



PNWARS 2019 Fall Meeting

Vancouver BC

September 18th – 19th 2019



PFL Petroleum Services LLC

Facilitating Transactions

- Leasing
- Subleasing
- Purchases
- Structured Financing
- Crude/NGLs by Rail
- Consulting
- Transloading
- Railcar Storage

PFL Field Services

- Cleaning
- Blasting
- Flaring
- Repairs
- Maintenance
- Inspections
- Retrofits
- Railcar Dismantling Scrapping



Province of Alberta

- World's 3rd Largest Crude Reserves
- Production curtailments holding back investment – Crude by rail drastically affected
- 4,500 railcars in Limbo
 - July: 3.71 million barrels per day
 - August: 3.74 million barrels per day
 - September: 3.76 million barrels per day
- Pipeline Delays – Key Stone and Trans Mountain
- Conclusion – Oversupplied market of rail cars



Source: Railway Supply Institute

Alberta, Other Issues Involving Crude

Current Situation:

Problem -3 Indexes:

1. Net Energy Clears Through CME – One Broker
2. Calrock – Clears Through ICE – One broker
3. CCI – An effort established by One Exchange and Marix, a consolidated Index, clears through Nasdaq.

Solution – 1 Index:

Net Energy and Calrock needs to join CCI's consolidated index and one index needs to clear on all three exchanges.

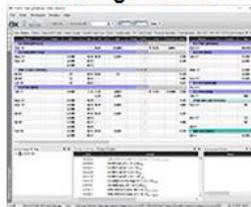
Results:

1. Increased liquidity in Alberta
2. Open transparency
3. Increased royalties for Alberta
4. Increased investment in Alberta



INSTANT ACCESS TO ONE EXCHANGE MARKETS

Trading Platform



Mobile App



Website



For more in-depth information please view the OX Real-Time Indices on THE OX Trading Platform, The OX Mobile App or login to our Website. If you do not have a Login ID please contact your OX representative for access.

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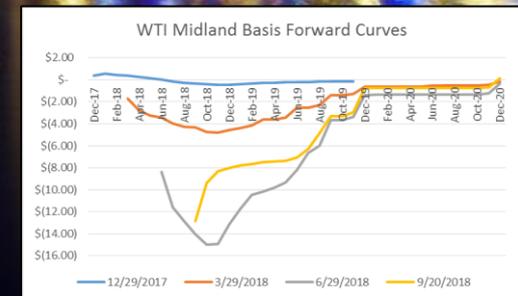
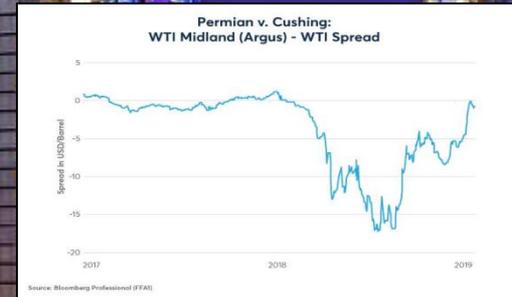
**Calgary, Alberta, Canada
Consolidated Crude Index**

Monthly Consolidated Crude Index (CCI 1M) for October

Index Prefix*	Product Name	Trades	Bbl/Day	M3	Index (USD/bbl)
CCI 1M	AHS/WCS	2	4,870	24,000	-1.7083
CCI 1M	AWB	1	1,664	8,200	-15.0500
CCI 1M	AWB/WCS	3	6,087	30,000	-2.8000
CCI 1M	Bak SW-BL	3	4,000	19,705	-6.3000
CCI 1M	Bakken Sweet Field Blend	3	4,000	19,705	-6.3000
CCI 1M	BR NORTH/WCS	2	1,522	7,500	0.3500
CCI 1M	C5-ALL	177	132,759	654,000	-7.1537
CCI 1M	C5-CRW	18	12,484	61,500	-7.3638
CCI 1M	C5-FSPL	63	49,429	243,500	-7.0120
CCI 1M	C5-FSPL/C5-PCE NAM	2	3,045	15,000	0.3500

