

Domestic Sweet Subcommittee

COQA – CCQTA Joint Meeting

Denver

May 22, 2018

Agenda

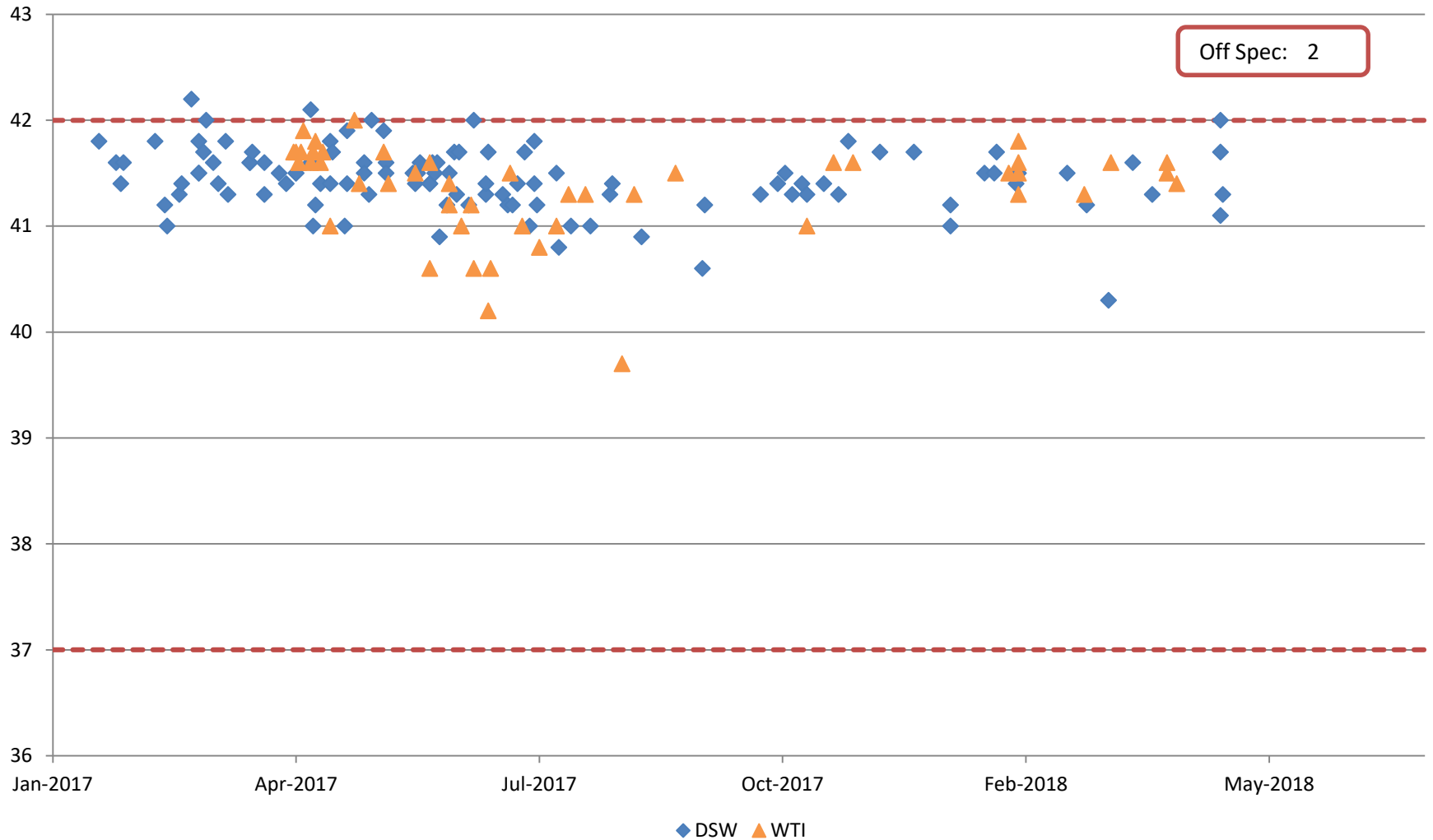
- Where We Are
- Data Review
- Summary of Data
- Trends
- Program Review

