

Domestic Sweet/ WTI Specifications

FOR Combined COQA/CCQTA MEETINGS- JUNE 2012 in KANANASKIS, AB

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The Need for Domestic Sweet Specifications

- Historically, Domestic Sweet was a blend of various sweet crude oil streams from Western Texas, Oklahoma, and surrounding areas.
- Today, with minimal specifications and greater logistical optionality, Domestic Sweet might include high TAN African crudes, condensate from Colorado, Canadian blends, or heavy Brazilian crude.
- Refiners were increasingly concerned about blending of incompatible crudes into the Domestic Sweet stream and the detrimental effect on refinery operations.

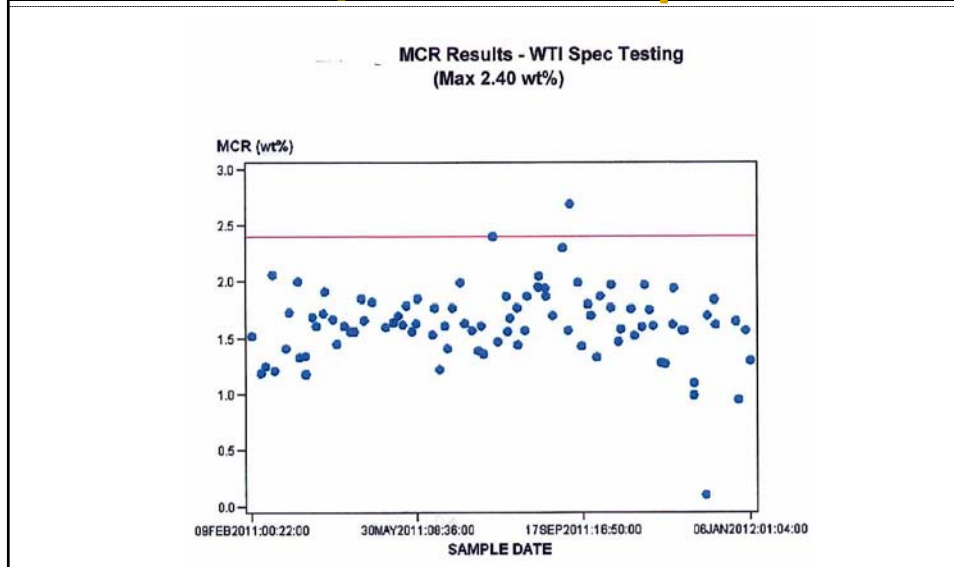
History

- After years of diligent work and testing, in 2010, the COQA recommended more comprehensive specifications for WTI/Domestic Sweet.
- In addition to the historical specs of API gravity and sulfur, we agreed on the need for:
 - Distillation characteristics from HTSD-
 - % @ 220°F
 - 50% point
 - % >1020°F
 - TAN
 - Metals (nickel and vanadium, individually)
 - Carbon residue (MCR)

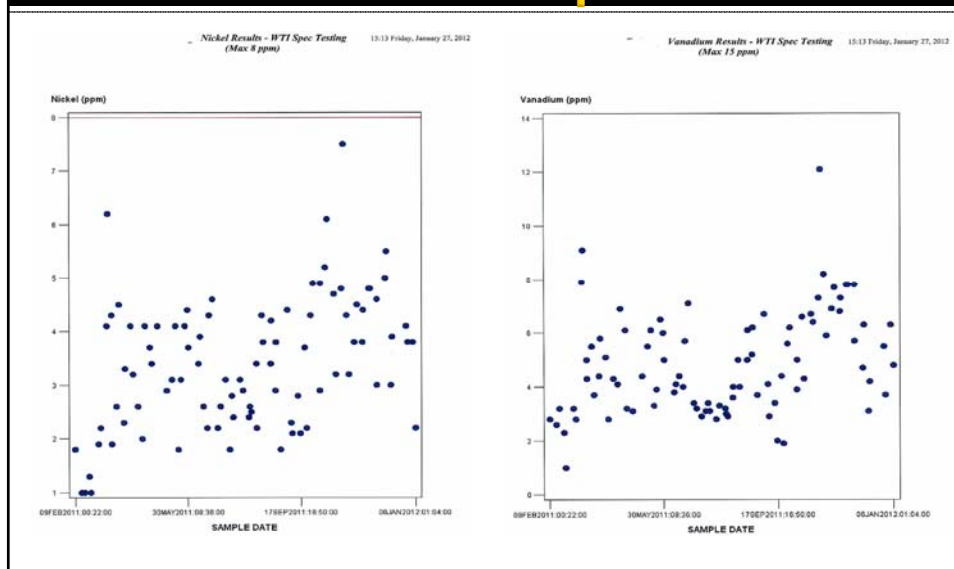
Recommended Specs - Current Status

- NYMEX met with Cushing personnel in April 2011 to discuss adoption of the additional specs.
- At both the Fall 2011 and early 2012 meetings, Dan Brusstar spoke favorably regarding NYMEX's incorporation of the specs.
- Plains previously reported the COQA specs are being routinely met.
- 2011 & 2012 data for Marathon Petroleum batches shows the COQA specs are being followed!

