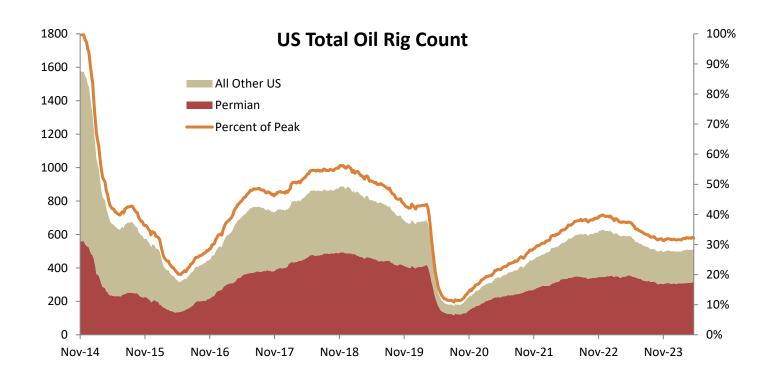


#### PRINCETON ENERGY ADVISORS

#### **Summary Assessment**

- The US oil business remains as uneventful as I have seen it since I started covering
  the sector 17 years ago. Very little has changed since last September, including rig
  and spread counts and oil production. It's frankly a bit strange in an industry
  characterized by massive swings, both up and down. Of course, stability is
  preferable. Nevertheless, the history of oil tells us that it is unlikely to last too long.
- Rig counts
  - Total oil rig counts: -5 to 506
  - Horizontal oil rig counts: -2 to 457
- Frac spreads fell last week, -3 to 257
- DUC inventory has largely stabilized at 16 weeks of turnover

