

Biological Oxygen Demand (BOD) Analyzer and Estimator System

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OC SAN
ORANGE COUNTY SANITATION DISTRICT

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Background

- Biochemical oxygen demand (BOD) is a time-sensitive, mission-critical compliance and operational parameter
 - Required by the National Pollutant Discharge Elimination System (NPDES) permit
 - Required by Operations for process monitoring and optimization
 - Required by Resource Protection for source control
- BOD testing is laborious
 - OC San has utilized a BOD analyzer to sustain the high throughput required (9,381 samples per year)
- BOD testing has no do-over
 - Whether data is reportable is not known until the analysis is complete in 5 days, when the sample has expired (holding time is 48 hours)
 - Analysts need to estimate concentration prior to initiating analysis

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Problem

- The current BOD analyzer no longer supports OC San's needs
 - The system is 15 years old and has experienced several critical failures
 - The system relies on a 3-hour Chemical Oxygen Demand (COD) method to estimate BOD
 - Too slow to use to meet the high throughput and stringent timelines
 - The method also generates hazardous waste

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Solution

- The BOD Pro AM405 and 10-minute BOD Estimator System
 - Proprietary technologies
- Two main reasons to select this system:
 - Speed: The patented technology reduces 3hr to 10min, which allows analysts to estimate BOD prior to initiating the 5-day BOD tests, drastically lowering the risk of having non-reportable BOD data
 - Green chemistry: The patented technology also does not generate hazardous wastes, protecting the environment and health and safety of workers

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