

A photograph of a water treatment facility with several large rectangular tanks and metal railings. In the background, a city skyline with several high-rise buildings is visible under a cloudy sky. The image has a dark, semi-transparent overlay.

# Leveraging Rapid, Safe & Green Technology for Treatment Optimization

Presented by Robert Menegotto, President & CEO of MANTECH

# ABOUT MANTECH

Manufacturer of laboratory, online and portable analyzers for water, wastewater and soil analysis.

Mission to generate the highest quality results in the shortest amount of time with the goal of enabling customers to have significant positive economic and sustainable impacts on their businesses and communities.





# IMPORTANT WATER QUALITY PARAMETERS

- pH
- Alkalinity
- Conductivity
- Turbidity
- Ammonia
- Chloride
- BOD
- Chlorophyll
- ORP
- TOC
- Fluoride
- Acidity
- Hardness
- COD

***You cannot  
manage what  
you do not  
measure.***

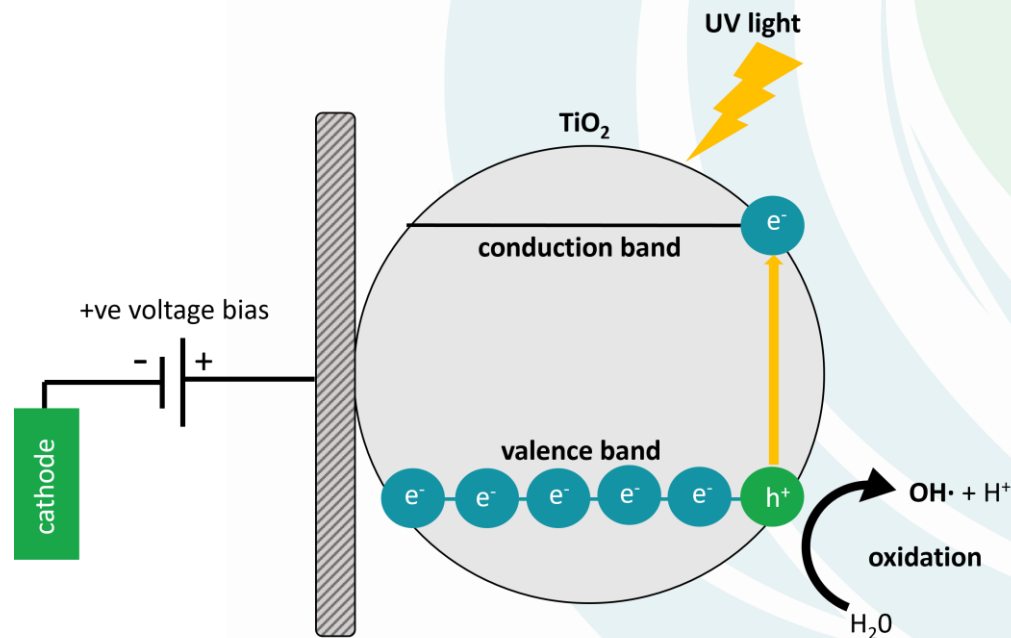
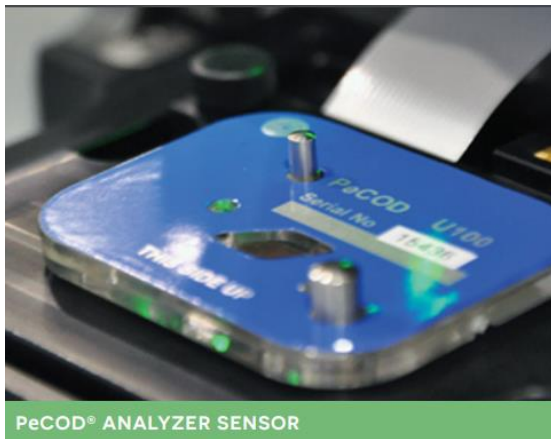
# BOD/COD MONITORING CHALLENGES

