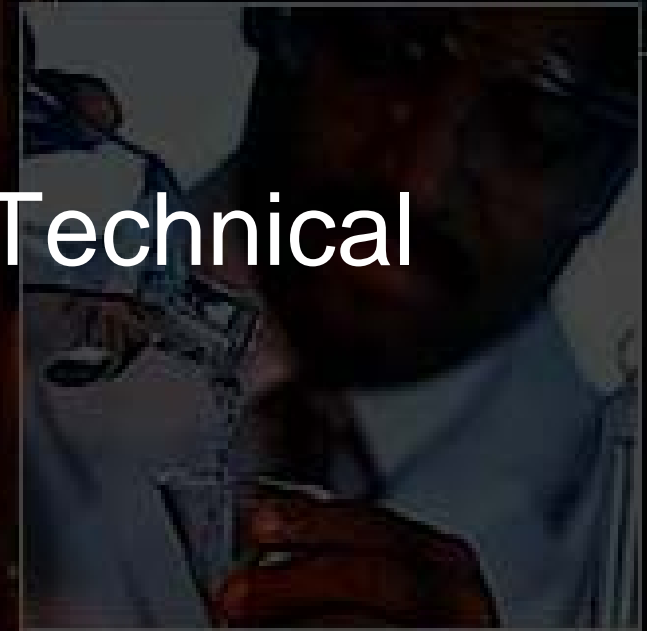


CCQTA

# Canadian Crude Quality Technical Association



Contact: [secretary@ccqta.com](mailto:secretary@ccqta.com)

June 7, 2007

# CCQTA

The Canadian Crude Quality

## Active Projects List

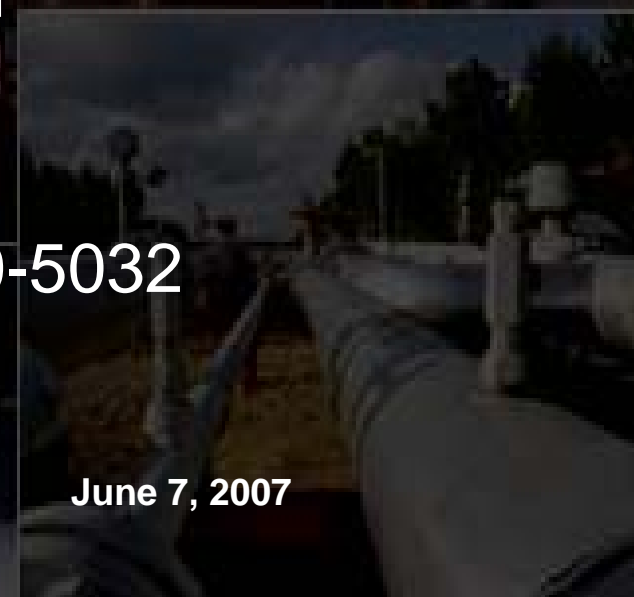
- Heavy Oil Manual
- Iron Fouling
- NGL Contamination
- Phosphorus in Crude
- Oilsands Bitumen Processability
- TAN Phase III



# Heavy Oil Manual Project

## CCQTA Status

- Project funded by general membership
- Goal is to review methods applied to heavy oils and bitumens, identify issues associated with their application to a heavy oil matrix, and provide recommendations/upgrades to the test methods
- TAN, asphaltenes, Sample preparation and density completed
- Viscosity and distillation near completion
- Chlorides and sulfur underway
- Industry input welcome
- Project manager –Bryan Fuhr 1-780-450-5032



# Iron Fouling Project

## CCQTA Goal

- Project goal is to understand role of iron as a contaminant in condensate and crude oil
  - as an emulsion stabilizer, as a process foulant, e.g., in furnaces, etc., as a process contaminant, e.g., catalytic units
- Evidence has been found that iron fouling of catalytic units can result from either organic iron or very fine inorganic iron particles
- Information suggests that the various refineries' problems differ in nature of iron (organic vs. inorganic)
- Analysis is underway to identify the different species present on FCCU/cat feed catalyst
- Project manager - Jack Suggett - 1-780-645-2807

# Iron Fouling Project

## Participants

- BP
- ConocoPhillips
- Flint Hills Resources
- CITGO
- NCRA
- IOL
- Nalco
- Chevron
- Encana
- Halliburton
- NCUT
- Maxxam
- Petro-Canada