## **US Total Oil Rig Count**

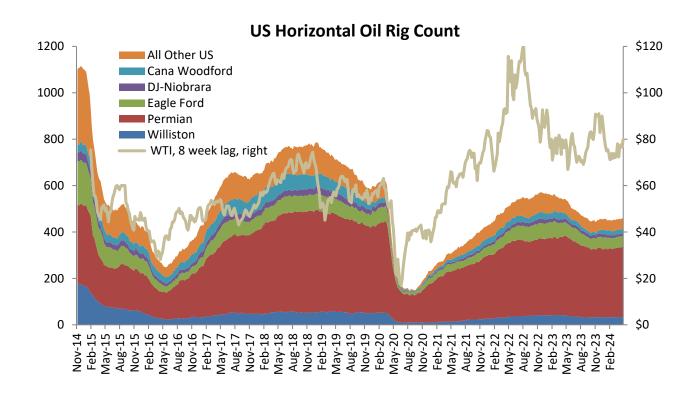


• Total oil rigs: -5 to 506

• Permian: -1

• All Other US: -4

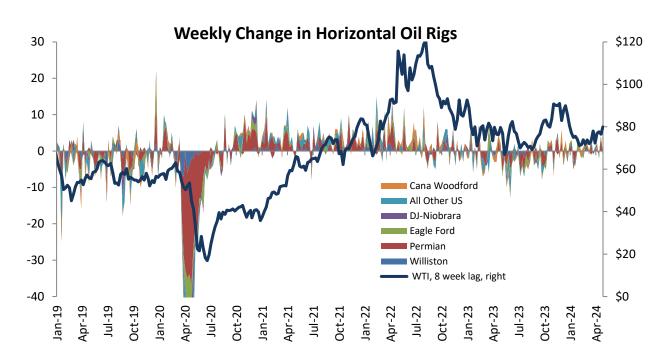
### **US Horizontal Oil Rig Count**



- Horizontal oil rigs: -2 to 457
- Permian: -1
- All Other US: -1



# Weekly Change in Horizontal Oil Rig Count by Basin



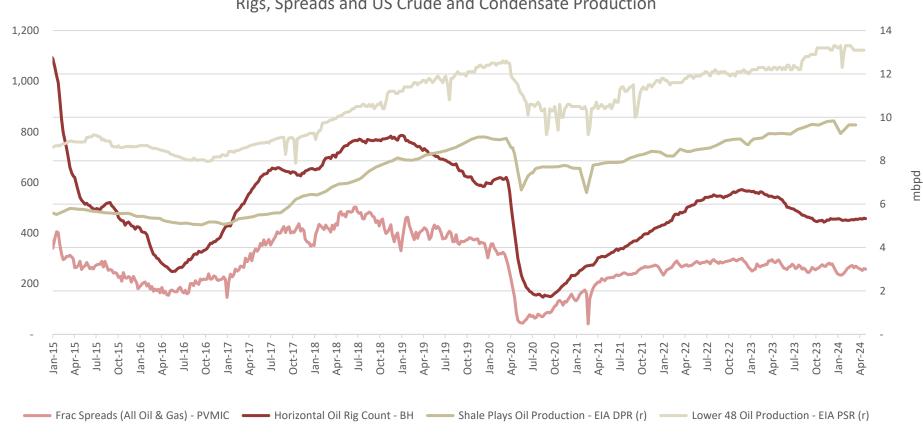
<ul><li>By Basin</li></ul>	Change	Count
<ul><li>Williston</li></ul>	0	33
<ul><li>Permian</li></ul>	-1	302
<ul><li>Eagle Ford</li></ul>	0	47
<ul><li>DJ Niobrara</li></ul>	-1	10
<ul><li>Cana Wdford</li></ul>	0	20
<ul><li>Other US</li></ul>	0	45
– Total	-2	457



Rig and Spread Count

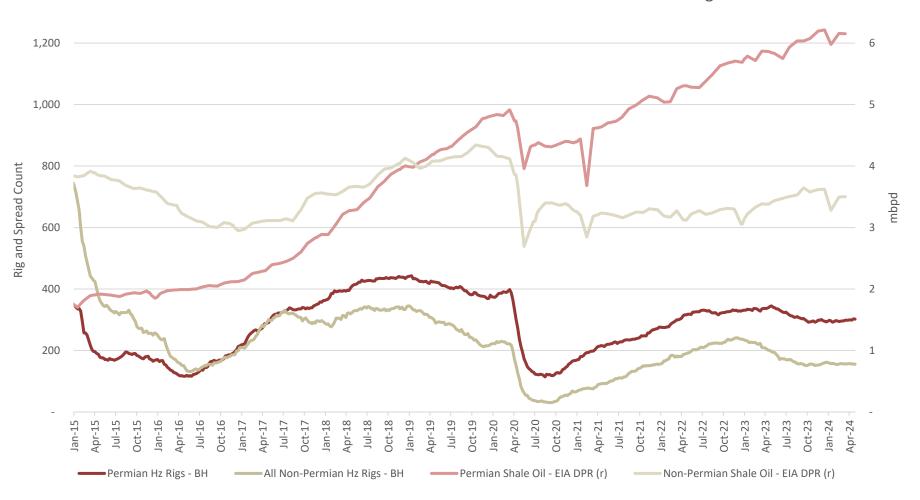
## Rigs, Spreads and US Oil Production

Rigs, Spreads and US Crude and Condensate Production



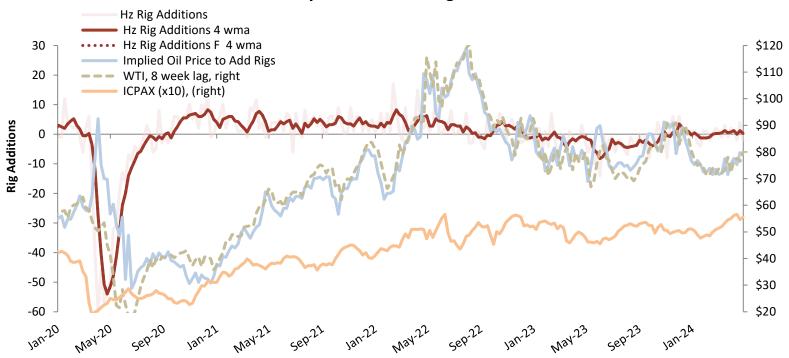
#### Permian & Non-Permian Shale Oil Production and Hz Oil Rigs