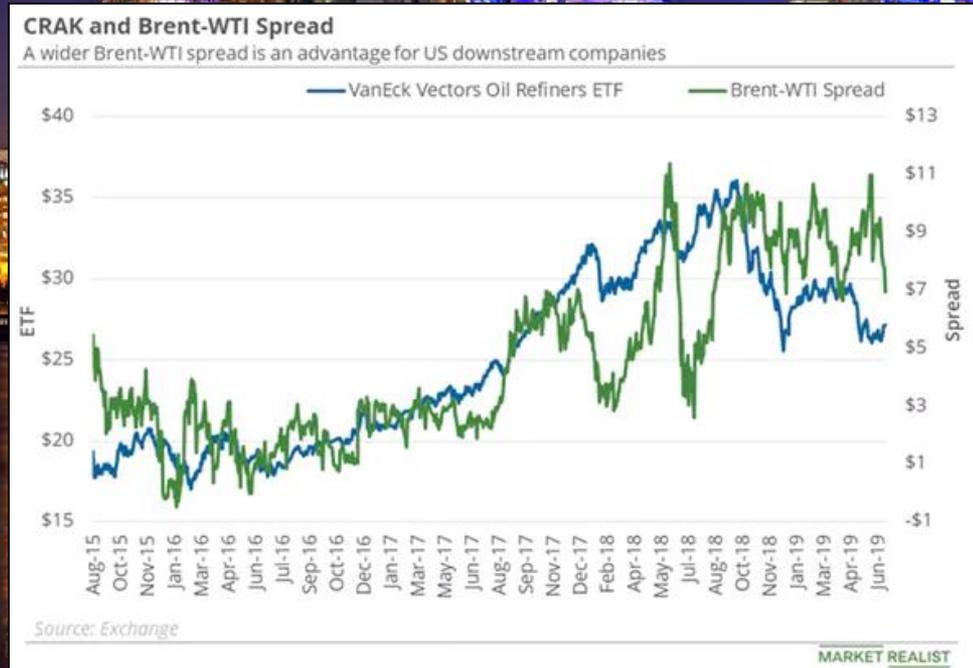
Permian Basin

- ARBs are gone as new pipelines have come into play at the basin.
- Crude by rail is all but gone with exceptions of remote areas in New Mexico.
- There was a potential for crude by rail to come back in the fourth quarter, however it does not look like that is going to happen at this point.
- Shale producers are not completing as many wells, tightening purse strings as well as laying off people.
- Investors are fleeing as new evidence by Encana show that wells cannot be drilled as close together as once thought.
- Local frac sand production has all but taken over driving frac sand cars to storage.
- Conclusion – Risky basin to play if you are a lessor or lessee, storage opportunities do exist.



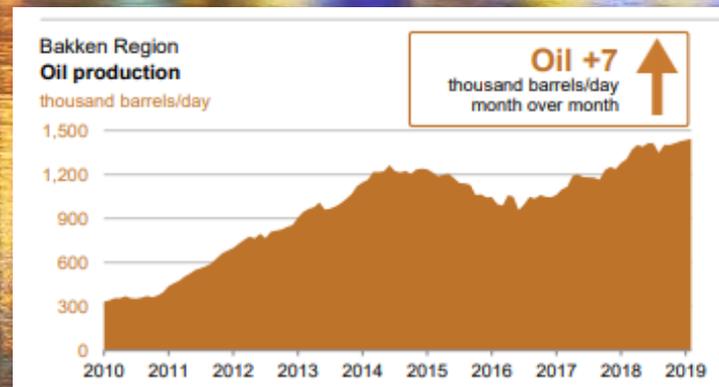
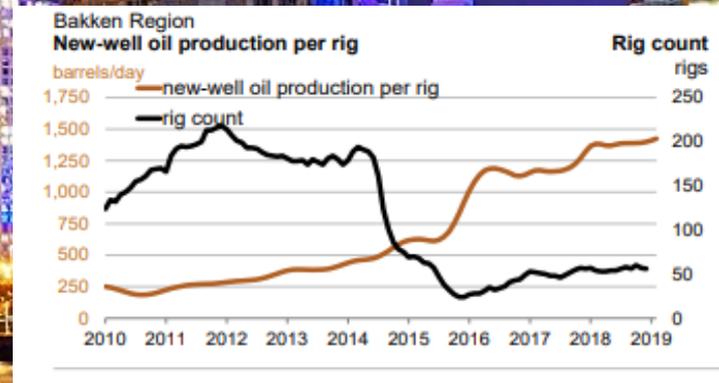
Brent / WTI

- Brent WTI spread has been tightening.
- Not good for US producers as wider spread is good for exports.
- The US exported a record nearly 1.7 million barrels of oil per day to Asia during the month of August.
- Trade tariffs from China will play a minor factor of decreased exports to China in future days, but the spread is everything . A good spot to be in is \$8.00 per barrel, not \$5.50 where we are today.
- Conclusion - It is best to wait and see as there is no way to predict the global oil market with all the political variables. Expect declines in crude production in the US unless we break above \$65 a barrel and stay there for a period of time.



Bakken

- Production is holding up well out of the region.
- Rig count down from peak of 250 wells to roughly 50 today.
- Wells in the Bakken are becoming much more efficient.
- Production per rig is rising while the total rig count is declining.
- Conclusion Crude by rail still a viable option but spreads are narrowing leaving room for ocean bound cargos to fill the gap.

