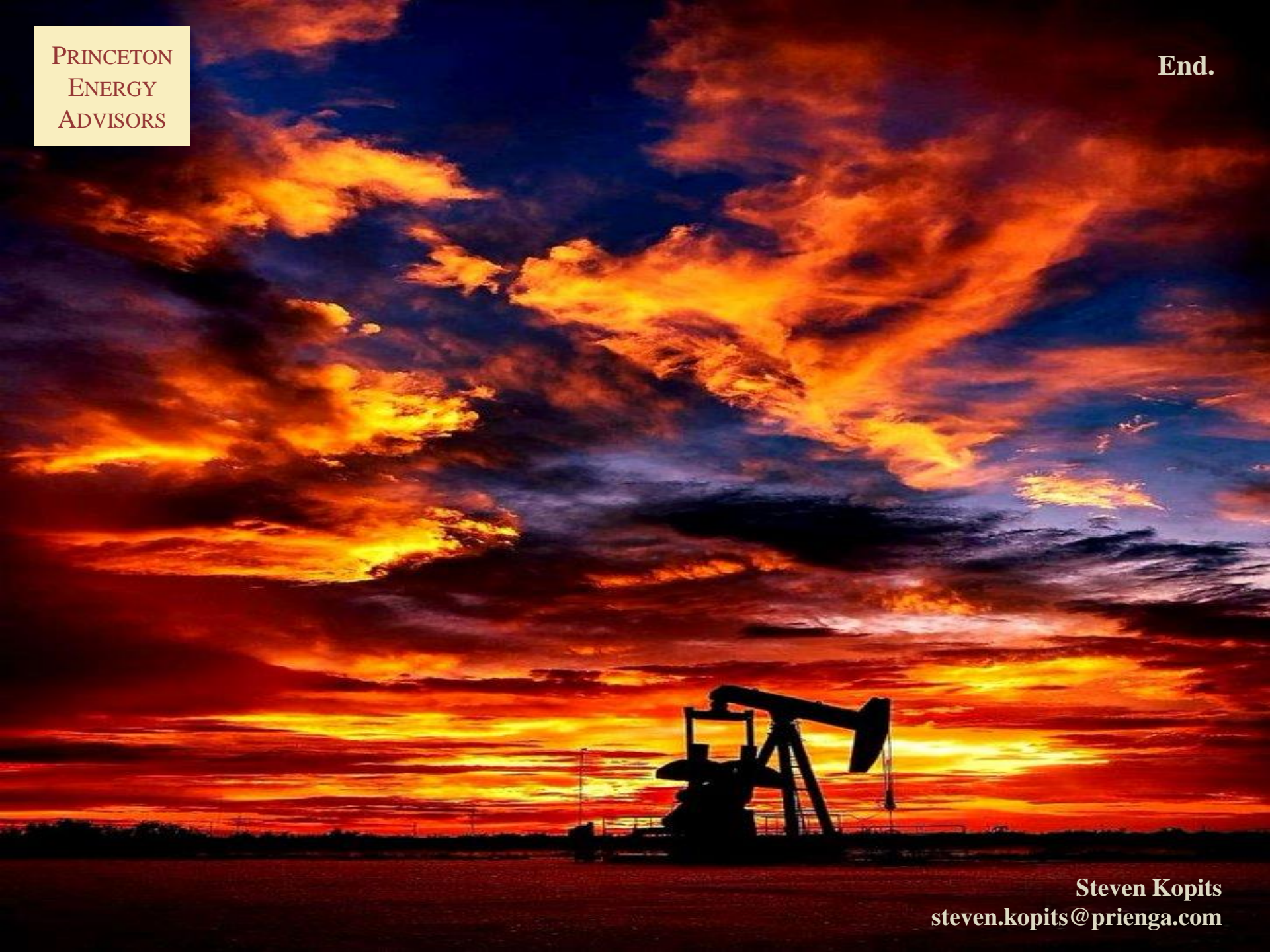
# US Shale Production Growth from May '16 (Oct. DPR)



- Since the prior cyclical trough in May 2016, total shale oil production from the key plays is up 4.3 mbpd
- All but 340,000 bpd of this growth comes from the Permian basin

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