

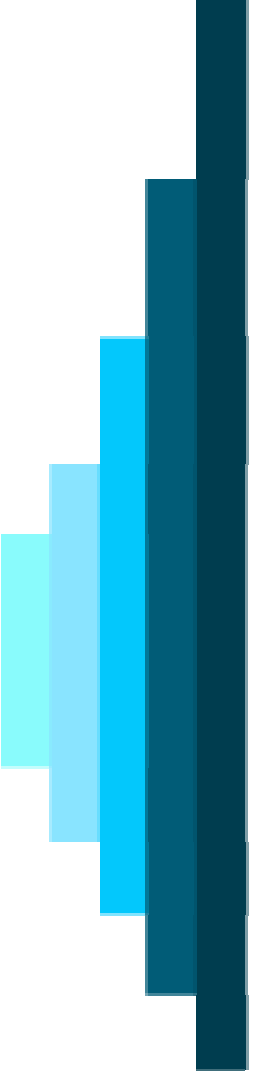


BTU Analytics:

*Finding the Premium Markets for  
US Crude*

September 18, 2014

# Who is BTU Analytics?



BTU Analytics is a highly nimble, data-driven analysis company providing market-risk assessments, market strategy advisory services, regularly published analysis, and due diligence analysis for participants in the North American oil, NGL, and natural gas markets.

Clientele is spread across Private Equity Companies, Producers, Power Providers, Traders, and Marketers.

Capabilities Include:

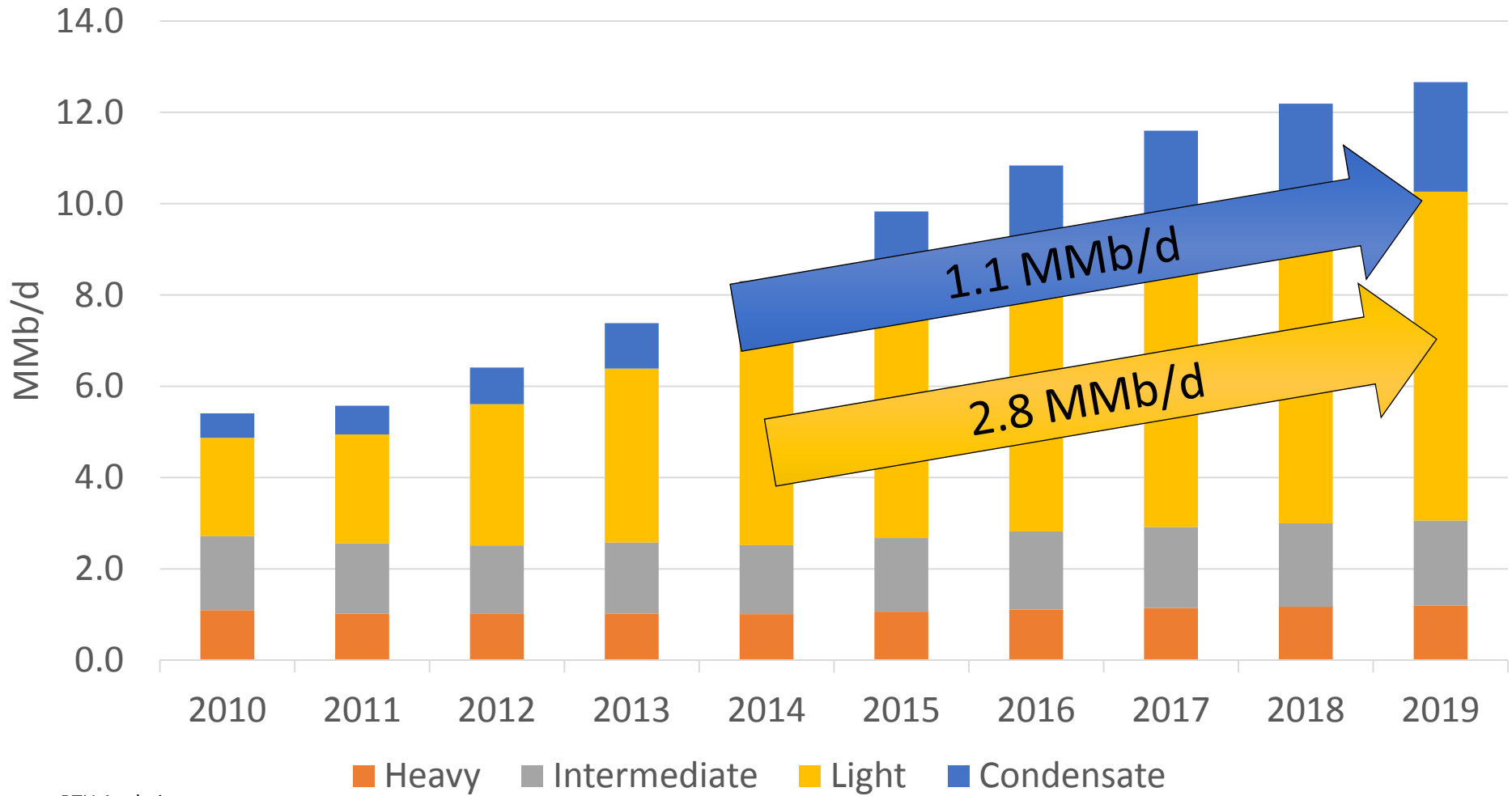
- Oil, NGL, and natural gas market analysis
- Producer strategy advisory services
- Infrastructure development analysis
- Custom regional market studies

# Market Conclusions

- US light production growth outpacing demand, leading to downward pressure on US crude prices
- Rockies oil production expected to double over next 5 years
- Limited local refining demand will force growing Rockies production to compete with other growing US plays
- Rapid build out of pipes and rail have reduced domestic price arbitrage opportunities