Where We Are

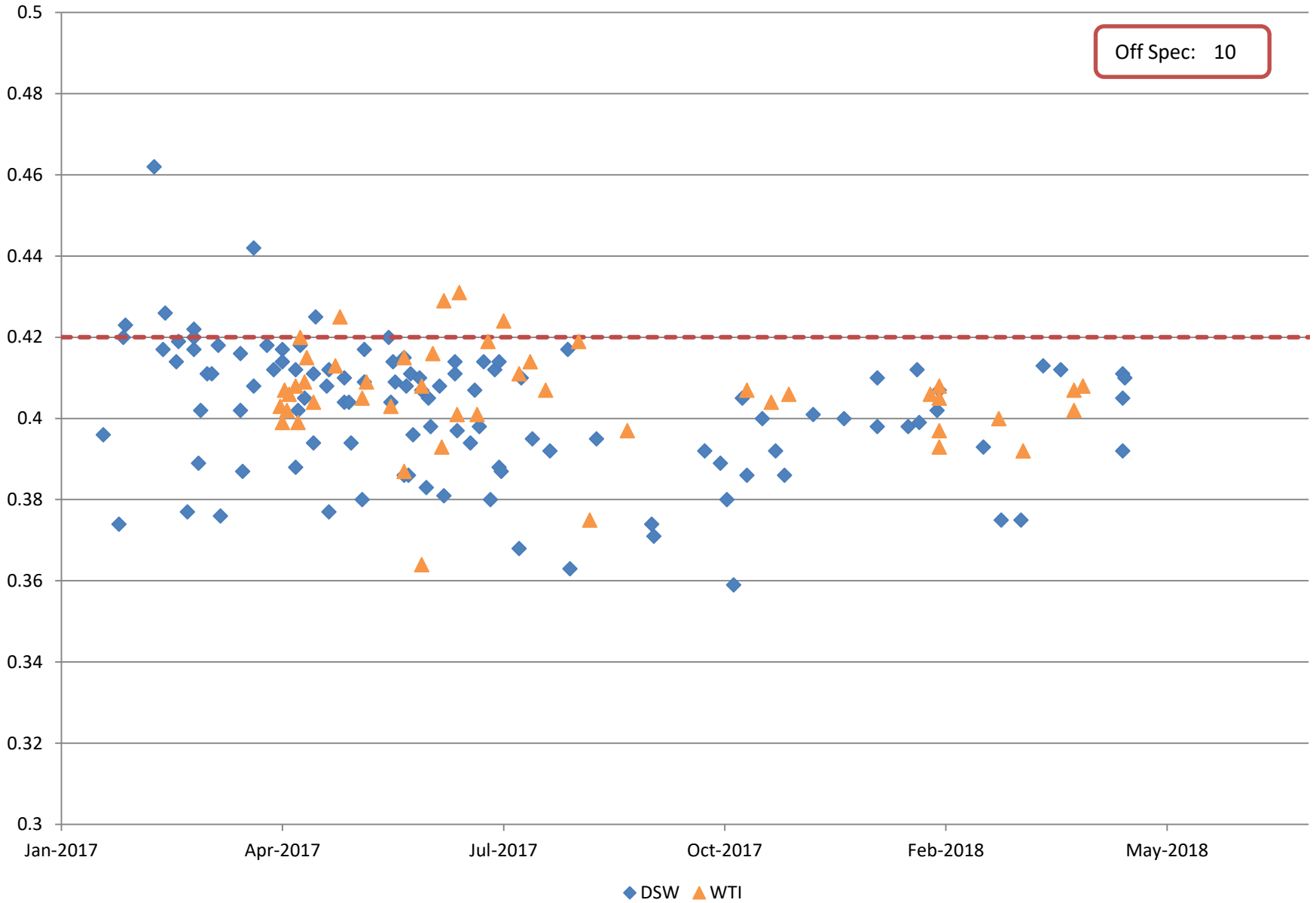
- Total Cushing samples: 158 (as of May 15, 2018)
 - Domestic Sweet Blend: 111 samples
 - WTI@Cushing: 47 samples
- 2018 Budget
 - 2018 actual to April 30: \$ 40,628
 - 2018 annual budget: \$ 121,500
 - April 30 spending = 33% of annual budget
- Start Date: January 2017
- End Date: December 2018
- CME Adoption: January 2019

Data Review

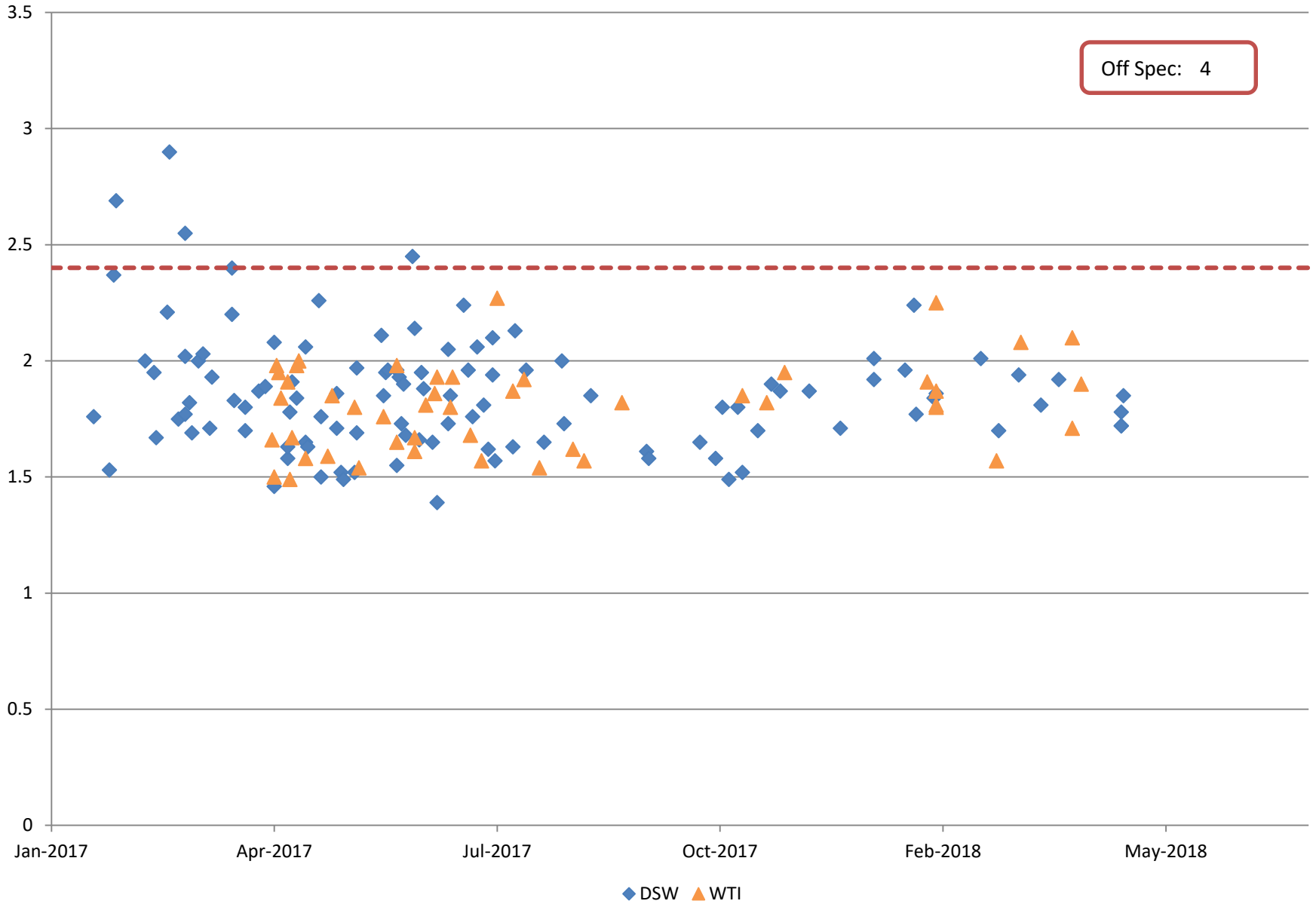
DSW + WTI API Gravity (°API)