- Time-consuming
- Hazardous
- Trained personnel



# PeCOD TECHNOLOGY

- Rapid, safe & green
- Advanced oxidation process
- Nanotechnology



# CURRENT CUSTOMER – CLEAN HARBORS

- What they measure: COD & BOD
- Why they chose PeCOD
  - Rapid, safe and green method
  - Results in 10 minutes vs 2-3 hours
- Benefits
  - Quick treatment decision making
  - BOD known everyday



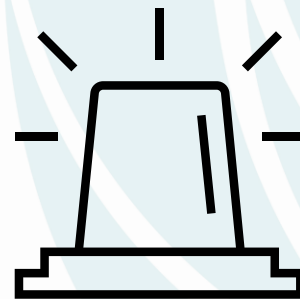
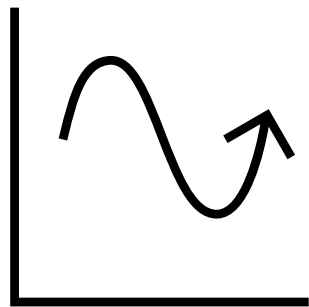
PeCOD is the  
**ANCHOR**  
of the plant.





# IMPORTANCE OF COLLECTING DATA WITH RELIABLE RESULTS

- Determine trends over time
- Optimize water treatment
- Detect events in real time
- Stay in compliance



# CHALLENGES WITH COLLECTING AND MONITORING DATA

- Time-consuming
- Laborious
- Lab anchored
- Multiple collection points





# ABOUT ONLINE ANALYZERS

- Autonomously sample and analyze
- Can be installed at multiple points
  - Including remote locations
- Send alerts and data to SCADA and other locations
- Directly control feed pumps



# MO1000 OVERVIEW & BENEFITS



- Simple to use
- Auto-calibrations
- Modbus TCP Communication
- SCADA
- Email alerts
- Modular for easy troubleshooting as needed and addition of other parameters



*Install anywhere along the process line*

# CURRENT CUSTOMER

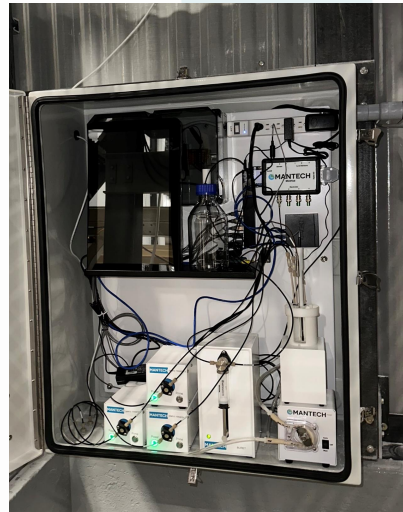
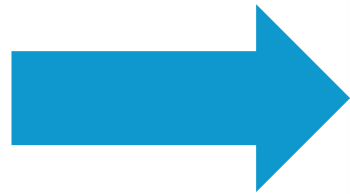
- What they monitor
  - BOD in treated wastewater
- Why they monitor
  - Helps them decide to discharge or bypass water for further treatment
- Why did they choose online
  - Manual sampling slow, not feasible
- Why did they choose MANTECH
  - Constantly changing matrix
    - Traditional optical analyzers will not work due to matrix dependence
    - PeCOD is empirical and independent to the matrix





# MO1000 – TITRATION CONFIGURATION

- Utilizes modules already used on our automated analyzers which are trusted by thousands of laboratories worldwide
- Robust & reliable
- Approved government methods for reporting



... now available in an  
online configuration.