# US Light Crude/Condensate Growth Is Overwhelming Domestic Demand

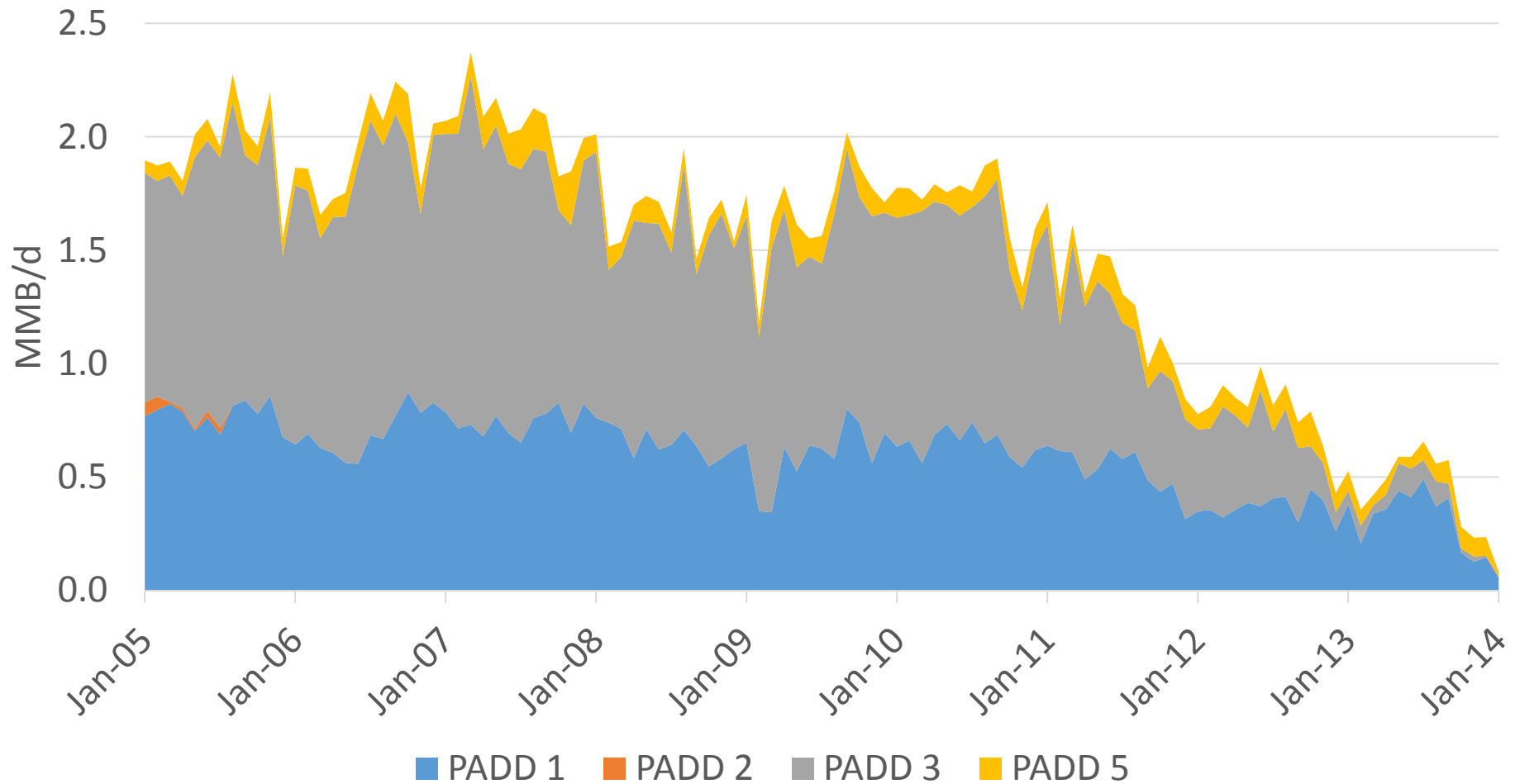
US Oil Production



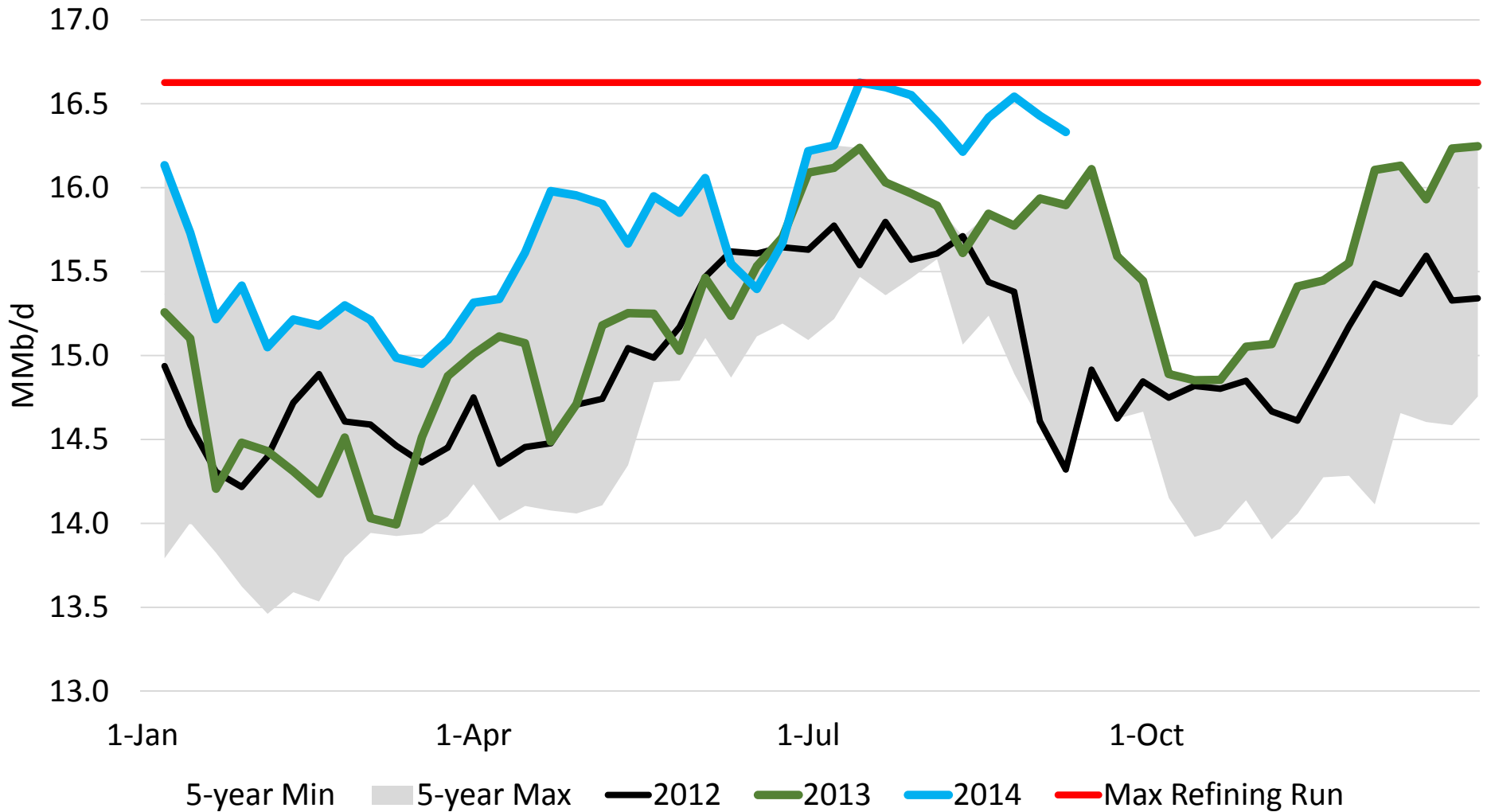
Source: BTU Analytics

# Like-for-Like Displacement Opportunities are Gone, Leaving Domestic Production to Compete with Heavier, Sour grades

## US Light Sweet Waterborne Imports

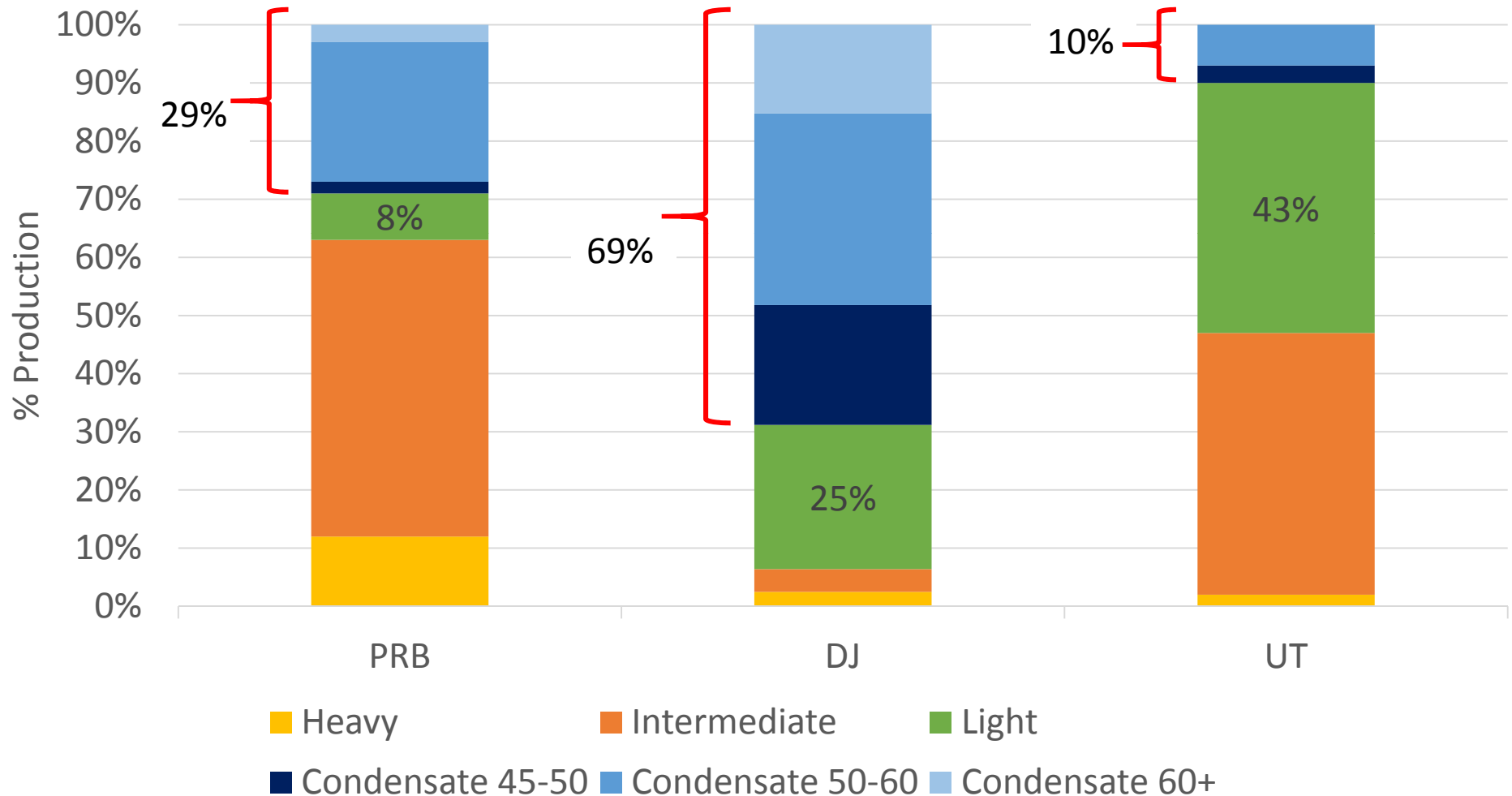