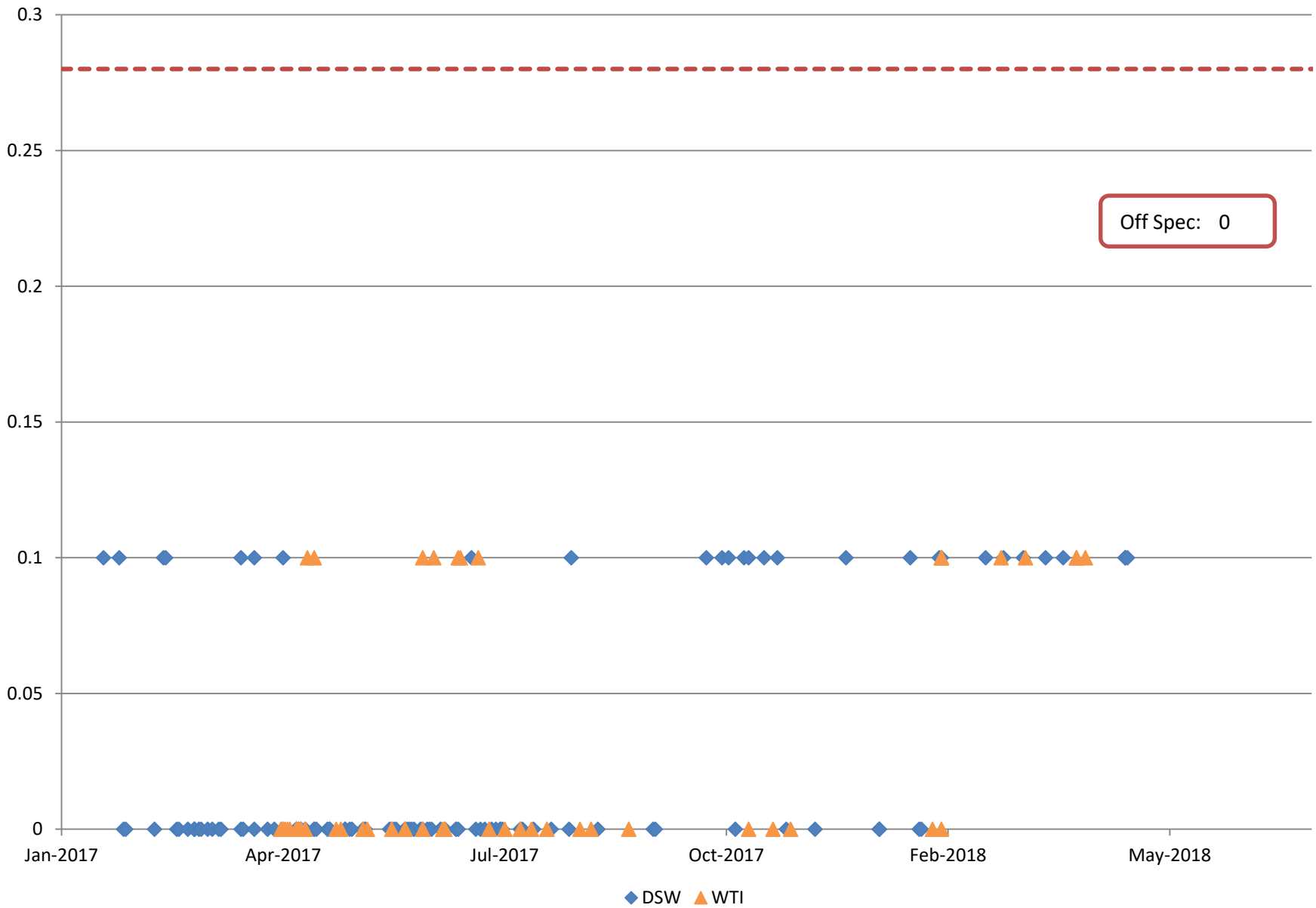
DSW + WTI Sulfur (mass%)