# NGL Contamination Status

- Project is examining the nature and source of plant fouling associated with processing natural gas liquids & field butane
- Refiners employing mechanical filtration to help manage problem
- Fractionators continue to report reboiler fouling
- Work is focusing on tracking contamination back to a source
- Testing under way on C3+ from pipeline connections, trucked volumes, and condensate used for buffer
- Project manager – Bob Falkiner 1-416-441-7145

# NGL Contamination Participants

- ARC
- BP
- Keyera
- Maxxam
- Pall Filters

Alberta Envirofuels  
Dow Chemical  
Imperial Oil  
Nova Corporation  
Provident

# Phosphorus in Crude Status

- 1<sup>st</sup> Qt. results of CAPP spec. pipeline testing shows little to no **volatile** phosphorus
- Refinery **total** phosphorus testing during the same period shows increasing and very significant levels of total phosphorus
- ENB has done volumetric blend of all SW feeders to provide samples, resulting in dilution of volatile P
- Letter sent to CAPP to advise that compositing of samples for the month likely to result in no hits
- Refinery results for Strathcona and Burnaby (for **volatile** P) to be added to the enforcement program
- Project manager – Bruce Kennedy 1-416-986-6722

# Phosphorus in Crude Project Participants

- BJ Services
- CCS Energy
- Chevron
- Clearwater
- Enerchem
- Halliburton
- REV Fluids
- BP
- Imperial Oil
- Maxxam
- NewAlta
- Petro-Canada
- United Refining

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June 7, 2007

# Oilsands Bitumen Processability

## Project - Goal

- Project focuses on anticipated processability issues associated with refining oilsands bitumen
- Salts, solids, sulfur, nitrogen, metals identified as key area of concern/focus.
- Project manager – Bruce Randolph 1 - 918-661-5077

# Oilsands Bitumen Processability Project - Participants

- BP
- ConocoPhillips
- NCRA
- CITGO
- Petro-Canada

Encana  
NCUT  
Suncor  
Marathon



# Oilsands Bitumen Processability Project – Targeted Streams

- Produced oilsands bitumen, such as MacKay River, Christina Lake, Foster Creek, Firebag, Surmont, Albian Heavy
- Others, such as WCS, Cold Lake
- Questionnaire developed to request quality data from producers/marketers

# Oilsands Bitumen Processability Project – Targeted Streams

- Some data requested is very expensive to generate and likely does not exist in production
- Project group to review and assess available quality data, as well as identify gaps from targeted data/streams
- Group to develop testing program to fill gaps on a priority basis

# TAN Project Phase III

## CCQTA Goal

- Phase III goal is to validate results of Phase II by conducting corrosion testing under vacuum conditions
  - Minimize influence of (H<sub>2</sub>S) sulfur passivation
- First step involves validating new autoclave by running high Tan SJV
- Project manager – Randy Segato 1-403-920-8994

# TAN Project Phase II Project Participants

- ARC
- BP
- ConocoPhillips
- ENCANA
- IOL
- JACOS
- Marathon
- NCUT
- NCRA
- Petro-Canada
- Suncor

# TAN Project - Phase III

## CCQTA Program

- Autoclave Testing of gas-oils under vacuum and high temperature
- Sulfur speciation of gas-oils
- Metal loss evaluation and SEM examination of test coupons
- Exploration of corrosive NA species in gas-oils using MS and iron powder corrosion

# TAN Project - Phase III

## Proposed Samples ~10 gas-oils

- Repeat Samples
  - Oilsands #1
  - Oilsands #2
  - Bitumen #1
  - High TAN SJV
- New Samples
  - Upgrader gas-oils
    - Synbit blends
  - Others
  - WCS

# TAN Project - Phase III

## Status

- Autoclave construction almost complete
- Cold Lake gas-oil in shipment
- SJV high TAN gas-oil in shipment
- Other samples still pending
- Autoclave procedure in development
- Coupon preparation and analysis procedure in development

# Next meetings

- Project meetings to be held in Calgary on June 19<sup>th</sup> & 20<sup>th</sup>.
- CCQTA AGM scheduled for June 20<sup>th</sup>.
- Project meetings scheduled for Edmonton in September.
- CCQTA GM in Calgary in December