# US Refining Running at Capacity, Little Incremental Demand in Short Term Relative to Supply Growth



# Rockies Crude Production Quality Varies, but Will be Contributing to the Light/Condensate Oversupply in the US

## Rockies Production Quality

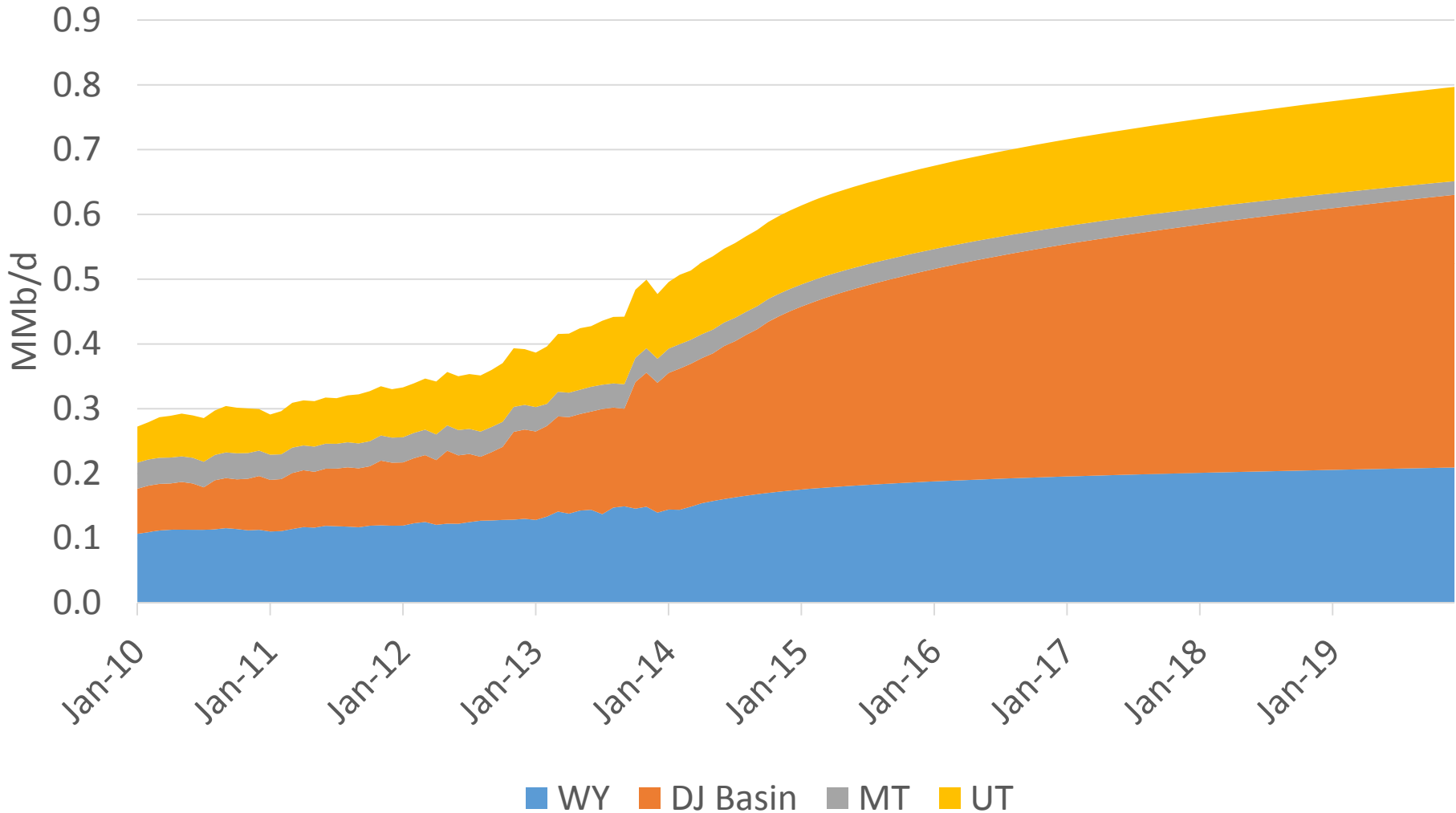


