



# Trucent Lab Resources

NOVEMBER 1, 2020

# Lab Resources: Equipment

- Gas Chromatograph/Mass Spectrometer (GC-MS)
- Gas Chromatograph/Flame Ionization Detector (GC-FID)
- High-Performance Liquid Chromatograph (HPLC)
- Near-Infra Red Spectrometer (NIR)
- UV-Vis Spectrometer
- Karl Fischer Moisture Analyzer
- Hydroscout Moisture Analyzer
- Pore Block Particle Counter
- PODS (Optical Particle Counter)
- Brookfield Viscometer
- Canon-Fenske Viscometers
- High Resolution Microscopy w/ Camera
- Drying oven
- Vacuum oven
- Ashing oven
- Moisture balance
- pH meters
- Conductivity/TDS Meter
- Digital and Handheld Refractometers
- Nano-filtration bench-top unit

# Lab Resources: Water Based Fluid Capabilities

- Total Oil Analysis
  - Acid split in Babcock tubes for coolant/water-based samples
  - Acid/Base hydrolysis on high solid samples
  - Solvent extractions
  - NIR
- Free Oil Analysis
  - Centrifugation using Babcock tubes
- Total Solids
  - Drying via 105°C oven (% w/w)
  - Drying via 70°C vacuum oven (% w/w)
  - ASTM tube centrifugation (% v/v)
  - Gyro centrifugation (high speed %v/v)
  - NIR (currently for corn syrup samples only)
  - Gravimetric filtration (for low ppm values)
- Total Dissolved Solids
  - Meter for low ppm values
  - Filtration and drying for percentage values
- Total Ash
  - Via ashing oven
- Particle Count (ISO 4406)
  - Entek pore block
- Particle distribution
  - Gravimetric filtration using various sized membranes
- Conductivity
- pH
- Brix Refractive Index
- Total Bacteria/Fungus
  - Dip sticks
- Water Hardness
  - Via titration
- Total Chlorides
  - Via titration
- Foam Test
- Aluminum Staining
- Emulsion Stability
- Rust Testing
- Specific Gravity
- Membrane Foulant Analysis
- Separation Analysis

# Lab Resources: Straight Oil Capabilities

- Moisture Testing
  - KF titration
  - Hydroscout
- Viscosity Testing
  - Kinematic via Cannon-Fenske viscometers and temperature-controlled bath
  - Absolute via Brookfield
- Particle Count (ISO 4406)
  - Entek pore block
  - PODS for oils only
- Particle distribution
  - Gravimetric filtration using various sized membranes
- Total Acid Number (TAN)
  - Via titration
- Specific Gravity

# Lab Resources: Corn Oil Capabilities

- Moisture Testing
  - KF titration
  - Hydrosout
  - NIR
- Viscosity Testing
  - Kinematic via Cannon-Fenske viscometers and temperature-controlled bath
  - Absolute via Brookfield
- Particle distribution
  - Gravimetric filtration using various sized membranes
- Free Fatty Acids
  - Via titration
- Carotenoid Analysis
  - Total via UV/Vis
  - Individual via HPLC
- MAGs/DAGs/TAGs
  - Via GC/FID
- FAMES
  - Via GC/FID
- Specific Gravity
- Total Suspended Solids
  - Gravimetric analysis via filtration
  - NIR (currently for corn syrup samples only)

# Lab Resources: Corn Syrup Capabilities

- Total Oil Analysis
  - Acid/Base hydrolysis on high solid samples
  - Solvent extractions
  - Soxhlet extractions on dry solids
  - NIR
- Free Oil Analysis
  - Centrifugation using Babcock tubes
- Total Solids
  - Drying via 105°C oven (% w/w)
  - Drying via 70°C vacuum oven (% w/w)
  - NIR
- Total Suspended Solids
  - Gravimetric analysis via filtration
  - NIR
- Total Dissolved Solids
  - Filtration and drying for percentage values
- Total Ash
  - Via ashing oven
- Moisture Testing
  - Moisture balance
  - Drying oven
  - NIR
- Viscosity Testing
  - Kinematic via Cannon-Fenske viscometers and temperature-controlled bath
  - Absolute via Brookfield
- Particle distribution
  - Gravimetric filtration using various sized membranes
- Conductivity
- pH
- Sugar Analysis
  - Via HPLC
- Microscope Analysis

# Pilot Plant

After taking samples from your plant, we run the contaminated fluid to separate out and identify what makes up contaminants. Once we've gained a full understanding of the fluid in your facility, we tap into our expertise and portfolio of technologies to define a process solution right for you.

## Resources

- Wide range of centrifugation technologies
- Vacuum dehydrators
- Screw press
- Membranes and filters
  - Ultrafiltration and Microfiltration
- Decanters
- Distillation technology
- Other separation technology

## Capabilities

- Bench testing
- Pilot processing
- Analytical analysis
- Full process modeling
- Process design