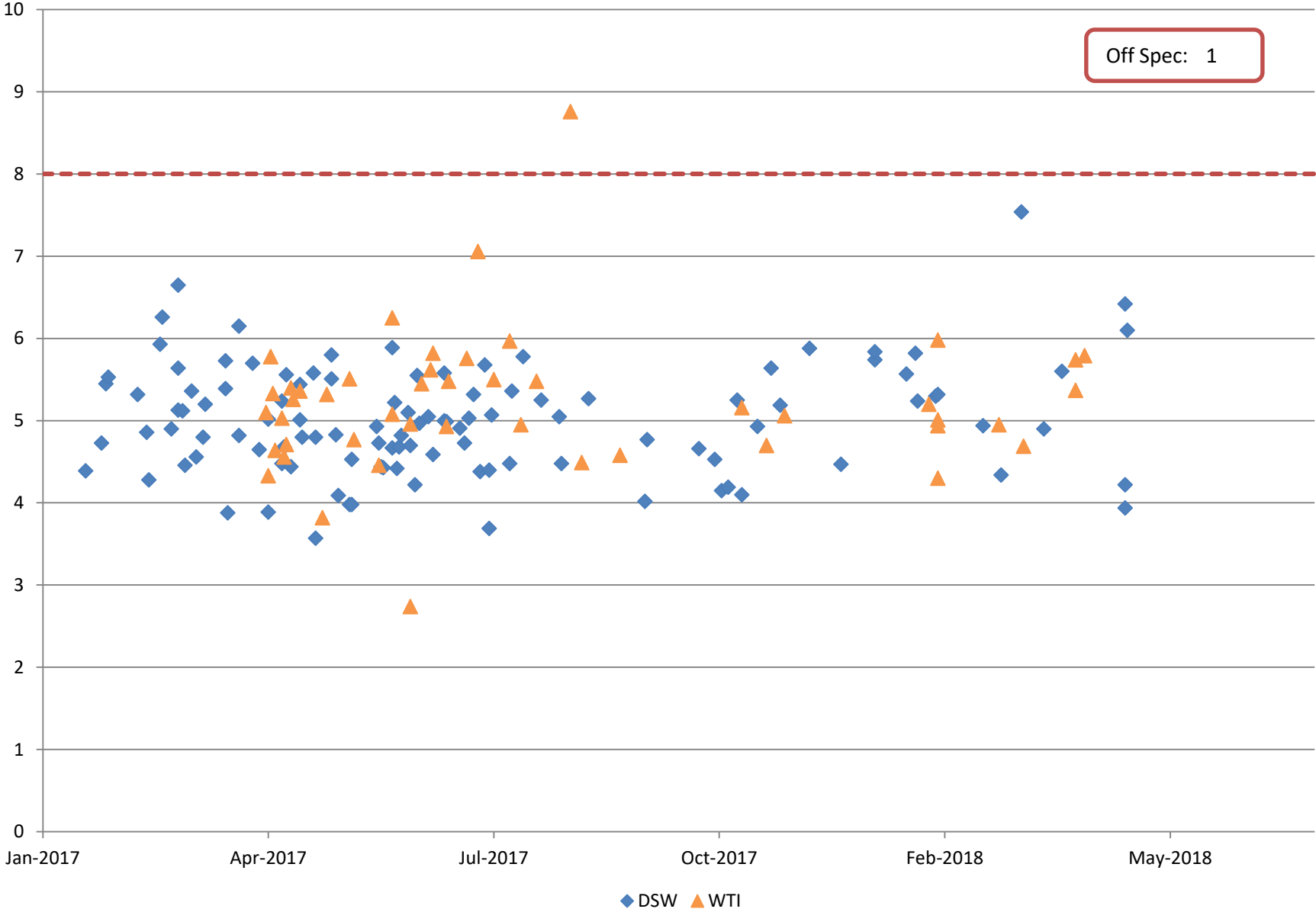
DSW + WTI MCR (mass%)



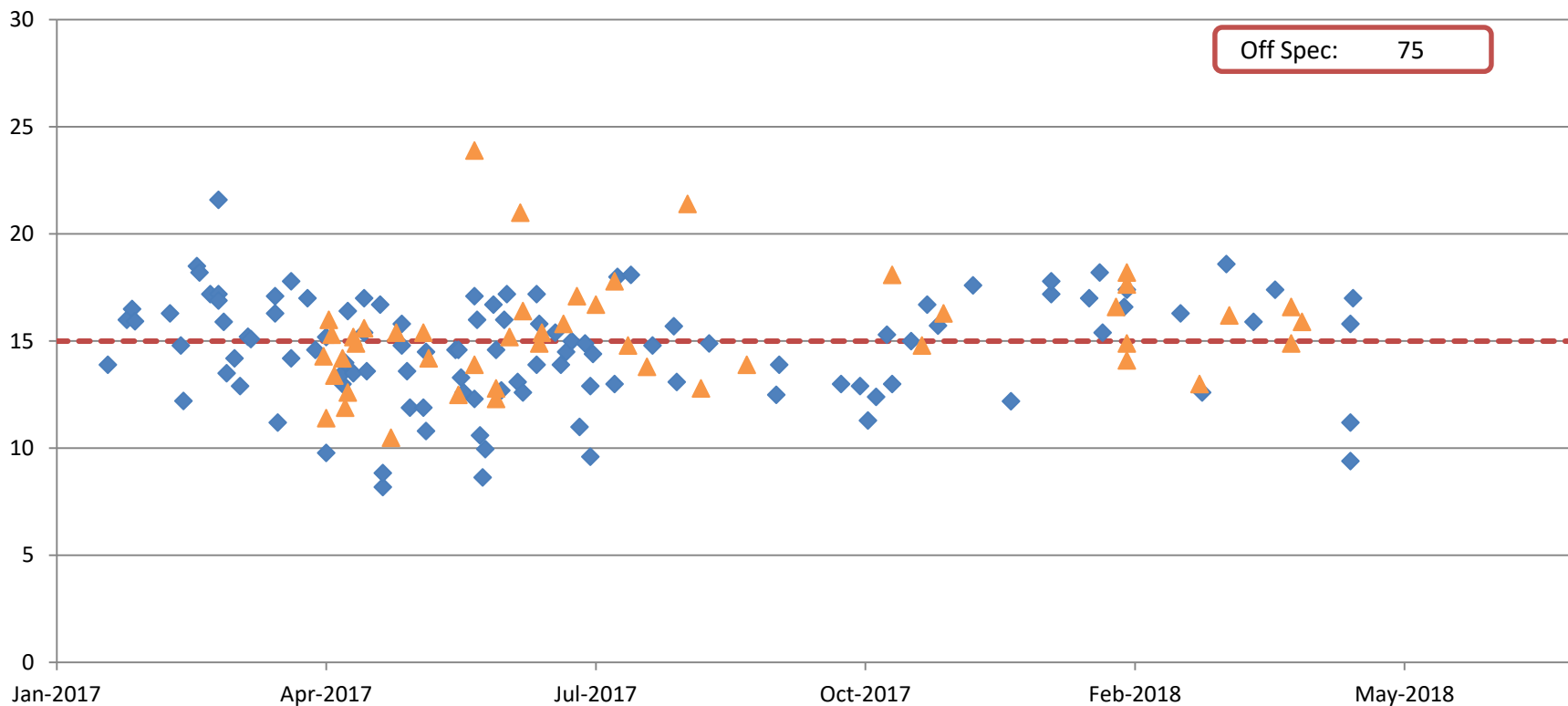
DSW + WTI TAN (mgKOH/g)