#### Permian and Non-Permian Shale Oil Production and Horizontal Rigs



## **Rig Additions and Breakevens**

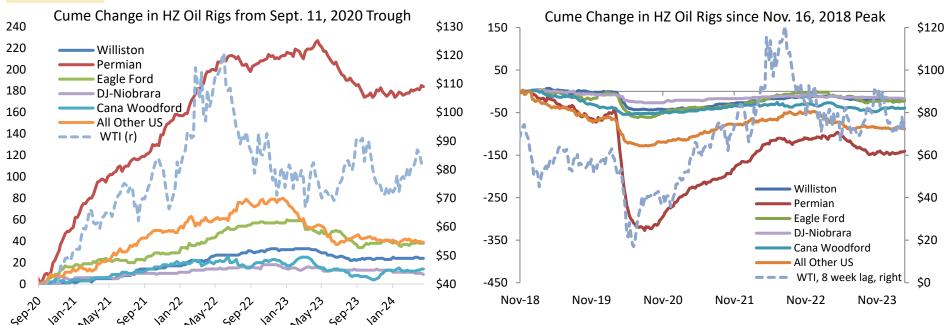
#### **US Weekly Horizontal Oil Rigs Additions**



- The 4 wma pace of horizontal rig additions rose to +0.25 / week
- With an eight-week lag, the breakeven to add horizontal oil rigs stands at a horrific WTI \$77 / barrel with \$80 on the screen at writing



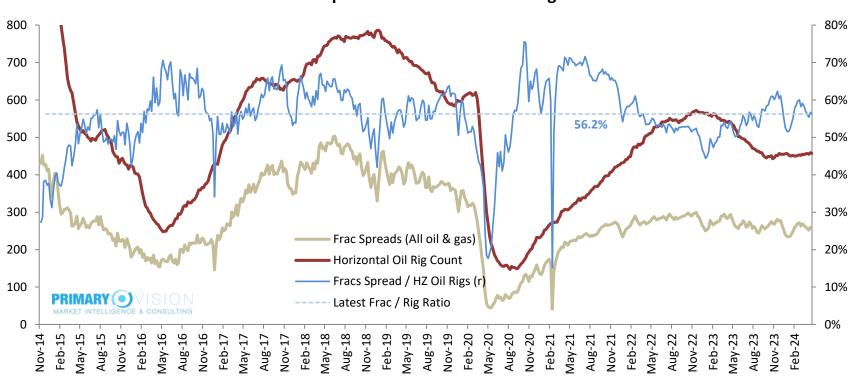
# US Horizontal Oil Rig Change from Peak and Trough



	Latest HZ	Trough August 14, 2020			Prior Peak Nov. 16, 2018				
	Rig Count	Trough Count	Rig Change	Percent Change	Pct of Rig Gained	Peak Count	Rig Change	Percent Change	Pct of Rigs Lost
<ul><li>Williston</li></ul>	33	11	22	200%	7%	53	(20)	-38%	6%
<ul><li>Permian</li></ul>	302	114	188	165%	61%	441	(139)	-32%	43%
<ul> <li>Eagle Ford</li> </ul>	47	10	37	370%	12%	70	(23)	-33%	7%
<ul> <li>DJ Niobrara</li> </ul>	10	1	9	900%	3%	28	(18)	-64%	6%
<ul> <li>Cana Wdford</li> </ul>	20	6	14	233%	5%	58	(38)	-66%	12%
<ul><li>Other US</li></ul>	45	5	40	800%	13%	133	(88)	-66%	27%
<ul><li>Total</li></ul>	457	147	310	211%	100%	783	(326)	-42%	100%
		05/22/20							
<ul><li>Frac Spreads</li><li>Spread Ratio</li></ul>	<b>257</b> 56.2%	<b>45</b> 30.6%	212	471%		<b>433</b> 55.3%	(176)	-41%	