NOTE: 2013 Average  
Source: BTU Analytics



# DJ Basin is the Largest Driver of Growth and Also the Lightest Quality

## Rockies Oil Production



Source: BTU Analytics

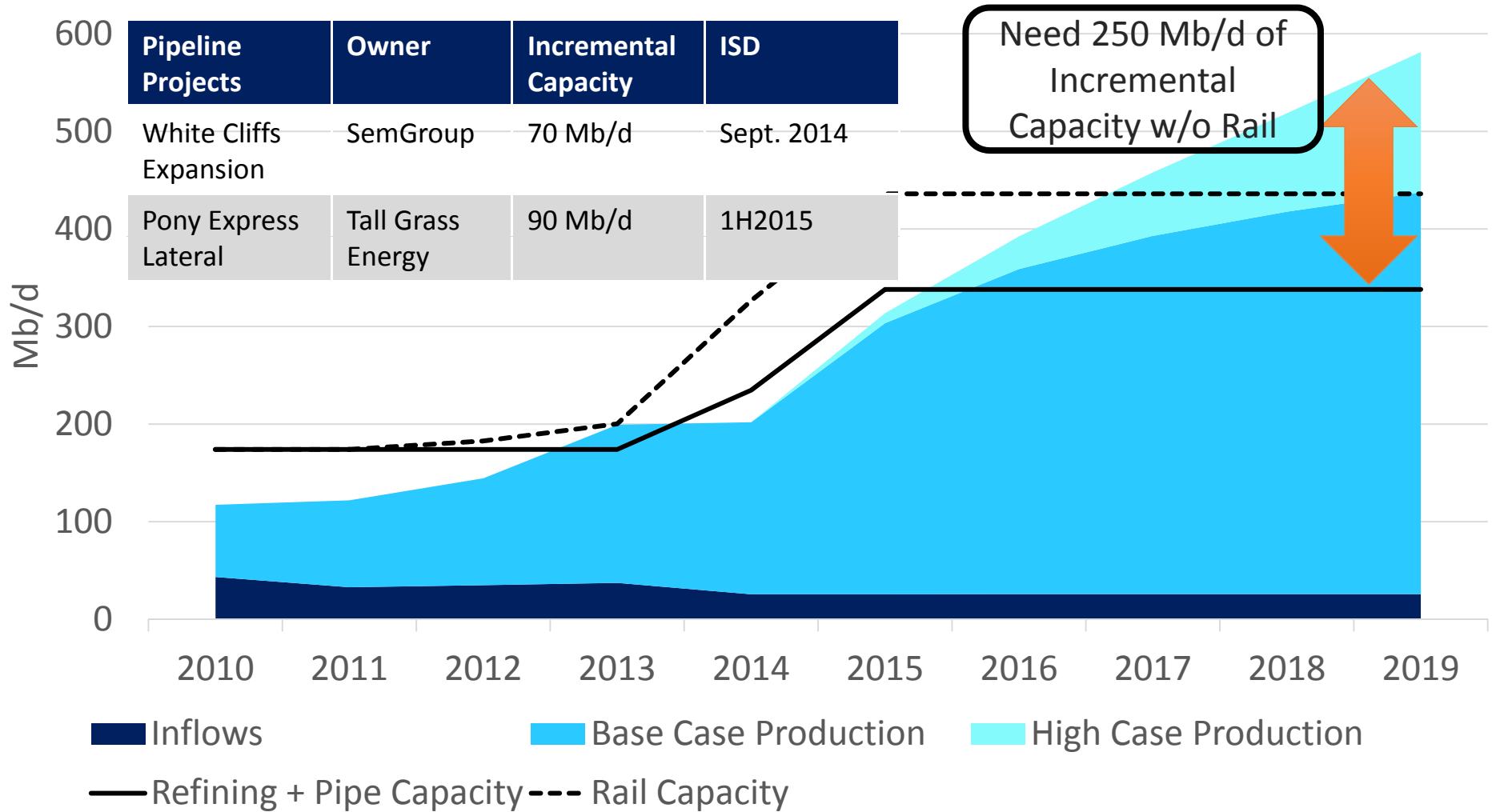
NOTE: Excludes Williston Basin

[www.btuanalytics.com](http://www.btuanalytics.com)  
[info@btuanalytics.com](mailto:info@btuanalytics.com)



