# Maximizing Byproduct Recovery

Squeezing out the most from your turpentine, methanol, soap, and CTO Acidulation systems.


LUNDBERG

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# Turpentine Collection Sources

**Primary**

Continuous Digester Vent Condensing System

Batch Digester Relief System

Batch Blow Heat Accumulator Secondary Condenser

**Secondary**

- Chip Bin Vent Condensers
- Evaporator Hotwells
- Stripper Feed Tank/Foul Condensate Tank

# Digester Relief Systems

**Keys to collection**

*Two stage systems:* Primary condenser condensate is 205F, Secondary condenser condensate is 120F

*Single stage systems: C*ondenser condensate temperature is 120F

Ensure the cyclone drains!

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# Batch Blow Heat Accumulator

**Keys to good turpentine and methanol recovery**

Do not vent

Meet OEM temperature targets: 205F and 120F

Avoid level control issues and overflowing top

Maintain the temperature profile targets in tank

# Secondary Turpentine Collection Points

- “Hot top” chip bins using flash steam
- Evaporator hotwells- mills with downflow continuous cooking
- Foul condensate or stripper feed tanks


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# Turpentine Decanting and Storage

**Keys to Maximizing yield**

- Design matches flowrate
- Interface level - Weirbox
- Decanting temperature
- NCG Vacuum balance

# Methanol Collection

- Every Kraft mill has a methanol target collection number…7.2 lbs/ton and 11.2 lbs/ton.
- Methanol and turpentine are found in the same places – flash point.
  - Turpentine Underflow
  - Accumulator condensate
  - Evaporator hotwells

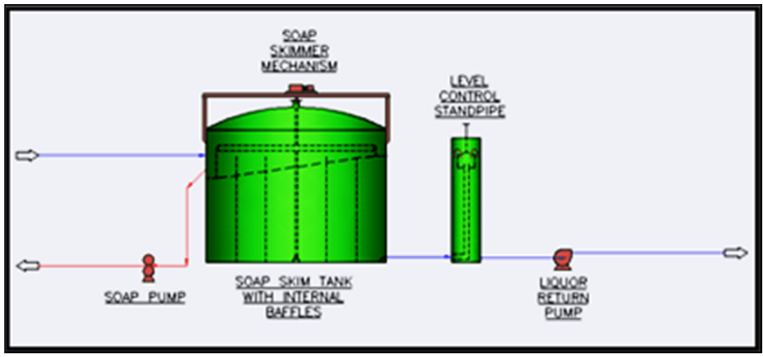
# Methanol Stripping

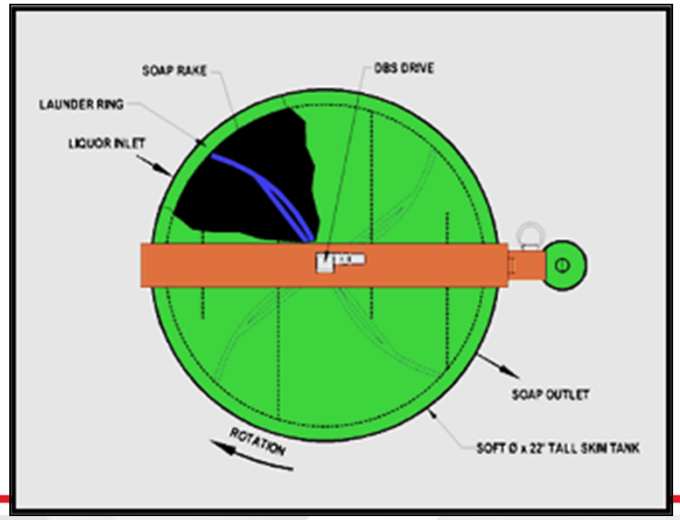
- Methanol stripping has three important control loops
  - Condensate feed temperature
  - Steam to condensate ratio
  - Reflux control temperature

# Evaporator Soap Skimming

**Reasons for lower recovery**

- Poor tank geometry
- Operating outside of the design % liquor solids
- Not controlling the proper soap bed depth
- Changing liquor mix
- Air addition?



# Weak Tank Soap Skimming

**Reasons for Lower Recovery**

- Incorrect liquor solids
- Level control (side valve design)
- Mixing liquors
- Low retention

# CTO Acidulation Plants

**Keys to good reaction and quality**

- Minimize inlet liquor component
- Fiber is your enemy
- Acid dilution control
- Redundant mixing
- Temperature control ahead of decanter or centrifuge

# Questions?

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