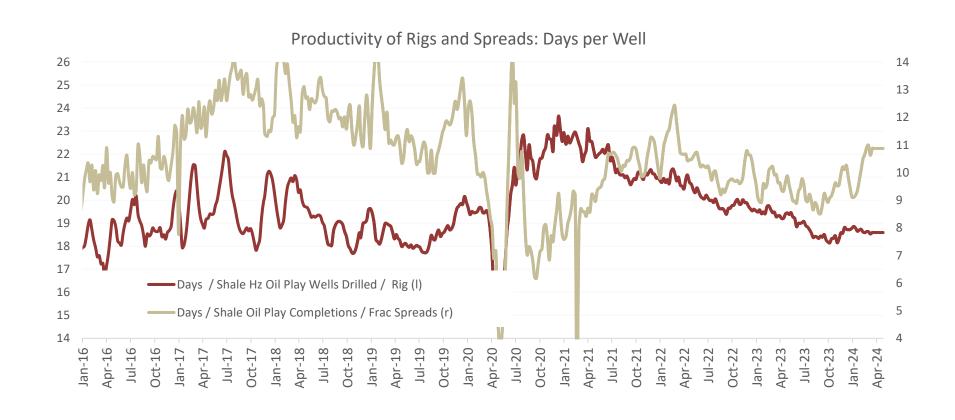
#### **US Oil & Gas Frac Spreads**

#### **Frac Spreads and Horizontal Oil Rigs**



Frac spreads were -3 to 257

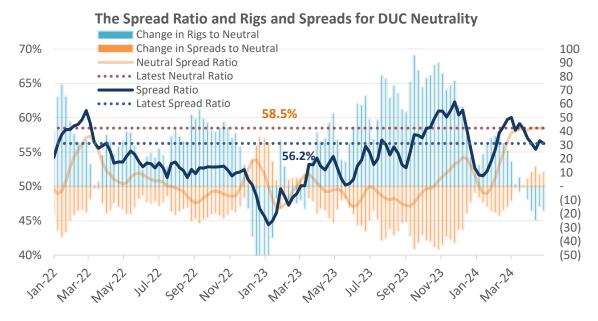
# **Rig and Spread Productivity**

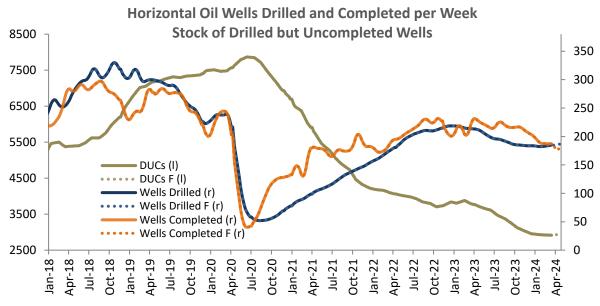




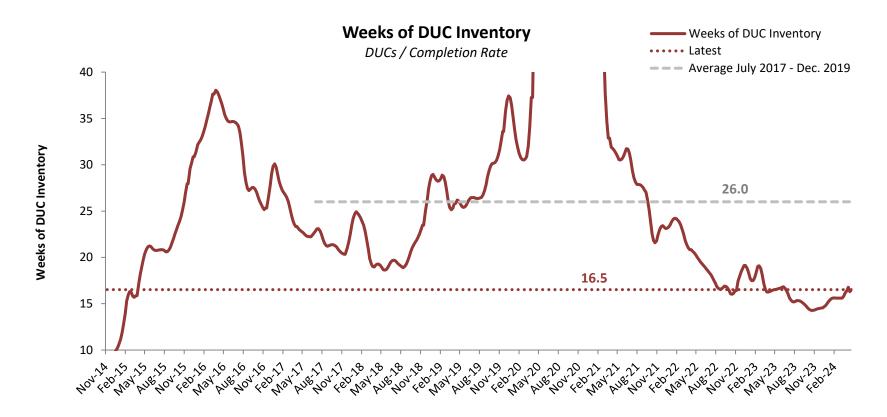
#### At estimated productivity levels and current rig and spread counts, the DUC inventory is largely stable