# DJ Basin Will Once Again Be Pipeline Constrained in 2015 and Beyond

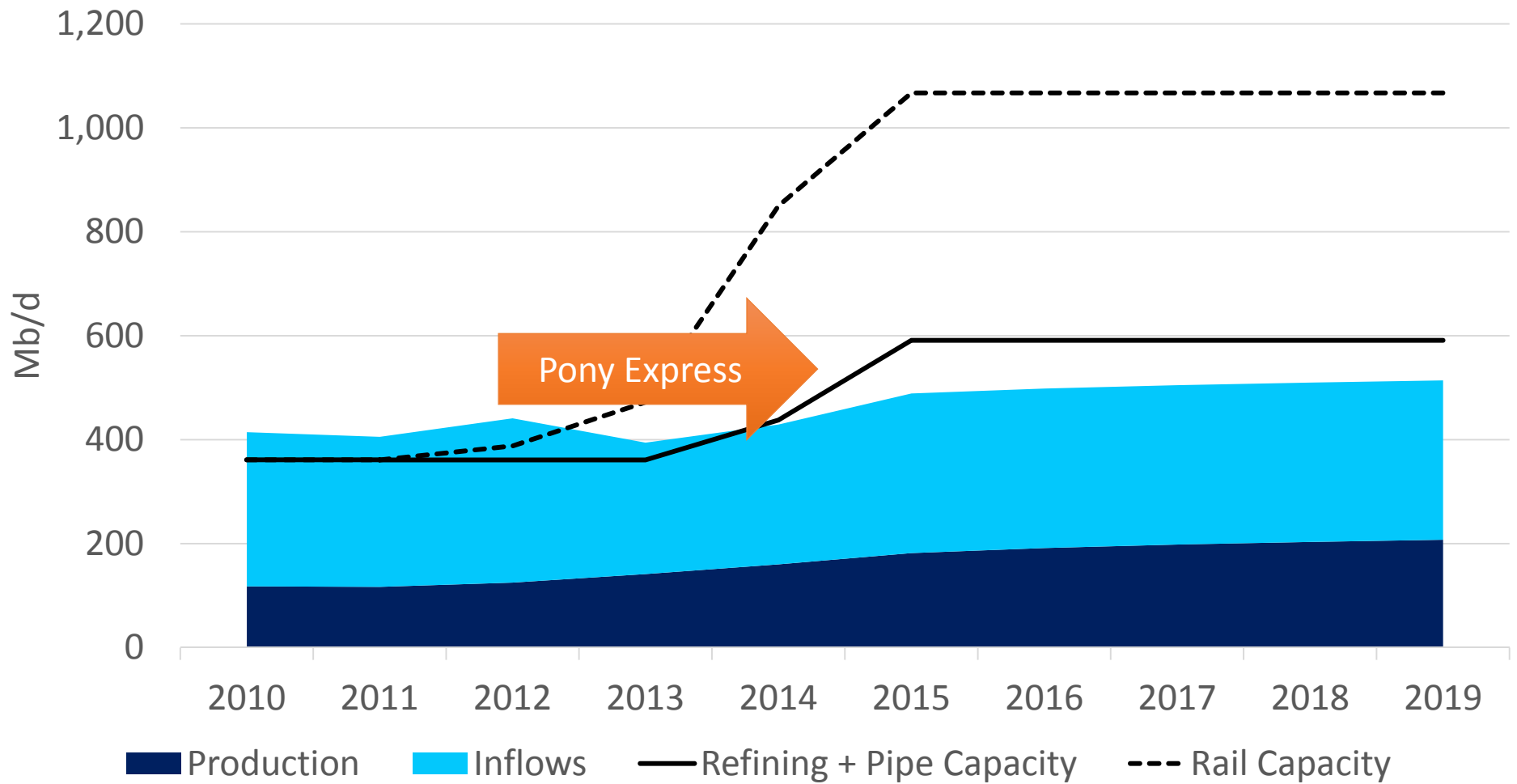
## DJ Oil Balance





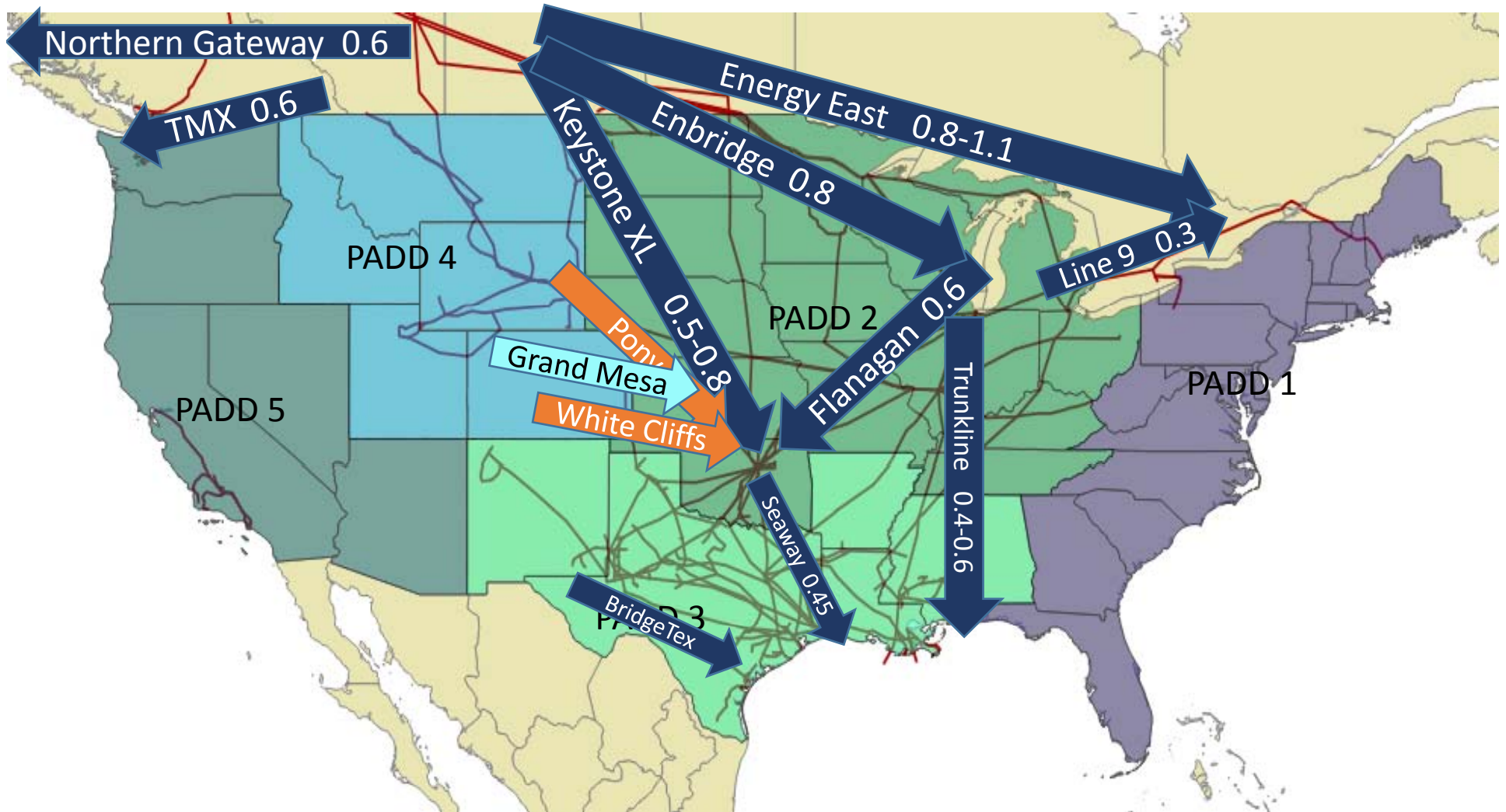
# Rail Infrastructure in Wyoming is Overbuilt, Most Terminals are Integrated with Pipelines to Connect Canadian Crude to California Rail Facilities

