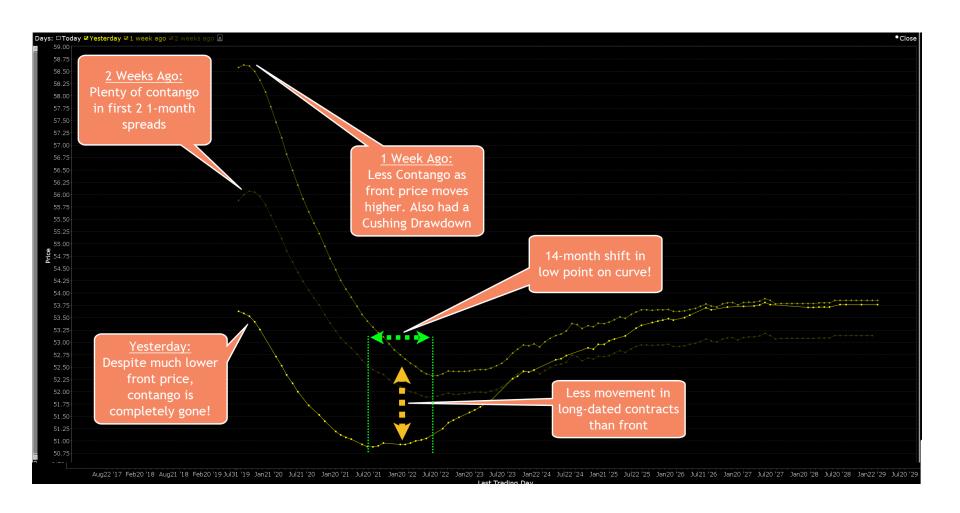


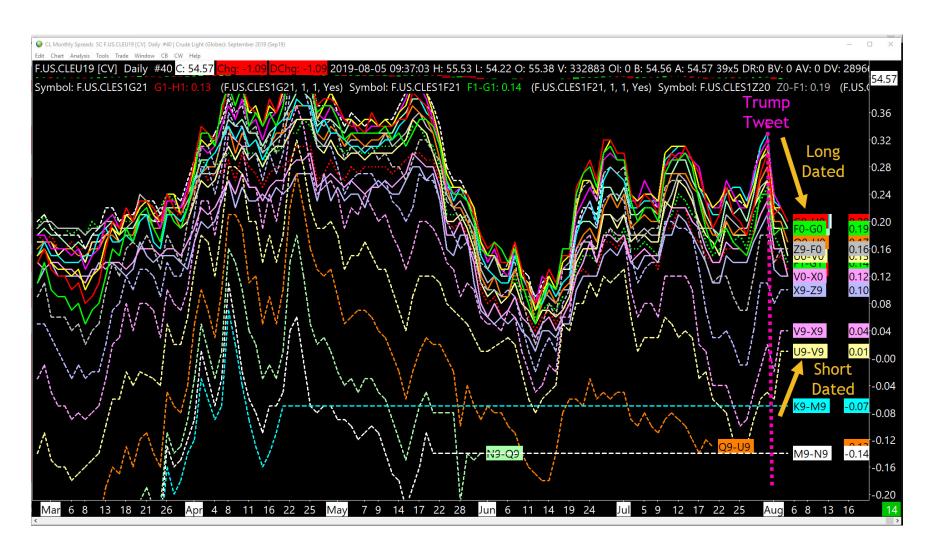
Fireworks on the Forward Curve

Prepared by Erik Townsend Aug. 7, 2019

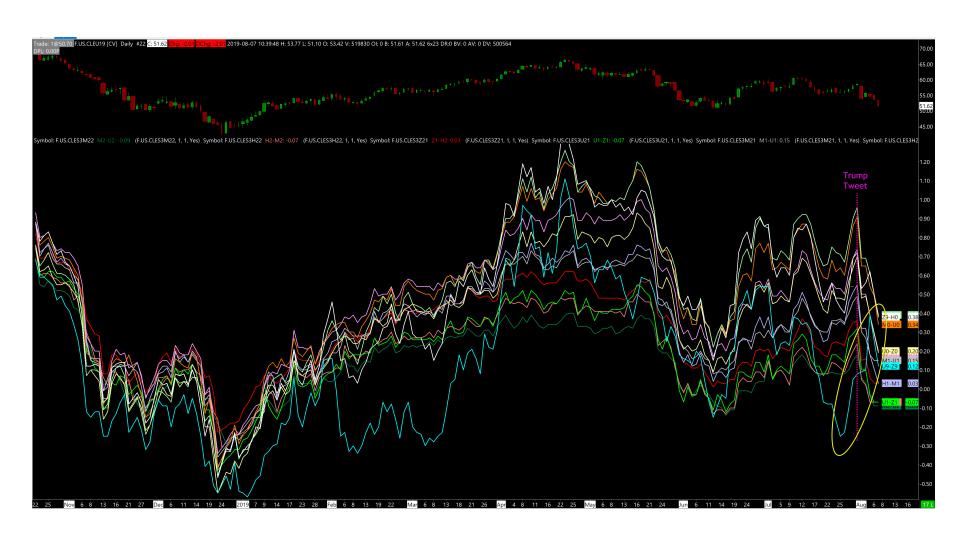
Conventional Term Structure Chart



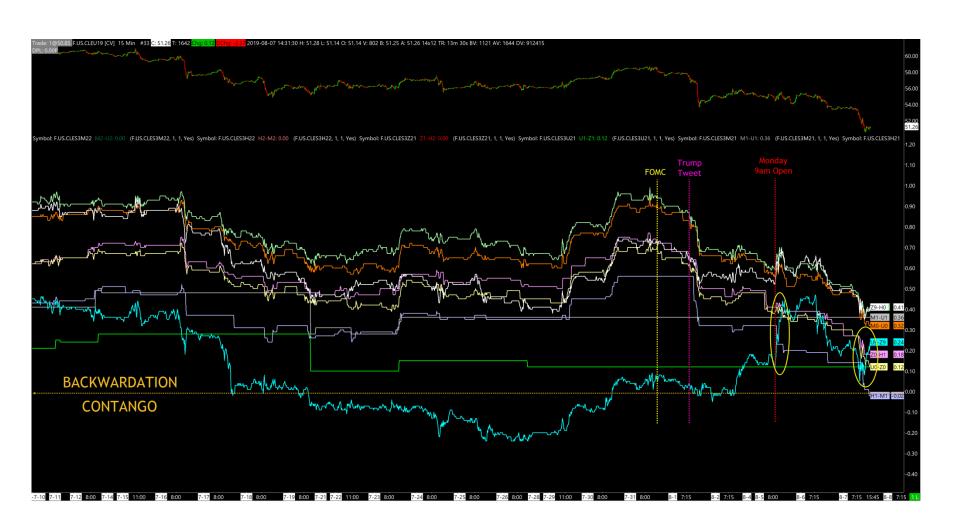
1-Month WTI Timespreads (Aug 5)



Quarterly Timespreads



Quarterly Timespreads (5m)



My questions to the Panelists

- What drove the sudden aberration in CLU9-CLZ9 (and to a lesser extent, CLZ9-CLH0)?
 - This was definitely abnormal.... Hard to show on the chart, but all past sudden moves up in front-of-curve spreads coincided with big moves up in front month price
 - Sudden DROP in front price combined with coincident move UP in front-of-curve spreads is unprecedented in absence of a storage-related explanation
 - Tape action felt almost like a pipeline spill or similar short term supply risk event
- Are we headed for outright structural contango?