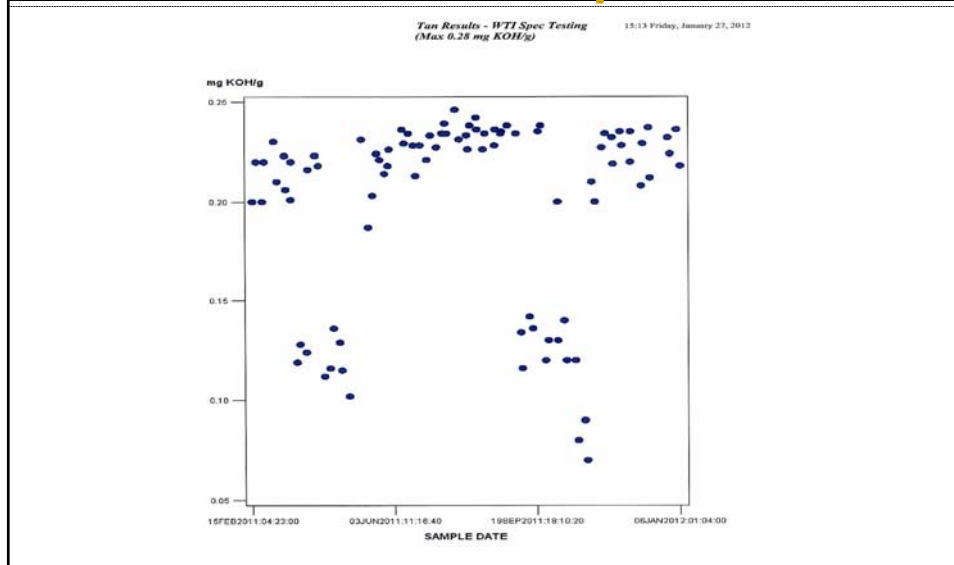
MCR – All samples are less than the 2.40 wt % max spec



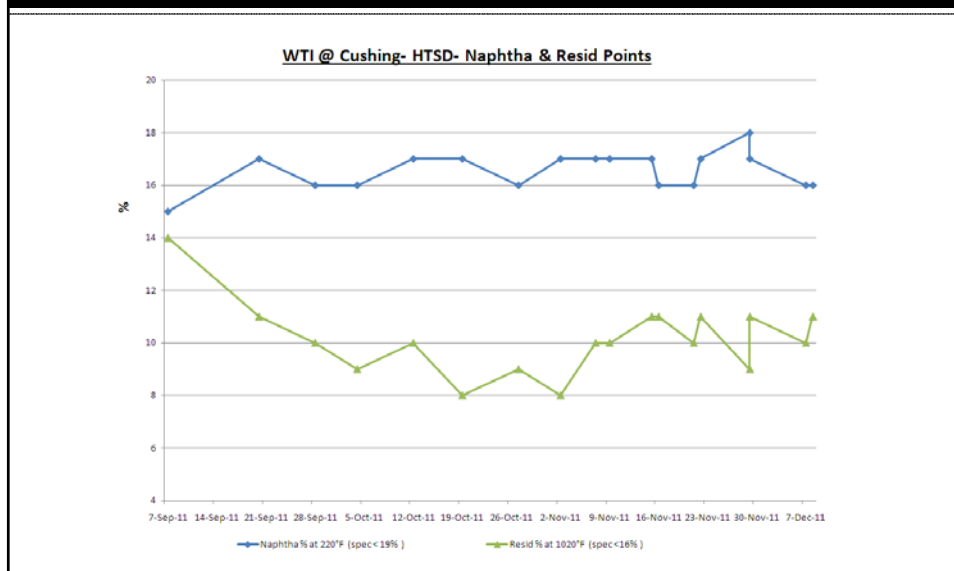
Metals (Ni & V) - All samples are less than the specs



TAN - All samples are less than the 0.28 max spec



Yield Data based on HTSD is Good



Conclusions

- The COQA specs are:
 - Meaningful to refiners
 - Practical to implement
 - Routinely achievable
 - Do not limit the liquidity of the stream
- Laboratory capabilities are available in Cushing to readily, accurately monitor for the COQA spec parameters.
- Since COQA's letter nearly 2 years ago, subsequent work has validated this recommendation, showing the perceived hurdles have been overcome.
- The need for NYMEX to formally adopt the COQA specs is even greater with the movement of WTI to the trading hubs on the Gulf coast.