DSW + WTI Nickel (ppm)

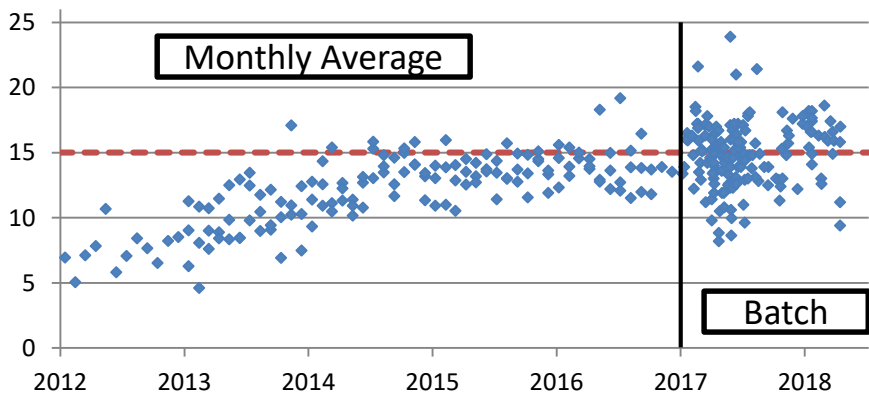


DSW + WTI Vanadium (ppm)

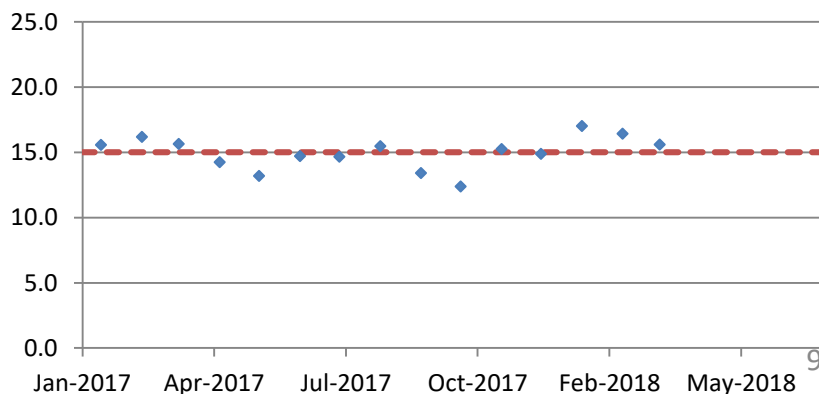


DSW + WTI Vanadium (ppm)