#### **Rig and Spread Productivity**





#### **DUC Weeks of Inventory**

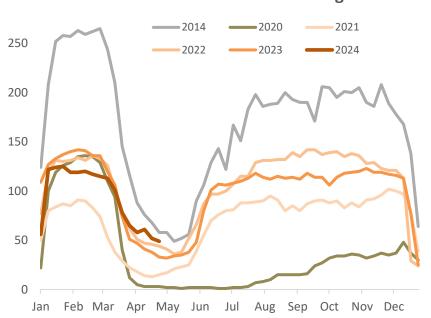


DUC inventories have fallen stabilized around 16 weeks of turnover

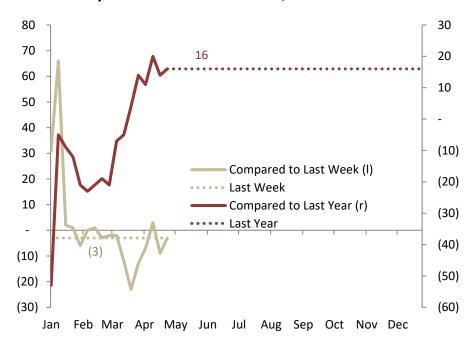


# Canada Horizontal Oil Rig Count



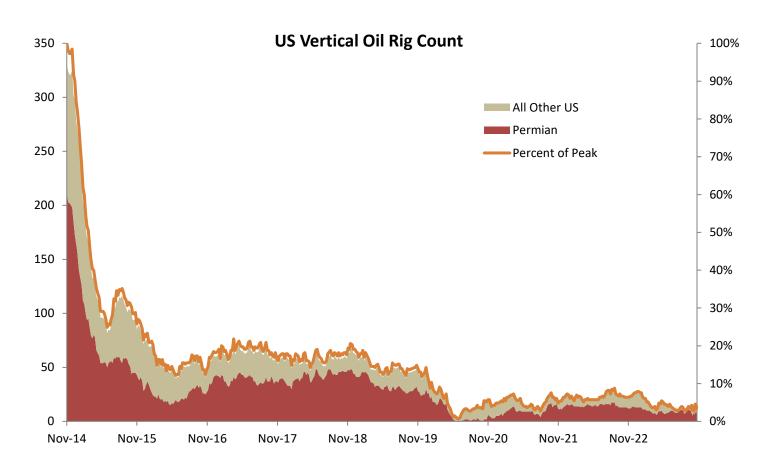


#### **Compared to Previous Week, Previous Year**



- Canada horizontal oil rigs were down 3 to 49 last week
- Rigs counts were +16 compared to the same week last year

# **US Vertical Oil Rig Count**



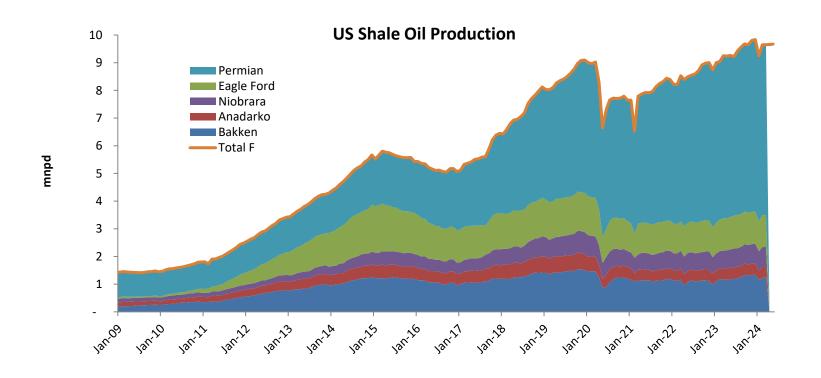
Vertical oil rigs: +0 to 13

• Permian: +0

• All Other US: +0



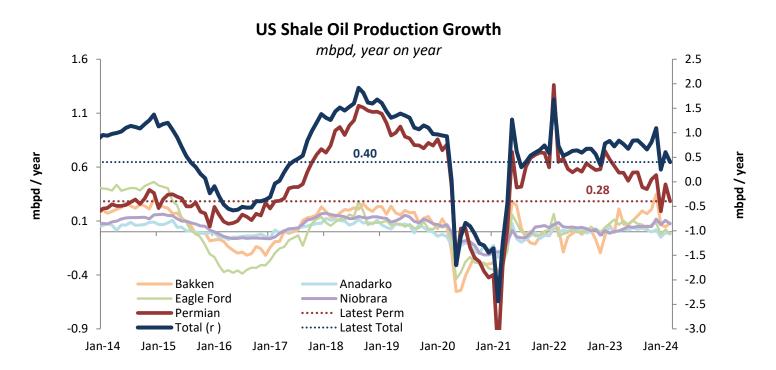
#### **US Shale Production Growth (Apr. DPR)**



• In the April DPR report, March crude and condensate production from key shale plays was flat at 9.65 mbpd.



## **US Shale Production Growth (Apr. DPR)**



- Compared to last year, total shale oil production is up 0.4 mbpd
- Most of this came from the Permian

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

#### **US Shale Production Growth**

Since May 2016 Cycle Trough



- Since the prior cyclical trough in May 2016, total shale oil production from the key plays is up 4.5 mbpd.
- Of this, 330,000 bpd came from plays other than the Permian.



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