COMPLIANCE WITH TMF OBJECTIVES – FACT OR FANTASY
AN INDIGENOUS PEOPLES’ PERSPECTIVE
'We want to be owners': Fort McMurray First Nations and Métis unite on pipelines

'Let's move on and let's start building a pipeline and start moving the oil'

David Thurton · CBC News · Posted: Apr 15, 2018 7:00 AM MT | Last Updated: April 15

The Fort McMurray region's 10 First Nations and Métis community say they want to be pipeline owners. (Terry Sylvester/Reuters)
AER Theoretical Profile

Tania da Silva - IOSTC Dec 2016

**Directive 085: Example Fluid Tailings Profile**

The AER will set thresholds including a profile deviation trigger, total volume trigger, and total volume limit for approved profiles.
The Reality – Based on TMP submissions to AER

Courtesy Jodi McNeil – Pembina Institute
“Ready to Reclaim”

• “Treated” “On a Trajectory” “In its Final Location”

• This seems like a good description of the October Space Shuttle attempt:
  
  • Treated – survived lift-off
  • On a trajectory – until it fell apart
  • In its final location – maybe not the intended target!
RTR versus Fluid Fine Tailings

- Fluid tailings are considered RTR when they have been processed with an accepted technology, placed in their final landscape position, and meet performance criteria.
  - Directive 085: Fluid Tailings Management for Oil Sands Mining Projects (Revised - October 2017)

- Fluid Tailings are any fluid discard from bitumen extraction facilities containing more than 5 mass per cent solids and having less than an undrained shear strength of 5kPa
  - Tailings Management Framework for the Mineable Athabasca Oil Sands (March 2015)
Oilsands waste is collected in sprawling toxic ponds. To clean them up, oil companies plan to pour water on them

The oil industry’s strategy to deal with a trillion litres of toxic goop is centred on a process even the Alberta Energy Regulator calls unproven. One top scientist describes the claim that water capping will return land to a natural state an an “impossible fantasy.”
Computation of Fines Volumes

• 1 tonne of fines in-situ occupies about 0.5 m³ but at an S.G. of 2.65 it occupies about 0.38 m³

• 1 Tonne of fines expressed as centrifuge cake at a solids content of 50% occupies about 1.38 m³

• 1 tonne of fines expressed as FFT at a solids content of 35% occupies about 2.23 m³

• 1 tonne of fines expressed as CT/NST at an SFR of 4:1 and at 80% solids occupies about 2.36 m³
Required Capture Efficiency

• Assume mine with 20 Mtonnes fines/yr and 30 yr life
• Assume 55% beach capture
• Allowable EOML tonnage = 5yr * 45% * 20 Mt = 45 Mt
• Total fines processed = 30yr * 20 Mt = 600 Mt
• Required capture efficiency = (600-45)/600 = 92.5%
• Note that this is for a “new” mine – if for example it is an existing mine with 5 years of FFT Legacy then 100% efficiency is required.
• Note also that as the mine life increases; so must the capture efficiency
Financial Incentives

The enormous cost in dollars and human effort in FFT reclamation is now a massive opportunity and economic incentive. It is also a threat, for this level of spending cannot continue. The authors believe a shift in focus is required:

- Spend less money on fine-tuning existing technologies.
- Spend more money on advancing new technologies – those already in the gate and those not yet discovered and do it with a “broad brush” approach.
Tailings EPA Project Funnel

*Updated April 2014

**IODTC 2014 Keynote Presentation – December 8, 2014
Written by Alan Fair

Discover
[20; $17.0MM]*

Develop
[13; $34.5MM]

Demonstrate
[18; $114.86MM]

Deploy
[7; $13.3MM]

* [Number of active and planned projects in stage; Known budget through 2018]
** Impact is combined effect of contribution to closing gaps and the importance of those gaps.
Results are scaled 0-10. Projects > ~5 are rated as high impact.
Key Issues

• Not enough attention paid to Indigenous Peoples’ input and concerns
• Too many Pit Lakes – especially any containing untreated FFT
• Alternatives to EPLs required under the Directive but not included in TMPs
• Peak volume continues to rise and under-represents real volume due to dubious RTR criteria
• SFR not included as a Performance Indicator despite COSIA recommendation - resulting in meaningless data
• Allowable volumes linked to “annual FFT prodⁿ.” with no defined calculation
• Lack of evidence on reclaimability of deep fines dominated deposits
• Compliance with D085 requires fines capture beyond what is currently achievable