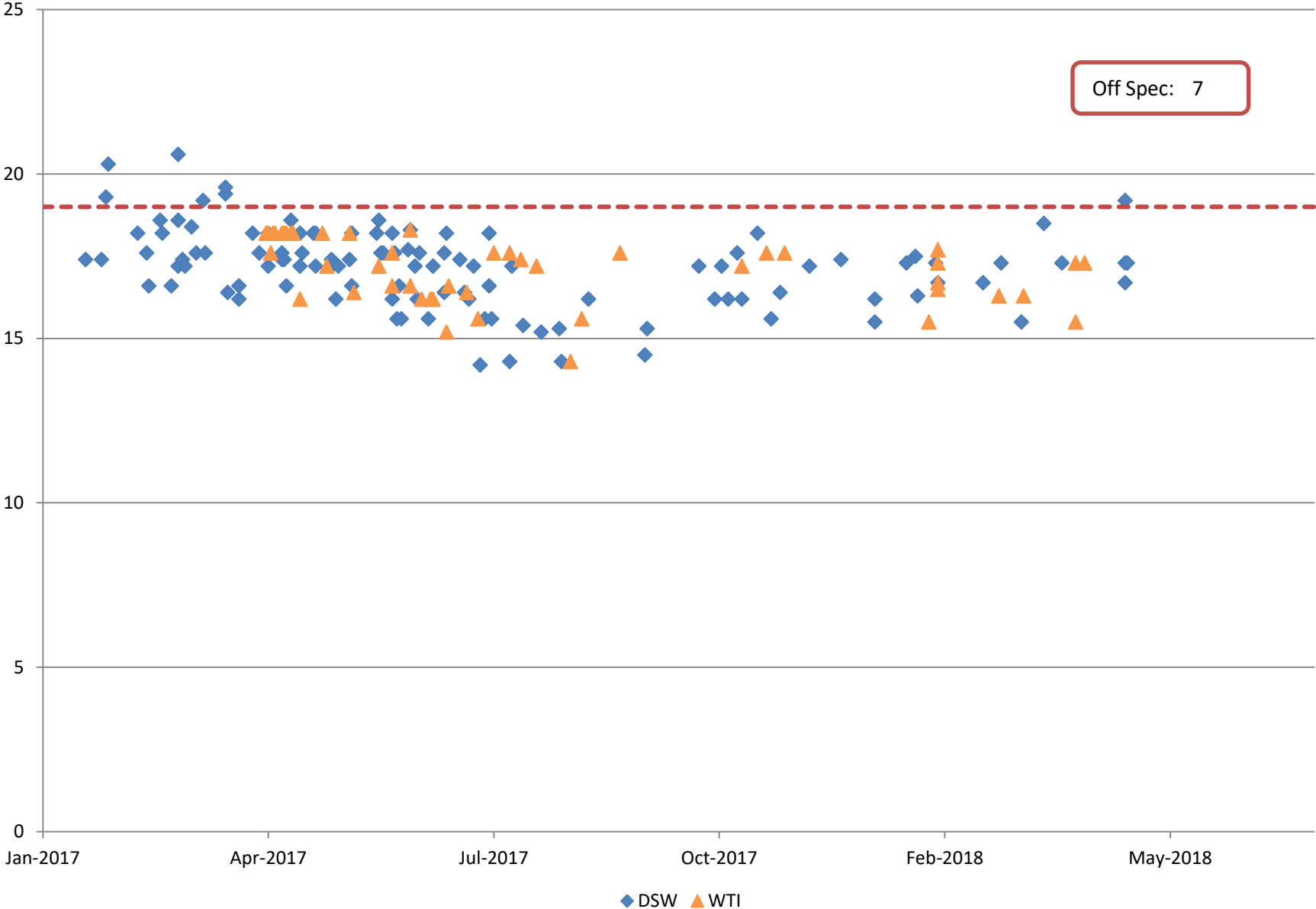
◆ DSW ▲ WTI



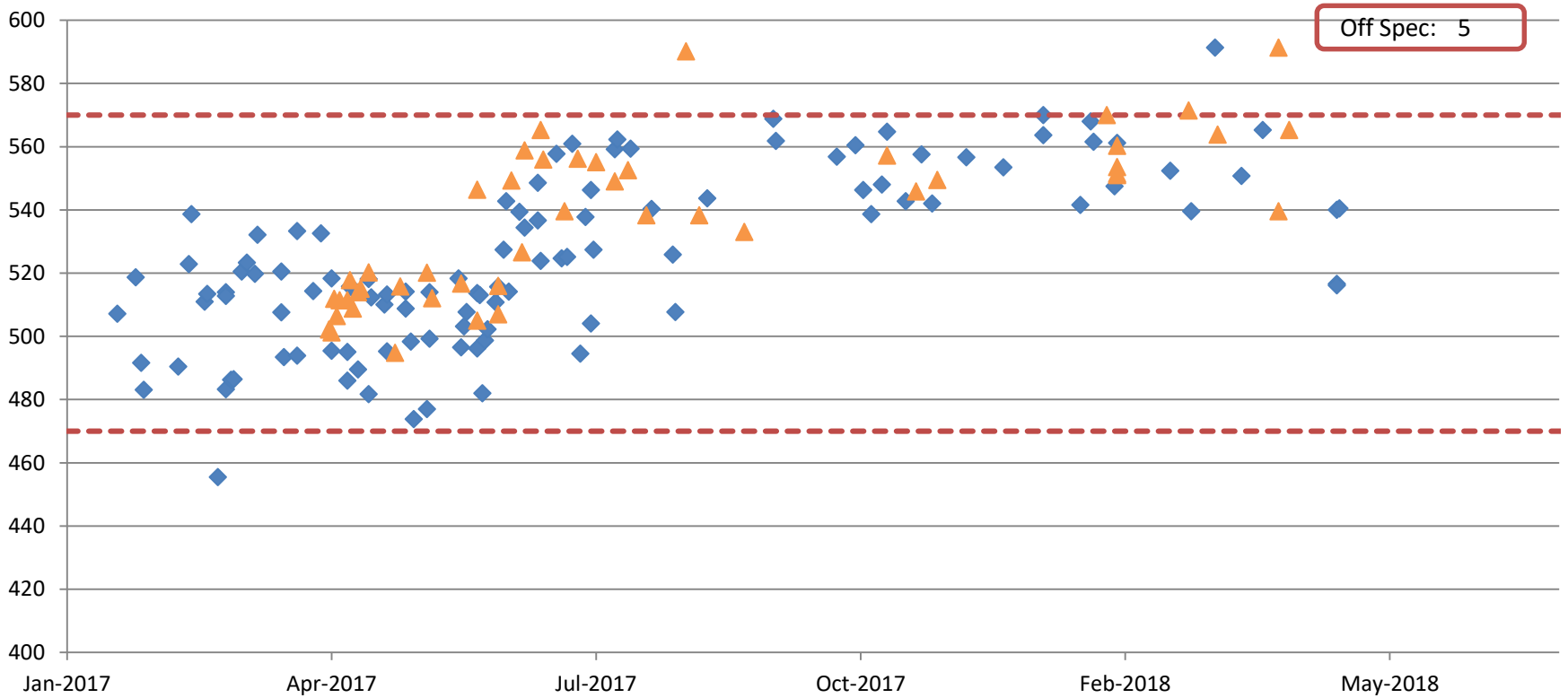
Monthly Average Vanadium (ppm)



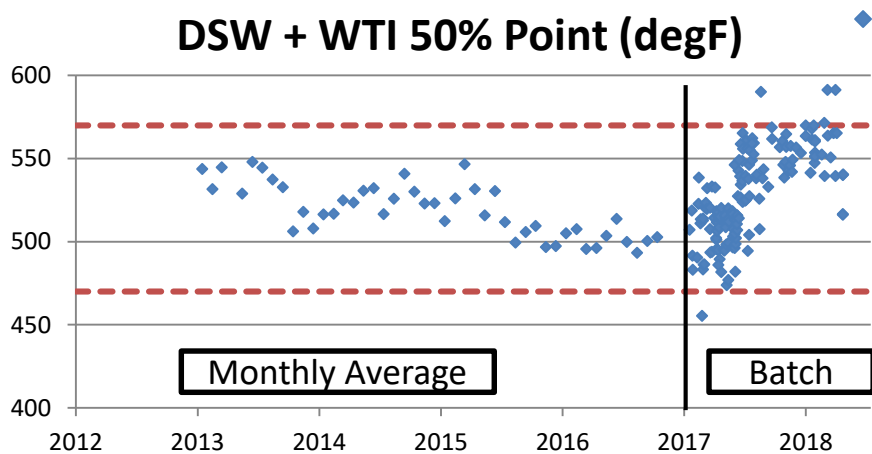
DSW + WTI Light Ends (IBPx220°F, mass%)



