



CCQTA Update for COQA meeting

Thursday June 11, 2015





CCQTA

Historical Operation

The Canadian Crude Quality Technical Association membership consists of companies from multiple segments of the Canadian oil industry. The Association is established with the following educational and scientific objectives:

- To facilitate communications among industry stakeholders
- To provide a forum for the presentation and consideration of proposals for industry projects related to any aspect of crude oil quality.
- To improve industry knowledge and awareness of crude oil quality through the cooperative exchange of technical information among industry sectors.





CCQTA

New Direction

1. Moving from a volunteer board to a governance model.
2. Option for paid positions/staff to manage day to day business.
3. Increased membership fees to permit more CCQTA funded projects (open projects ; broadly shared learnings).
4. Option to have outside sources (Gov't, regulators, other Associations, etc..) commission CCQTA work.
5. Members continue to have the option to sponsor/promote member funded (closed) projects.





CCQTA Projects

- CCQTA currently has 84 member companies from 6 different sectors of the industry.
- 53 companies participating in 11 member funded projects
- 2 Projects presently funded by the CCQTA
 - Crude Quality Tutorial
 - Single Phase Sampling Method



CCQTA Member Funded Projects

- Tan Phase IV
- Heavy Oil Compatibility – Phase II
- Phosphorus in Crude
- Condensate Quality – Phase II
- H₂S PVT – Phase II
- Emulsion Characterization
- Organic Chlorides
- Bitumen Dewatering and Volume Discrepancy
- TVP/RVP
- Pipeline Corrosion
- Crude Oil Flammability



CCQTA Activities

What's new...

- **Test Method ASTM D7975 Published**
 - “Determination of Vapor Pressure of Crude Oil: $VPCR_x-F(T_m^{\circ}C)$ (Manual Expansion Field Method).”
- **Light ends analysis (HPLIS) test method submitted to ASTM for approval.**
 - “Determination of Light Hydrocarbons and Hydrocarbon Boiling Point Distribution and Cut Point Intervals in Live Crude Oils and Condensates via Gas Chromatography”
- **Manual Piston Cylinder (MPC) sampling method submitted to ASTM for approval.**
 - “Manual Piston Cylinder Sampling for Volatile Crude Oils, Condensates and Related Products”
- **Developing methodology for trace analysis of $O_2/CO_2/H_2S$ in crude oil.**



CCQTA Activities

What's new...

Crude Oil Flammability Scope

- An in-depth study to provide a more defensible and definitive answer on the crude oil flammability issue. Objective is to provide the industry with empirical data to the questions regarding various crude types and their flammability characteristics.
 - Ignition vs. sustained combustion.
 - Ignition and self-extinguish.
 - Ignition energy.
- Review current and possibly develop new sampling and testing methods to properly determine crude oil flammability.
- Test flammability of a variety of North American crudes.
- Project work should concentrate on transported crudes. (e.g. Dilbits, Bakken, Condensate, etc...)
- Investigation of ignition versus sustained combustibility of various crude types to determine if some crudes may ignite but self-extinguish or if they ignite and continue to burn.



CCQTA Activities

What's new...

Crude Oil Flammability Status

- **Phase 1 Completed**
 1. **Properties Characterization**
 - Density
 - Viscosity Curves
 - Boiling Point Curves (composition)
 2. **Flammability**
 - Flashpoint Method Evaluation
 - Flashpoint vs. Firepoint Comparison
- **Phase 2 Proposed**
 1. **Comparative Dilbit Blend Flammability**
 - Flashpoint versus Diluent Content (Threshold)
 - Sustained Combustibility
 1. **Jet (Torch) Fire Characteristics**
 - Simulation
 - Spray Type Evaluation
 - Ignitability





CCQTA Activities

What's new...

Crude Oil Flammability US Collaborations

- **Sandia National Labs (US)**
 - David Lord presenting at the CCQTA AGM, a synopsis of the “Literature Survey of Crude Oil Properties Relevant to Handling and Fire Safety in Transport”
 - Attending the CCQTA Crude Flammability Project meeting for possible synergies and to ensure limited duplication of effort.
- **API Crude Oil Properties Ad-Hoc Group**
 - Continue to keep this group informed of the projects progress and current activities.
 - Will provide an update regarding the phase 2 proposal.





CCQTA Activities

What's new...

Olefins Specification Project Proposal

- Submitted by members considering the pipeline Olefin Specification on heavy oil/bitumen blends
 - Original context: exploring options for partial upgrading of bitumen
- Looking to the CCQTA for a better understanding of refinery concerns with processing cracked materials
 - Includes olefins/di-olefins, but to also identify and evaluate other potentially problematic properties of cracked crudes
 - Identify acceptability thresholds
 - Develop a roadmap to more targeted and specific specifications to replace the current CAPP olefins specification
 - Potential assessment/development of analytical methods

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