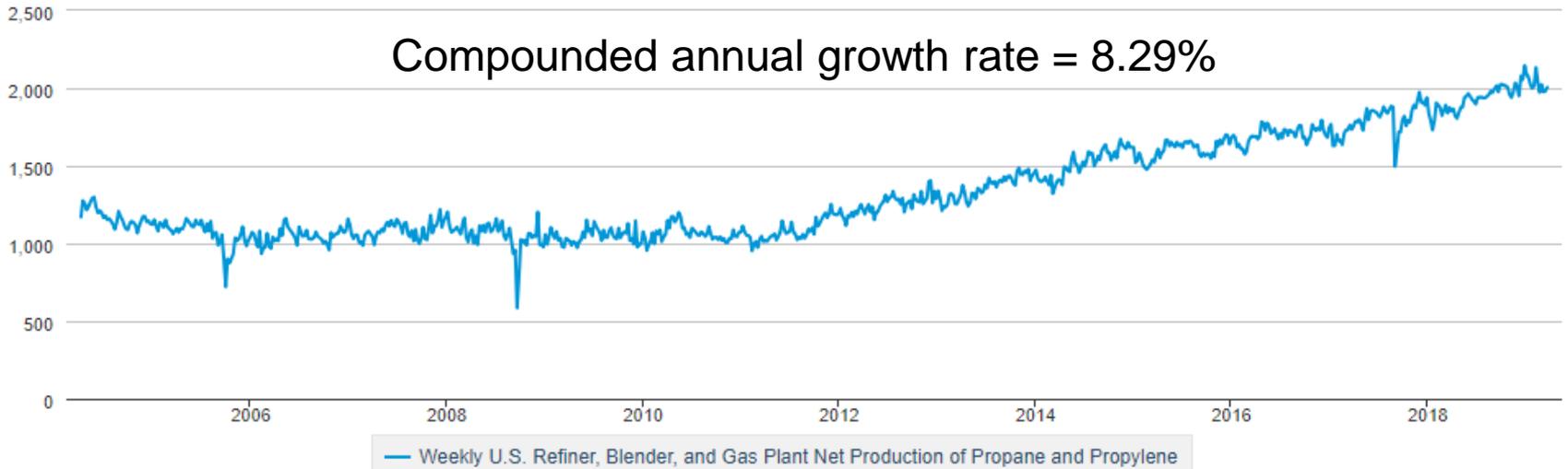


LPG Market

- U.S. has been the world's largest LPG exporter and producer since 2016 (1.1MM/bpd exported in year end 2018).
- Exports originate mostly from the US Gulf Coast (Houston, Nederland), plus Ferndale in PNW, and Marcus Hook near Philadelphia.
- More than half of domestic LPG production is exported (according to EIA)

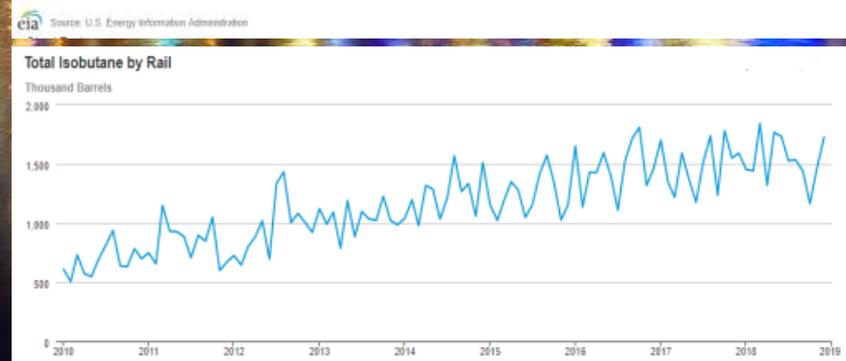
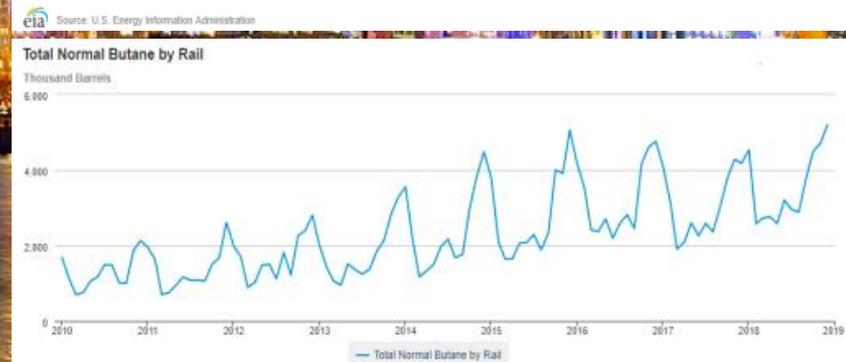
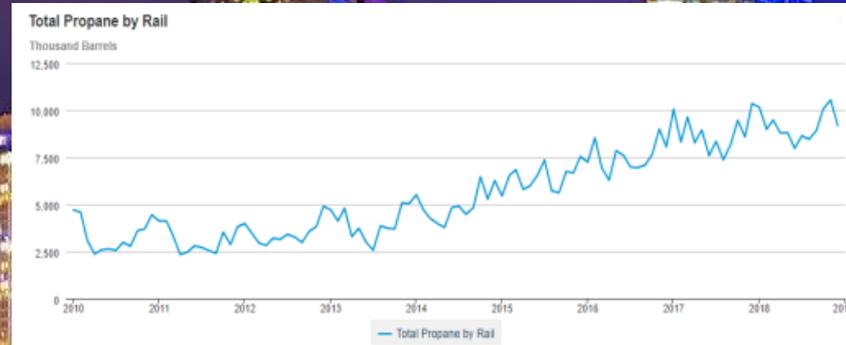
Weekly U.S. Refiner, Blender, and Gas Plant Net Production of Propane and Propylene