## PRB Balance

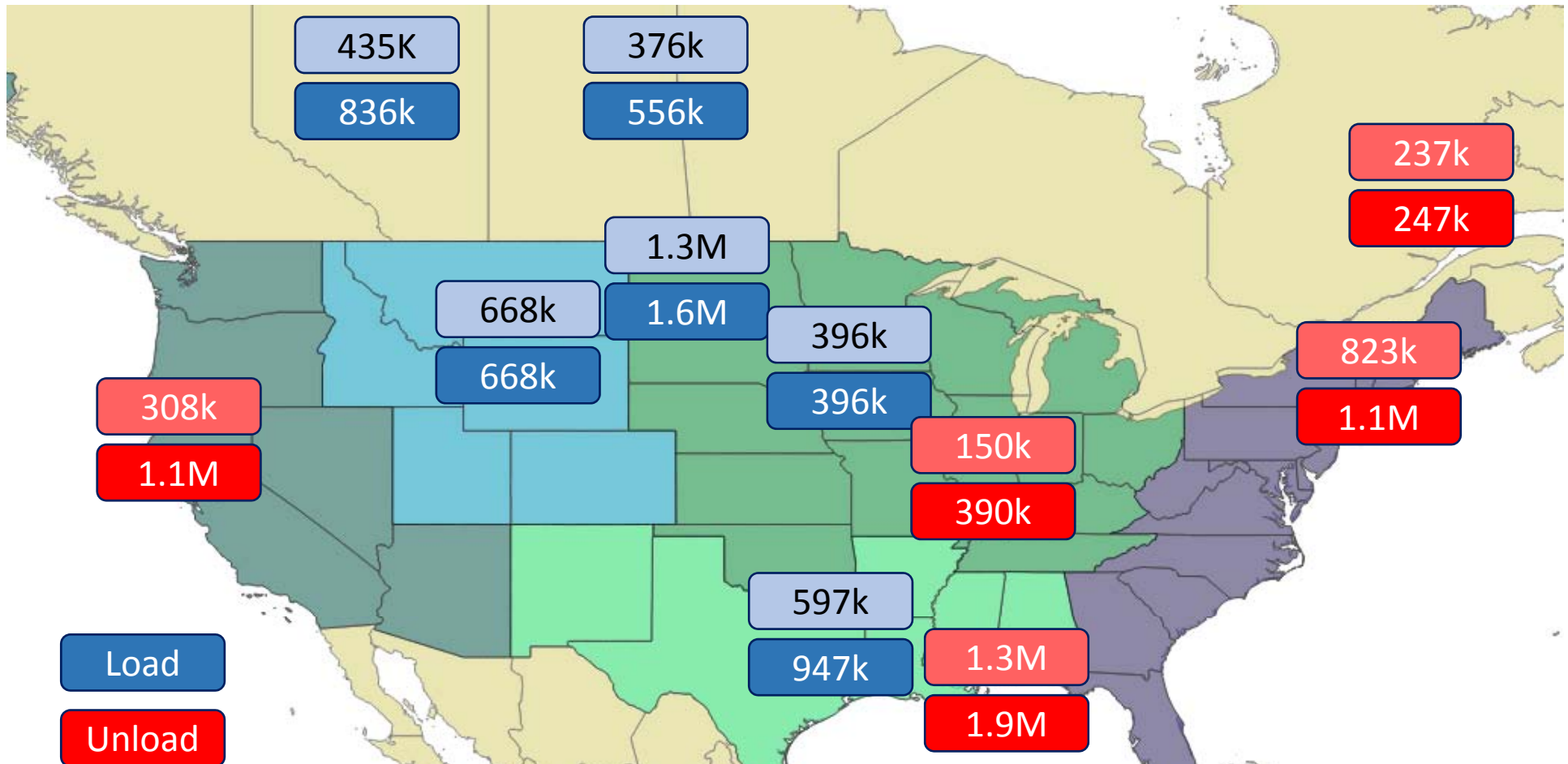


Source: BTU Analytics

# The Majority of Projects are Headed for Cushing and the Gulf Coast



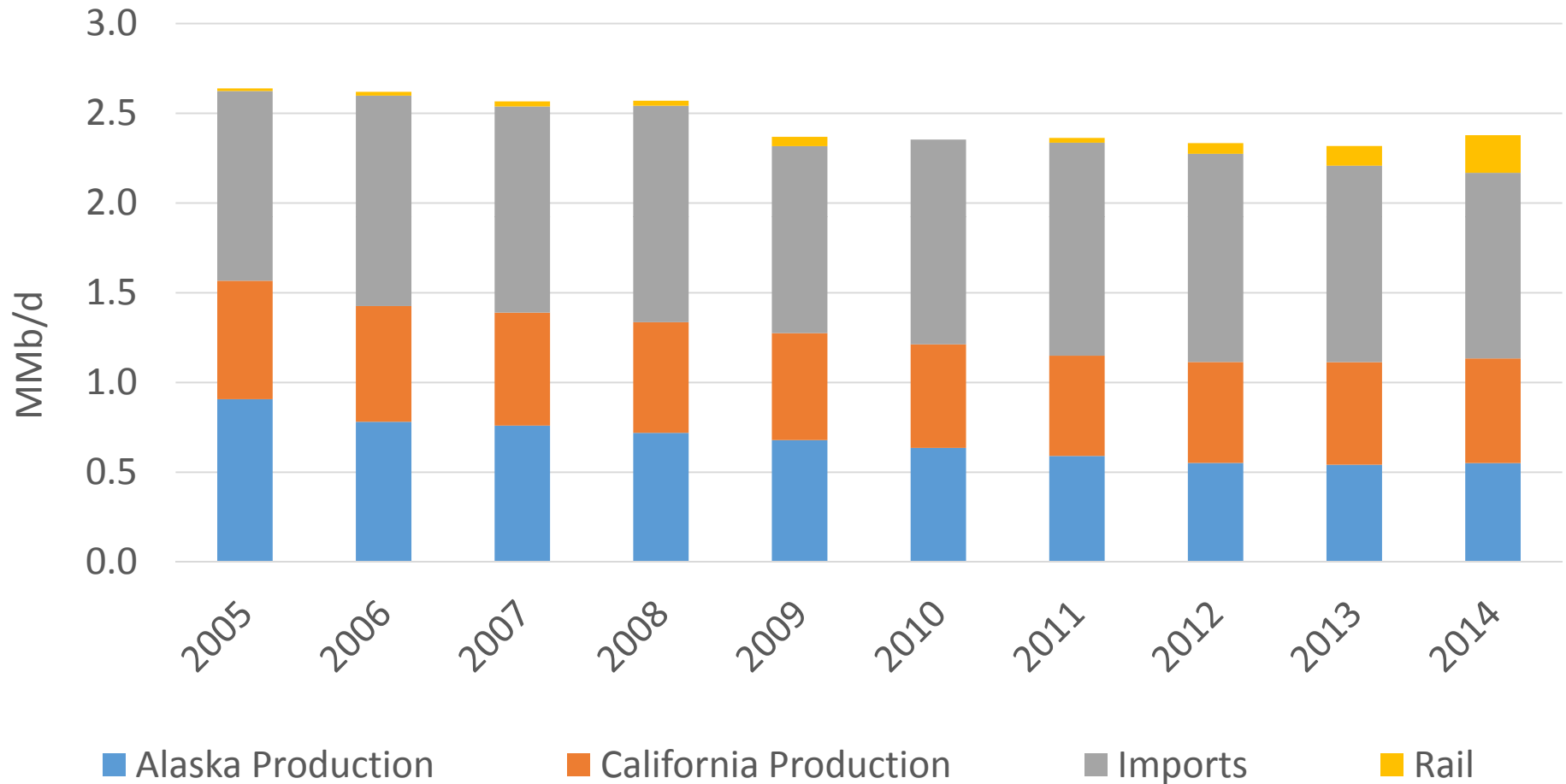
# Producers Drove Initial Development of CBR, Unloading Terminals Expected to Close the Gap Over Next Three Years



2014: 3.8M Loading vs. 2.8M Unloading Capacity  
 2017: 4.9M Loading vs. 4.7M Unloading Capacity