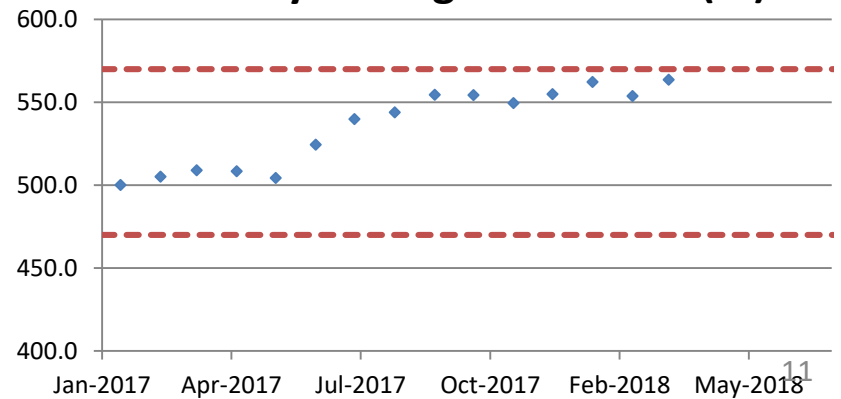
DSW + WTI 50% Point (degrees Fahrenheit)



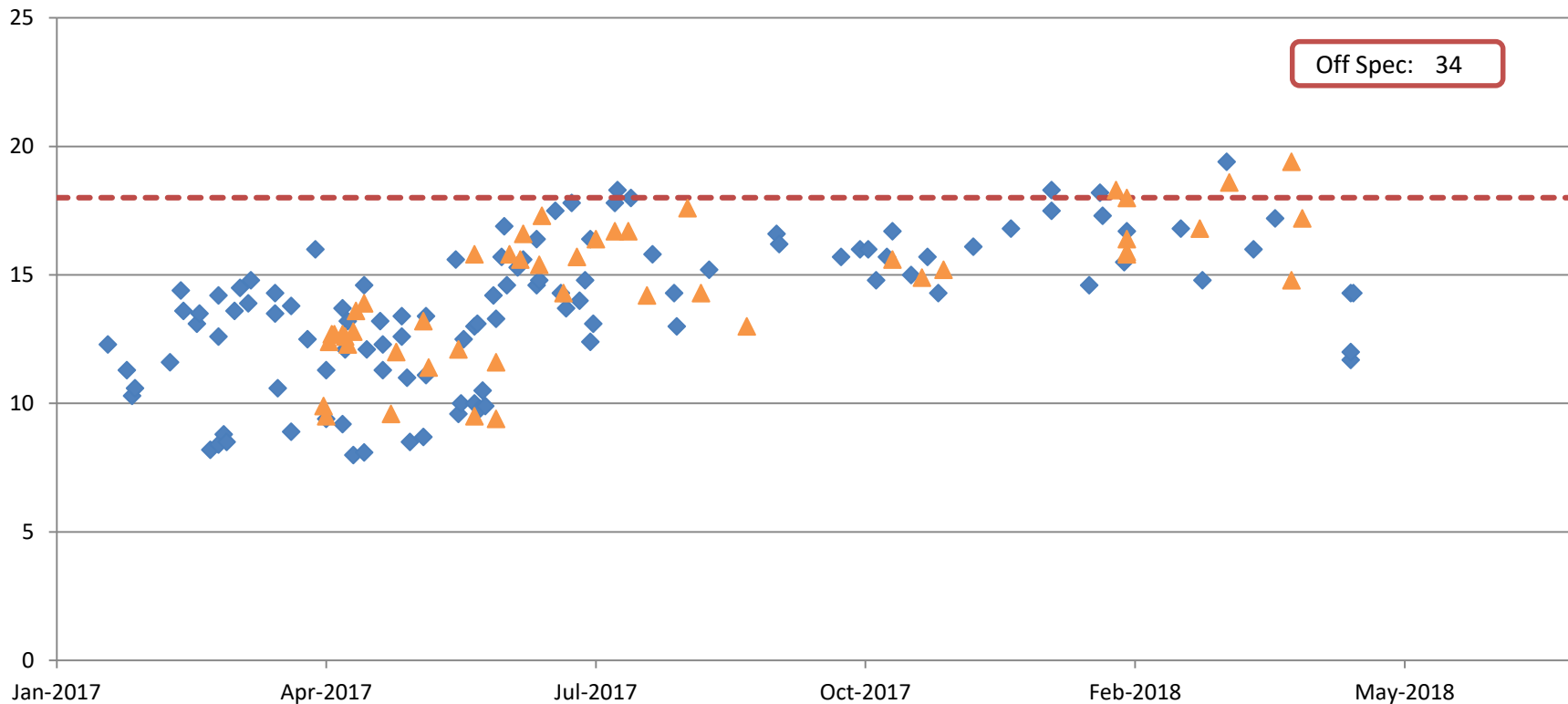
DSW + WTI 50% Point (degF)



Monthly Average 50% Point (°F)

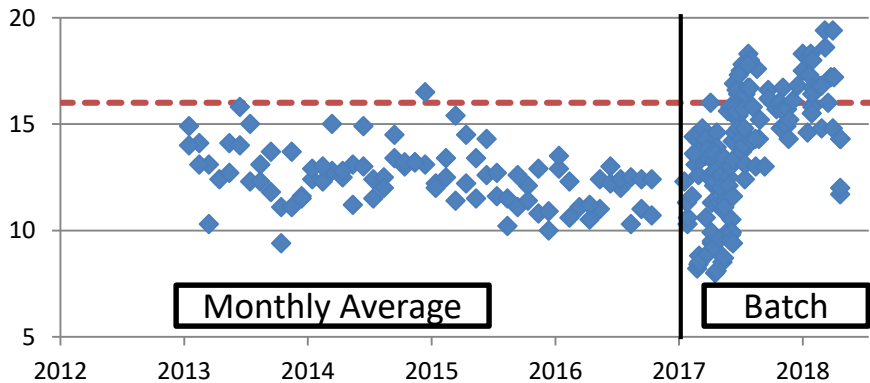


DSW + WTI Vacuum Residue (> 1020°F, mass%)