Thousand Barrels per Day



Growing LPG/NGL

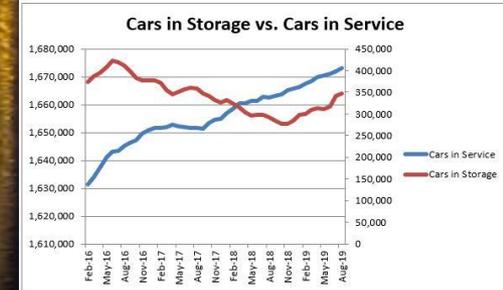
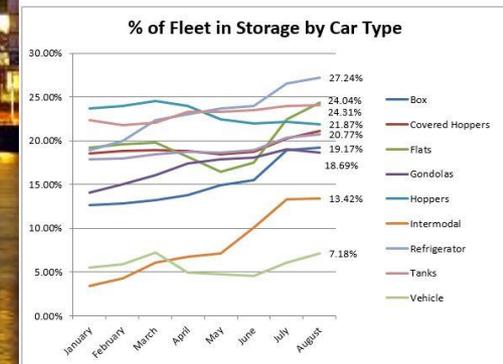
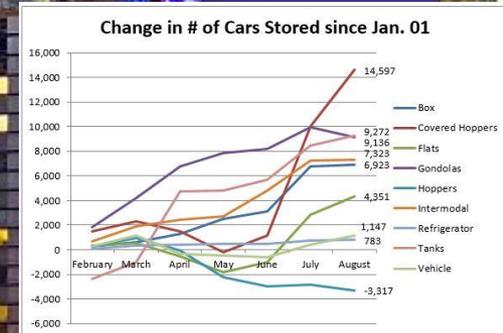
- LPG is massive and ever growing market that will continue to grow there is still a lot of associated gas out there that is being flared that needs to be tied in despite any efforts in drilling.
- LPGs are used largely for things like petrochemicals (plastics) and agriculture (crop drying)
- Conclusion - Increased LPG production, lack of Pipeline capacity and other logistical issues have led to increased LPG rail traffic expect this to continue and look for loaded storage activity.





Rail Car Storage

- Storage has been extremely active of late with tightening felt across some regions.
- The storing of hoppers and tanks either being returned on lease or trains being broken up and repositioned has been active.
- As of September 1, 2019 there were 347,600 empty railcars in storage, representing 20.8% of the North American fleet. This represented a 6,600 cars (+1.9%) increase in railcars in storage from August and a 63,800 car (22.5%) increase on a year over basis.
- Railcars in storage have now increased 50,200 cars (+16.9%) since January, with the largest increases coming from covered hoppers (+14,600/+13.8%), flat cars (+12,800 / +63.2%) and tank cars (9,300/+9.9%).
- Conclusion - expect to see more cars tucked away in the coming days as due to PSR implementation, waning crude by rail demand, decrease of well completions and continued local frac sand production.





Tank Car Regulations and Class One Implementation

- **Direction has been provided by the AAR as far as the implantation of certain tank cars that can be used in different commodities and services.**
- **Recent derailments have caused certain class ones to take action on their own. For example, without a preexisting contract, with the BN unit car shipments of crude oil cannot be contracted for 117R's or CPC 1232 cars for certain commodities. The industry is nervous that other class ones may follow suit.**
- **117 R's conversions have been performed at a record rate and new production is robust.**
- **Conclusion - Crude by rail is waning despite what industry is doing to solve regulatory and class one problems.**



Fixing America's Surface Transportation Act

The FAST Act establishes and funds new programs to support critical transportation projects to ease congestion and facilitate the movement of freight on the Interstate System and other major roads. Examples include developing a new National Multimodal Freight Policy, apportioning funding through a new National Highway Freight Program, and authorizing a new discretionary grant program for Nationally Significant Freight and Highway Projects.