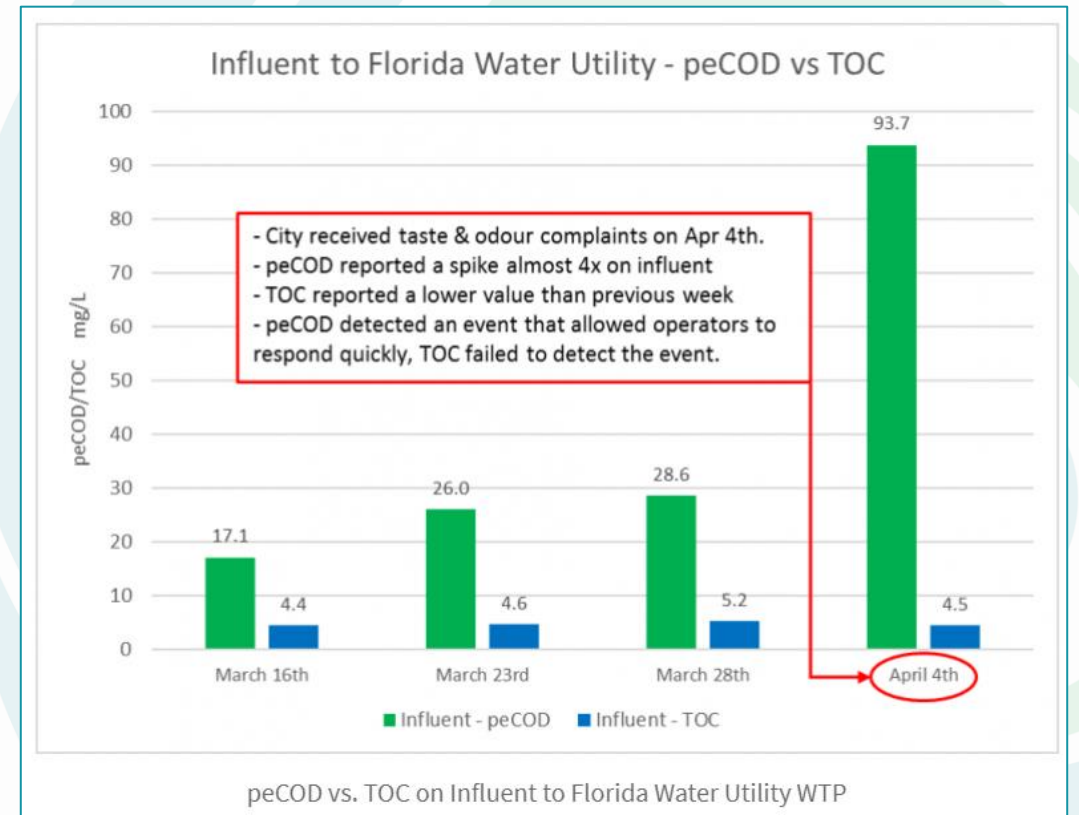
# CURRENT CUSTOMER

- What do they monitor
  - Alkalinity & acidity
- Why do they monitor
  - Water quality for process control
- Why did they choose online
  - Sampling site located in a hazardous environment
- Why did they choose MANTECH
  - Triple stream analysis from a single analyzer with approved titration methods



# DRINKING WATER APPLICATION

- Online analyzers can also be applied to drinking water applications
- Parameters
  - PeCOD “optimized” TOC, turbidity, fluorescence (chlorophyll, humics), alkalinity titration



PeCOD detects what TOC does not



# BENCHTOP & AUTOMATED TITRATION

- Measure pH, alkalinity, conductivity, turbidity, ammonia & more
- Multiple parameters from a single sample
- Doing more with less sample saves
  - Reagents
  - Time
  - Space
    - = Lower operating costs



# BENCHTOP & AUTOMATED BOD

- Streamline tedious BOD tasks with
  - BOD Pro software in a manual set-up
    - Analysts prepare samples manually while software handles calculations, report generation and more
  - Automated sample preparation (dilution water, seed and/or inhibitor addition)
  - Automated sample transfer & pH adjustment



# EFFICIENT TURBIDITY ANALYSIS



## **Turbidity T10 Meter**

- Lowest sample volume required – ONLY 30mL
- Choice of long-lasting white light or infrared (IR) bulbs

## **Automated Turbidity**

- Sample is reusable for multi-parameter analysis
- Bottom-in, bottom-out design prevents sample carryover





# QUESTIONS?



# THANKS FOR ATTENDING!

Feel free to stop by our booth 510-3

## **Contact us**

[mantech-inc.com](http://mantech-inc.com)

[info@mantech-inc.com](mailto:info@mantech-inc.com)

519-763-4245

1-866-763-2122 (*toll free*)