# Rail Has Helped Backfill Declining Production

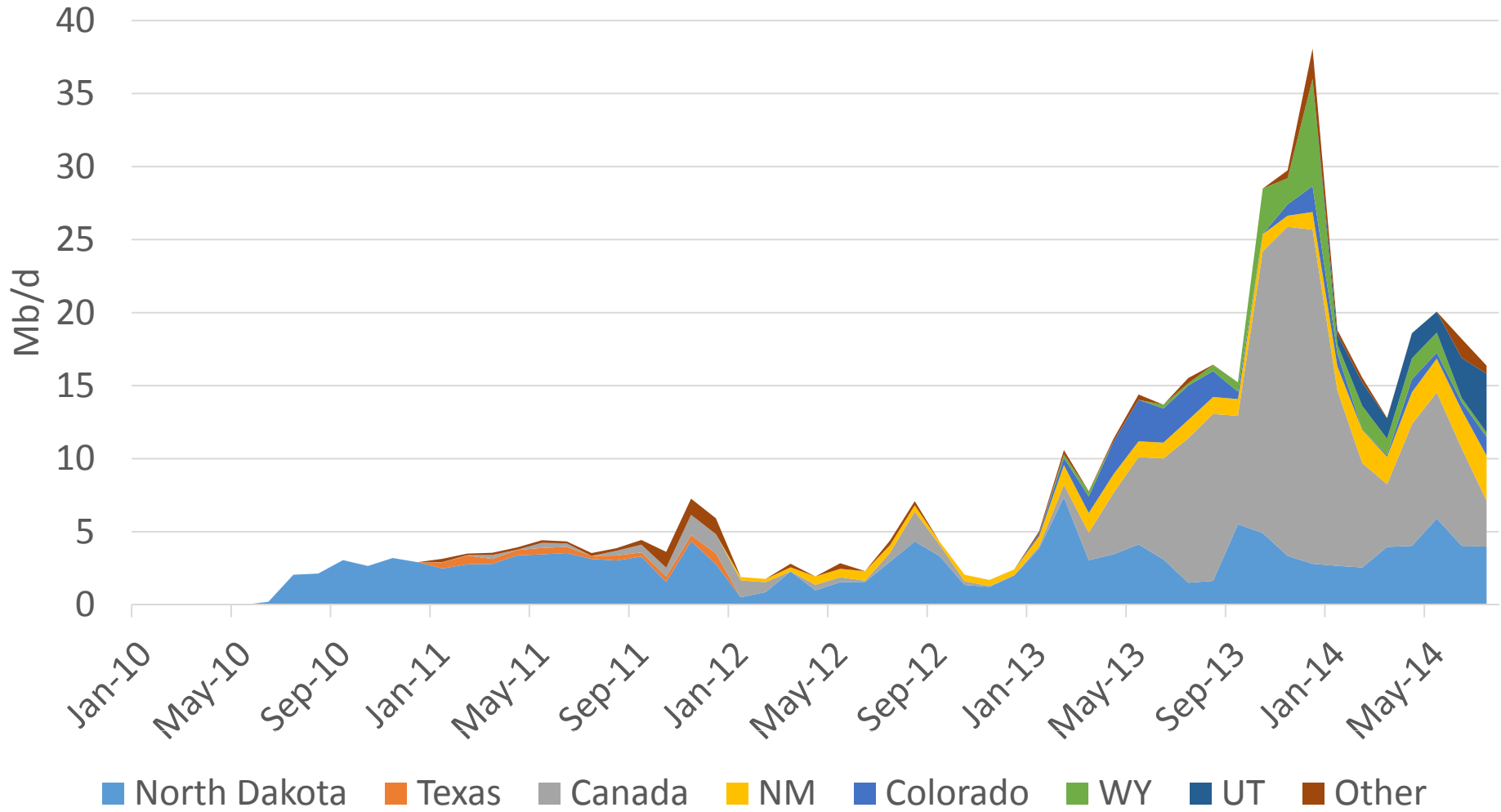
PADD 5 Supply





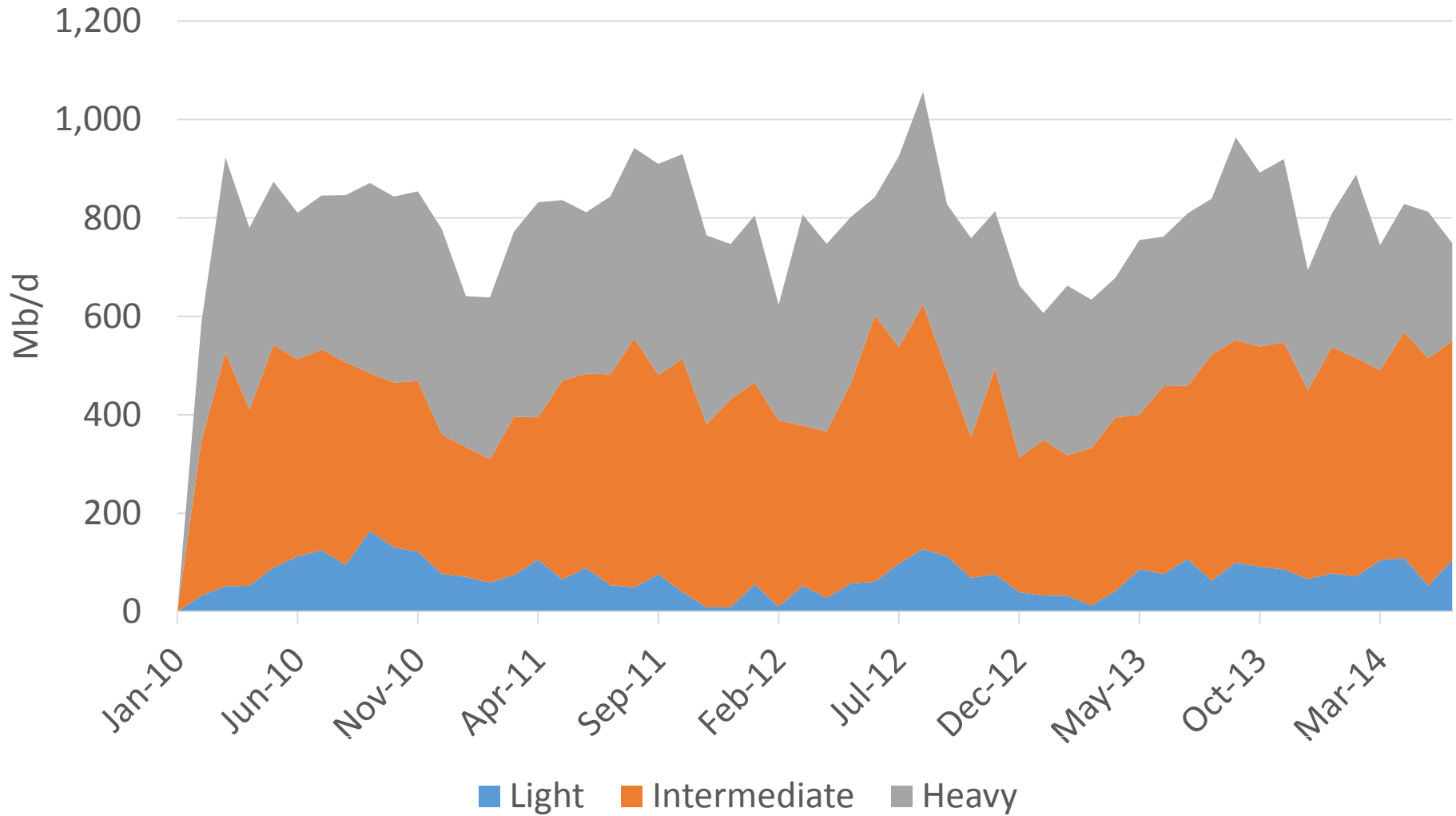
# To date, Crude-by-Rail Deliveries have been Minimal, New Rail Facilities are Facing Environmental Pushback and Regulatory Hurdles

## California Crude-by-Rail Receipts by State of Origin



# California Crude Slate Has Historically Been Heavy, Creating Fewer and More Difficult Displacement Opportunities

## California Crude Oil Imports



# Market Conclusions

- US light production growth outpacing demand, leading to downward pressure on US crude prices
- Rockies oil production expected to double over next 5 years
- Limited local refining demand will force growing Rockies production to compete with other growing US plays
- Rapid build out of pipes and rail have reduced domestic price arbitrage opportunities





**BTU Analytics**

Erika Coombs

Email: [ecoombs@btuanalytics.com](mailto:ecoombs@btuanalytics.com)

Direct Line: 720-552-8044

2600 South Lewis Way, Suite 216

Lakewood, CO 80227

Main line: 720-552-8040

BTU Analytics provides data-driven, market-risk assessments and due diligence analysis for acquisitions and divestitures of oil, NGL, and natural gas assets in North America. We utilize our in-depth understanding of North American energy data to help clients determine the future value of upstream, midstream, and downstream assets in the face of ever-evolving market conditions.