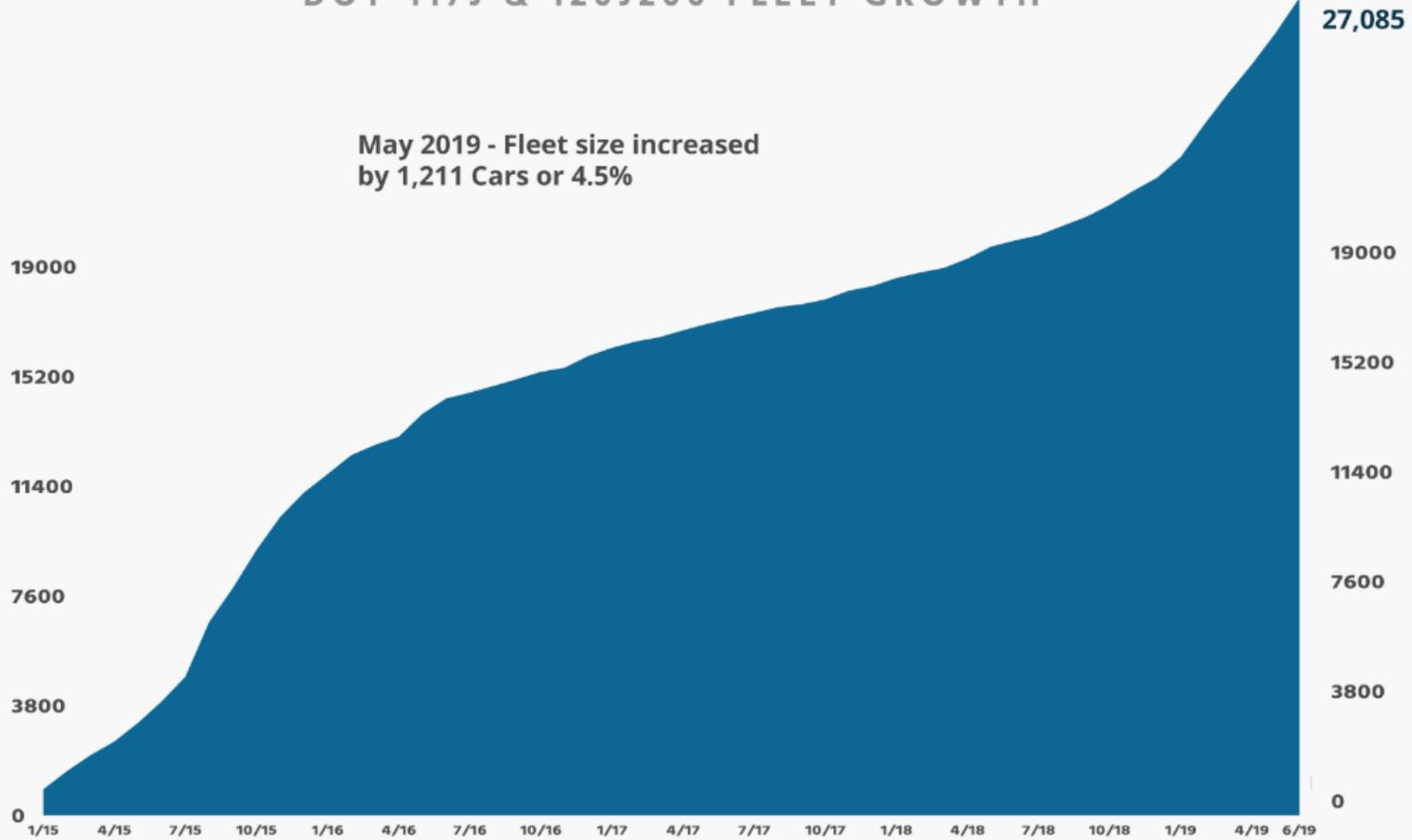
US FAST Act Deadlines	CRUDE OIL	ETHANOL	OTHER FLAMMABLE LIQUIDS, PACKING GROUP I	OTHER FLAMMABLE LIQUIDS, PACKING GROUP II - III
DOT-111 Non-jacketed	Jan. 1, 2018 ¹	May 1, 2023	May 1, 2025	May 1, 2029 ²
DOT-111 Jacketed	Mar. 1, 2018 ¹	May 1, 2023	May 1, 2025	May 1, 2029 ²
CPC-1232 Non-jacketed	Apr. 1, 2020 ³	Jul. 1, 2023	May 1, 2025	May 1, 2029 ²
CPC-1232 Jacketed	May 1, 2025	May 1, 2025	May 1, 2025	May 1, 2029 ²

¹ Nov. 1, 2016 in Canada
² May 1, 2025 in Canada
³ Nov. 1, 2018 in Canada

Note: Condensates in Canada can no longer be shipped in DOT-111s or CPC-1232 non-jacketed tanks after 11/01/2018.



