
Domestic Sweet / WTI Specifications

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Domestic Sweet / WTI Specifications

- Review of the History of Our Efforts
- Current Work
- Anti-Trust Considerations
- Future Plans

**How did we get where we are
today?**

A Decade Ago

- Development of LLS Specifications
 - API Gravity, Sulfur, Metals, MCRT, HTSD, Light Ends, TAN (added later)

- Extensive Basin Quality Work Led by Aaron Dillard and Others

Original COQG Discussion that Initiated Current Subcommittee - January 2005



Crude Oil Quality Group

January 27, 2005 Meeting

New Orleans, Louisiana

Discussion Topic:

Our industry sees increased activity by some gatherers and marketers to gear up for blending foreign crude with onshore domestic sweet crude. This could result in suffering a severe upset (blow crude unit trays) due to high acid.

Opinions from the group

- What is the opinion of COQG members regarding representing foreign crude when blended with domestic as domestic sweet?
- What can be done to monitor and/or control?

First Domestic Trading Center Subcommittee Meeting - May 2005

- Led by John Maurer of Valero
- The subcommittee identified Midland, TX; Houma, LA; Patoka, IL; Empire, LA; Cushing, OK; St. James, LA; and Guernsey, WY as trading centers of interest
- HTSD, acidity, API gravity, sulfur, and metals were identified as important quality parameters

2006 - 2008

- Cushing, OK was selected for initial focus
- Because of its importance and current very limited specifications, Domestic Sweet was chosen to characterize
- Valero coordinated analyses on Domestic Sweet samples and data was presented at COQG meetings

2006 - 2008

- An article in the July 17, 2008 Oil Daily highlighted COQG's efforts in developing more comprehensive Domestic Sweet specifications
- Data presented show Domestic sweet to be a light, sweet, very low TAN stream but there is a great deal of variability in the metals and HTSD data. Also, some uncertainty about exactly where and how some samples were obtained.
- Clifford Mills (consultant) has been invaluable in handling the data

Where are we now?

Currently

- John Maurer reassigned within Valero
- In 2009, conference calls have been used to complement the COQG meetings to progress in a more timely manner.
- In order to set appropriate specification limits, we agreed further analytical testing was needed with tightly defined sampling and lab procedures.



Currently

- We will obtain data on about 40 Domestic Sweet/WTI samples, taken at Cushing.
- Samples will be collected from multiple operators, over several weeks time, utilizing three different commercial labs.
- Data will be supplied to Clifford Mills for workup.



Domestic Sweet- Sampling Requirements

- Samples should only be obtained for batches identified as WTI/Domestic Sweet.
- All samples should be obtained at Cushing, OK and Cushing, OK only.
- Samples should be collected in clean 1 quart containers.
- Sample containers may be glass or metal.
- Sample containers must comply with all DOT regulations for the shipment of Petroleum crude oil.
- Samples should be collected so the 1 quart container is approximately 70-80% full.
- Sample containers must be sealed well, ensuring no leakage.
- The samples should be clearly labeled as to the crude grade (WTI/Domestic Sweet), date the sample was taken, sample location, batch identification, and the name of the person collecting the sample.
- Samples should be labeled, packaged and shipped according to all application DOT regulations



Domestic Sweet - Lab Testing

- The following slate of analytical testing should be conducted on the whole crude sample as received:
 1. API Gravity by ASTM D287.
 2. Total sulfur by ASTM D4294.
 - Centrifuge to eliminate free water
 3. Total Acid Number (TAN) by ASTM D664 using the first inflection point.
 4. Nickel by ASTM D5708B.
 5. Vanadium by ASTM D5708B
 6. MCRT by D4530
 7. High Temperature GC Simulated Distillation (HTSD) by ASTM D7169. Report 20% point, 50% point, and Recovery @ 1020F.

Additional Data

- The March 2009 ASTM Interlaboratory Crosscheck program crude oil sample was a Domestic Sweet sample so this will provide valuable information on the quality of Domestic Sweet and more importantly, the reproducibility of the data.



Anti-trust Considerations

COQG representatives should contact their individual anti-trust attorneys and be sure they are aware of COQG's efforts and to provide appropriate counsel.



What Next?

Future Plans

- Review ICLP data from Domestic Sweet when available - July 09
- Complete current testing survey to determine specifications
- Agree on specifications for Domestic Sweet
 - API >37 and <42
 - Sulfur <0.42 weight percent
 - Nickel and Vanadium (ppm)
 - MCRT
 - TAN
 - 20%, 50% and recovery @ 1020F by HTSD



Future Plans - Implementation

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