**DISCLAIMER.** THIS REPORT IS FURNISHED ON AN "AS IS" BASIS. BTU Analytics, LLC DOES NOT WARRANT THE ACCURACY OR CORRECTNESS OF THE REPORT OR THE INFORMATION CONTAINED THEREIN. BTU Analytics, LLC MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE USE OF ANY INFORMATION CONTAINED IN THIS REPORT IN CONNECTION WITH TRADING OF COMMODITIES, EQUITIES, FUTURES, OPTIONS OR ANY OTHER USE. BTU Analytics, LLC MAKES NO EXPRESS OR IMPLIED WARRANTIES AND EXPRESSLY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

**RELEASE AND LIMITATION OF LIABILITY:** IN NO EVENT SHALL BTU Analytics, LLC BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFIT) ARISING OUT OF OR RELATED TO THE ACCURACY OR CORRECTNESS OF THIS REPORT OR THE INFORMATION CONTAINED THEREIN, WHETHER BASED ON WARRANTY, CONTRACT, TORT OR ANY OTHER LEGAL THEORY.

[www.btuanalytics.com](http://www.btuanalytics.com)

[info@btuanalytics.com](mailto:info@btuanalytics.com)

- Alon Kern County
  - 9/9/2014
    - Won approval to increase capacity from current 13 Mb/d to 150 Mb/d
- Plains Bakersfield
  - 9/9/2014
    - Startup a unit train facility in 10/2014
- WesPac Pittsburg Terminal
  - On hold
  - Original ISD 3Q2014