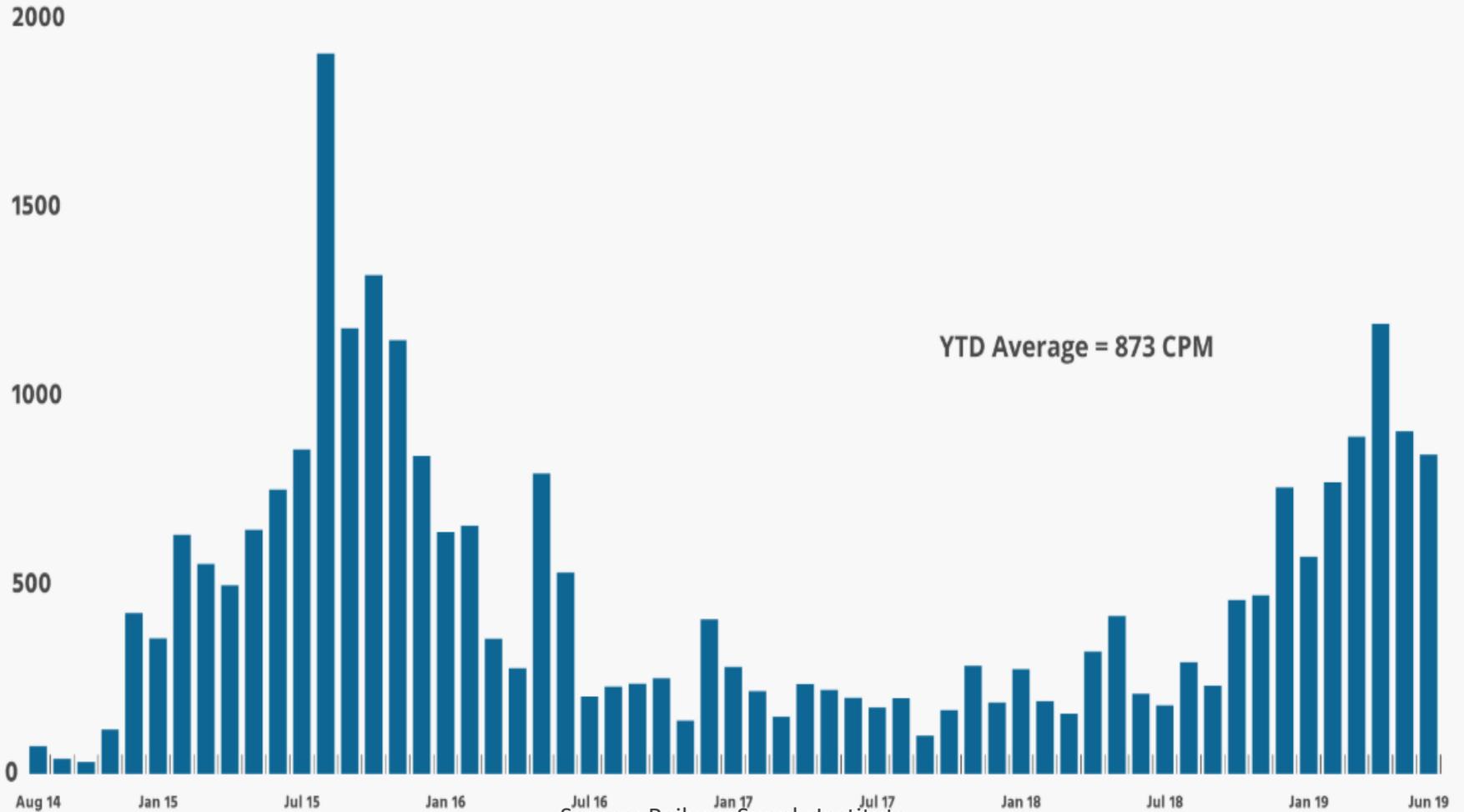
DOT-117J & 120J200 FLEET GROWTH



Sources: 07/01/2019 UMLER

The 117J fleet is still growing despite the shrinking need for cars.