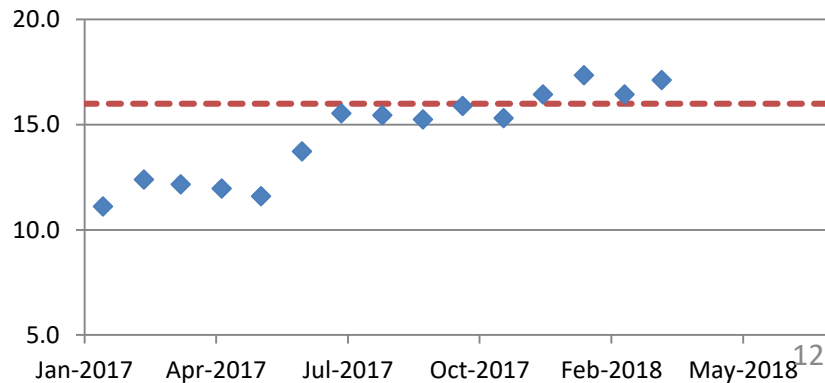


DSW + WTI Residue

◆ DSW ▲ WTI

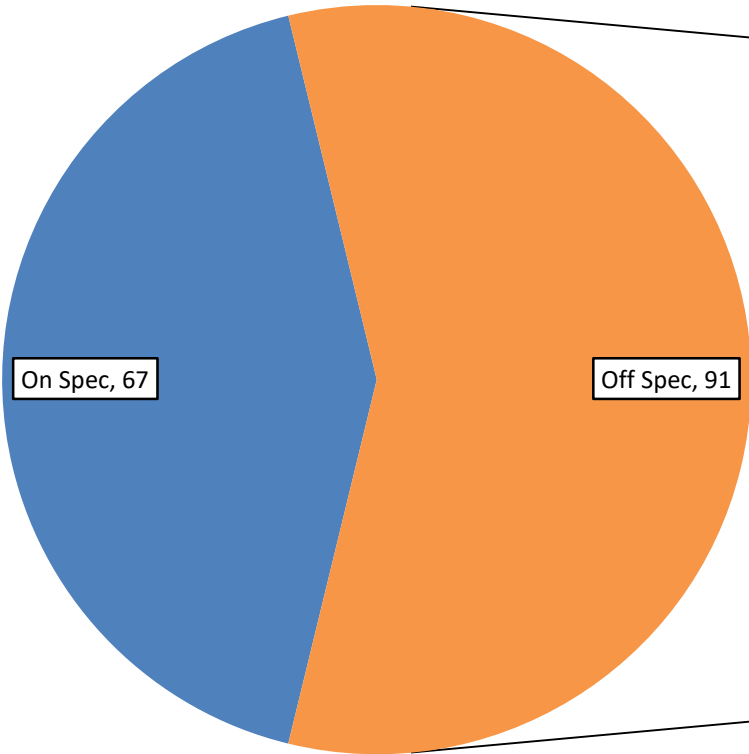


Monthly Average Residue

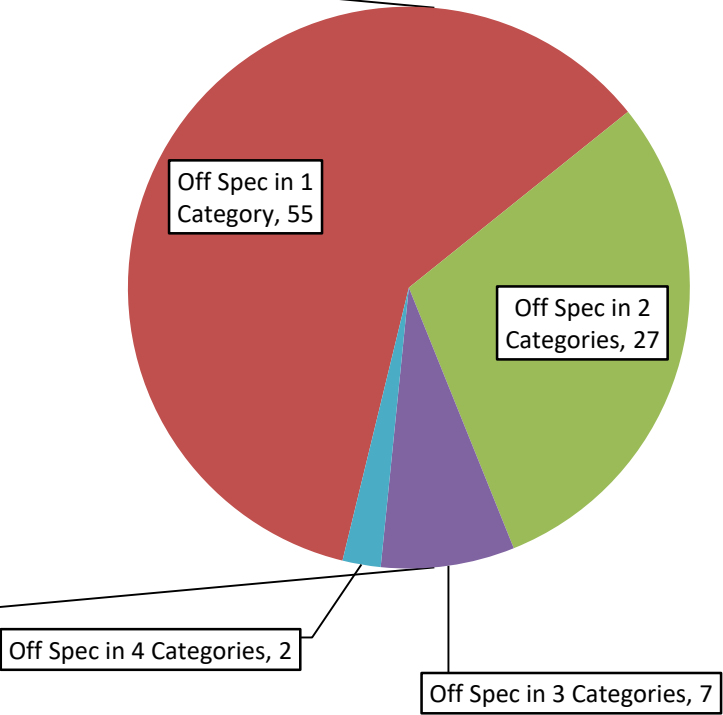


DSW + WTI Sample Compliance

Distribution of on-spec and off-spec samples



Number of test categories out of compliance for all off-spec samples



Summary Data Review

- Vanadium issues meeting specification
 - Very high fail rate 75 out of 158 (47%)
 - If specification was 17 ppm = 27 fail (17%)
 - If specification was 19 ppm = 4 fail (2.5%)
- Residue Content issues meeting specification
 - High fail rate 34 out of 158 (22%)
 - Last 4 consecutive average monthly failure
 - If specification was 17 mass% = 18 fail (11%)
 - If specification was 18 mass% = 7 fail (4.4%)
- No significant difference between DSW and WTI at Cushing

Program Review

- So far:
 - High quality data showing need for continued monitoring
 - Concern over specifications not being met in several categories
- Future planning:
 - Pipeline activities
 - Communication of specifications and policies upstream
 - Continued communication between COQA and DSW facility operators
 - Go upstream? Ex. Midland quality?
 - Develop and implement monitoring program for 2019