

# Corrosion & Storage Issues

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# Corrosion ?

Do we have corrosion issues today?

# Storage Issues



All new tanks look like this, right?

- Proper pitch.
- Correct fittings.
- Unions.
- Swing joints.
- Coated oil line.

# Corrosion

We've come a long way but still have a lot of work to do educating owners & installers about:

- Tank sizing.
- Codes.
- Spill prevention.
- Simple ways to prolong tank life & avoid service issues.



# Tank Corrosion - Today's Fuels

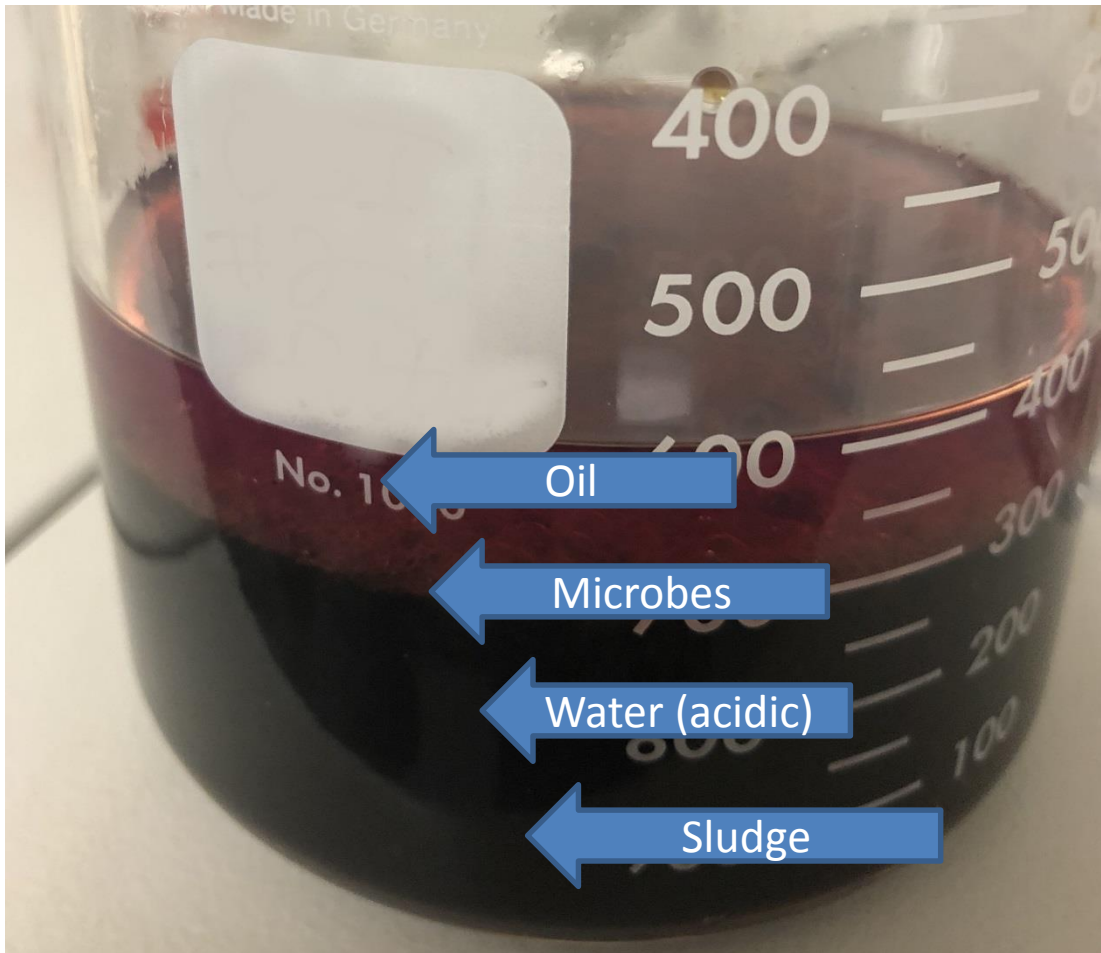


# Premature Tank Failure

- 11 months old.
- Pump over.
- Check for & remove water before installation & regularly afterwards.



# Water = Corrosion



- Typical sample from a problem location.
- More water accumulation with today's fuels??
- What about future fuels?

# How Do We Move To Higher Bio Blends?

- Outside tanks.
- Pour point.



# Higher Bio Blends – Outside Tanks



How many – 10%?

- Cold flow issues with B20, 40, 100?
- Heaters? - Tanks? Lines?
- Insulation? Larger pipes?
- Don't deliver high blends?
- Move all tanks inside?

# Higher Bio Blends – Tank Cleaning?



# Research Possibilities

- Better bio feedstocks?
- Better cold flow additives? Kero? Kero/#2/bio?
- Better tank monitoring tools?
- Effectiveness of tank cleaning?



**THANKS**  
**FOR YOUR ATTENTION!!**  
**ANY QUESTIONS?**  
**NO?**  
**GREAT! BYE!**