DOT-117J & 120J200 MONTHLY PRODUCTION



Source: Railway Supply Institute



Retrofit Modification Requirements

- Agreed upon path to move forward with tank car retrofit applications concerning those cars that are jacketed and only contain the fiberglass insulation component (no ceramic).
- The AAR, RSI, and DOT have agreed to an AFFTAC template for analyzing thresholds of a tank car to withstand a pool fire.
- Ethanol and crude are a go - Condensate will not be able to be shipped in 117Rs because no models will show that it can withstand over 85 minutes in a pool fire. All cars will be stenciled on their manway and tank sides with “Not for Condensate.”
- AAR needs to get comfortable with the railroads monitoring process for which products are loaded into retrofits. At that point, approvals will be processed.

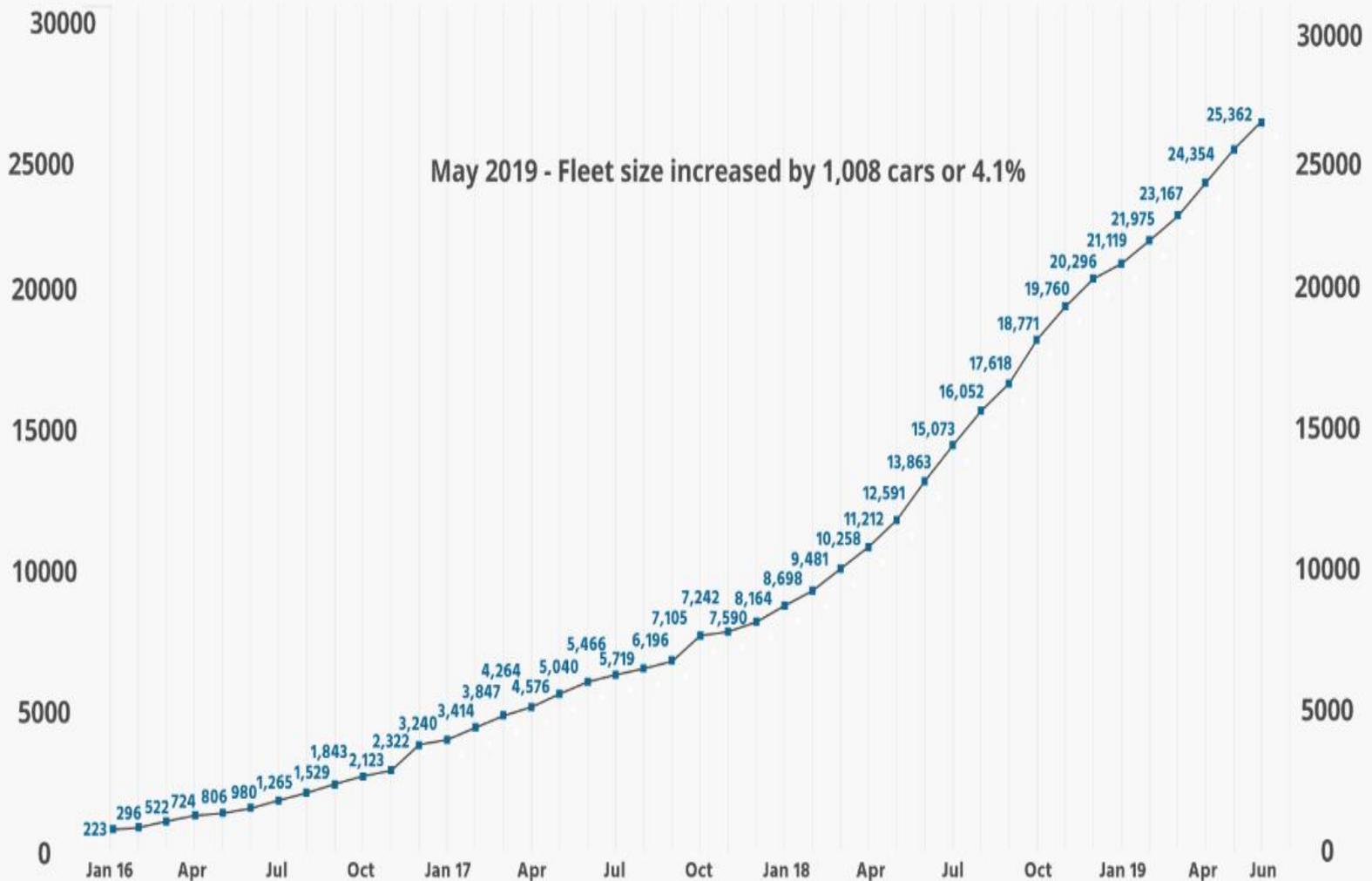
FLAMMABLE LIQUIDS CAR SPECIFICATION CHART

Car Specification	Head & Shell Thickness (in.)	Normalized Head & Shell	Jacket	Head Shield	Top Fittings Protection	Thermal Protection	BOV Handle Modification
111A Legacy Jacketed	0.4375	NO	YES	NO	NO	YES*	NO
111A Legacy Non-Jacketed	0.4375	NO	NO	NO	NO	NO	NO
CPC-1232 Jacketed	0.4375	YES	YES	FULL	YES	YES*	NO
CPC-1232 Non-Jacketed	0.5	YES	NO	HALF	YES	NO	NO
117R100W Legacy Retrofit	0.4375	NO	YES	FULL	MOD	YES*	YES
117R100W CPC-1232 Jacketed Retrofit	0.4375	YES	YES	FULL	YES	YES*	YES
117R100W CPC-1232 Non-Jacketed Retrofit	0.5	YES	YES	FULL	YES	YES	YES
117J100W 120J200	0.5625	YES	YES	FULL	YES	YES	YES

*RSI Analysis indicates that the existing fiberglass insulated jacketed DOT-111s meet the Thermal Protection System performance requirements.

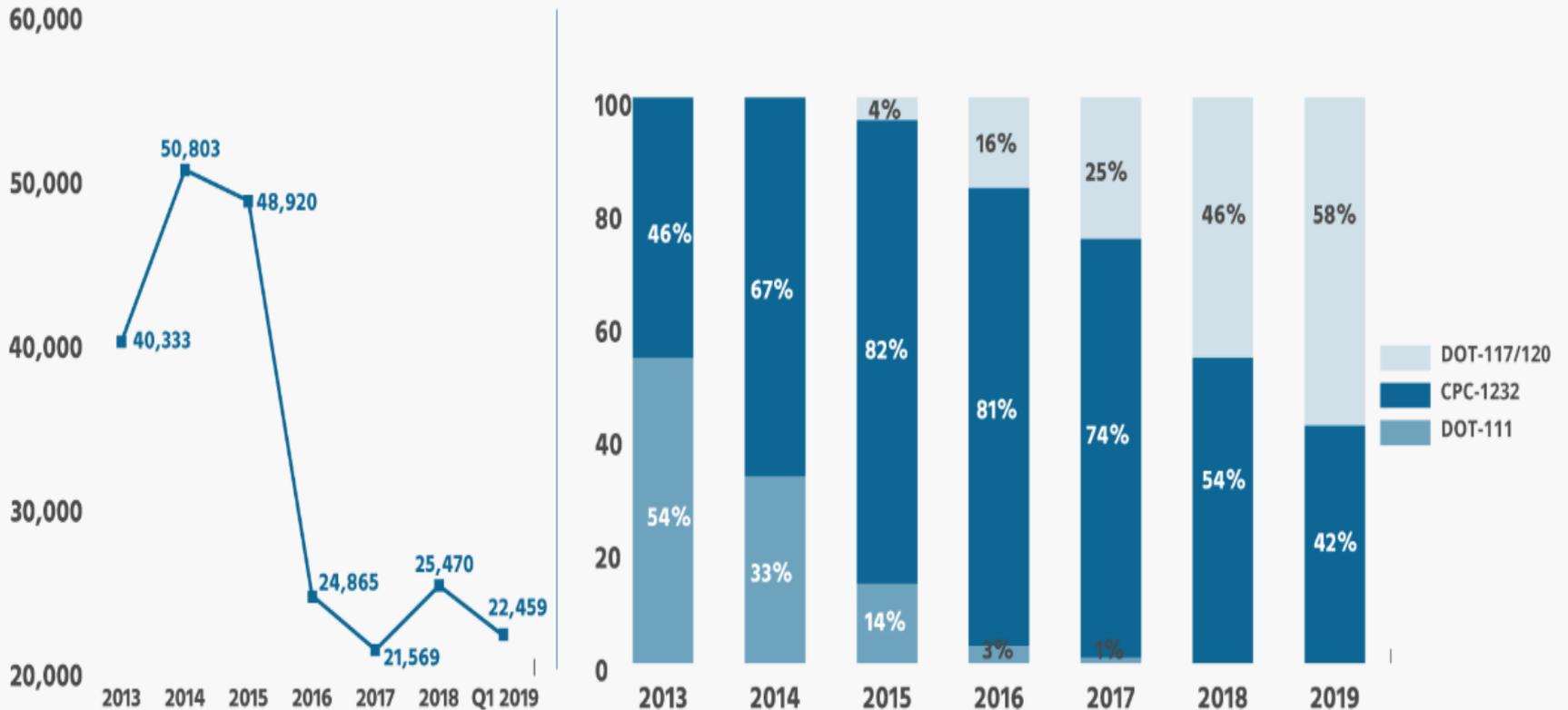


117R FLEET GROWTH



Sources: 07/01/2019 UMLER

CRUDE OIL FLEET SIZE & COMPOSITION



Source: Association of American Railroads 6/1/2019



Questions?

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