

San José- Santa Clara Regional Wastewater Facility

About the Laboratory



Overview

The laboratory at the San José- Santa Clara Regional Wastewater Facility's Environmental Services Building monitors the quality of the Facility's effluent to protect public health and the Bay environment, and verify compliance with federal and state regulations.

The 12,000 square foot laboratory employs 28 skilled lab staff with related degrees in chemistry, microbiology, chemical engineering, or biology.

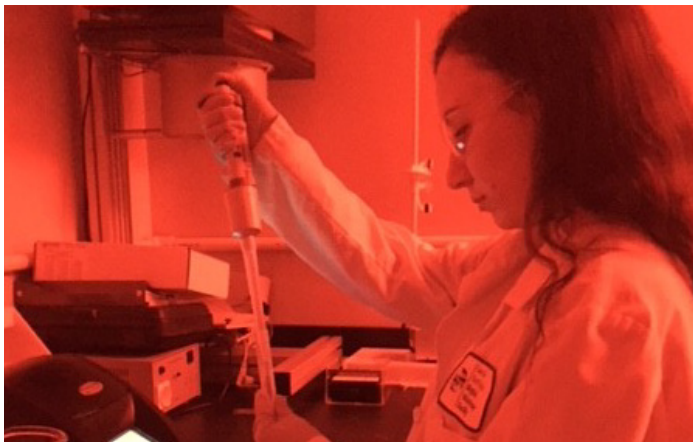
Water samples are collected and analyzed 365 days a year to ensure efficient removal of wastewater impurities and the production of high quality tertiary effluent, which is discharged into the South San Francisco Bay.

The laboratory also tests water samples for the City's Pretreatment, Wastewater Compliance, Pollution Prevention, and South Bay Water Recycling programs.

Our Services

Toxicology

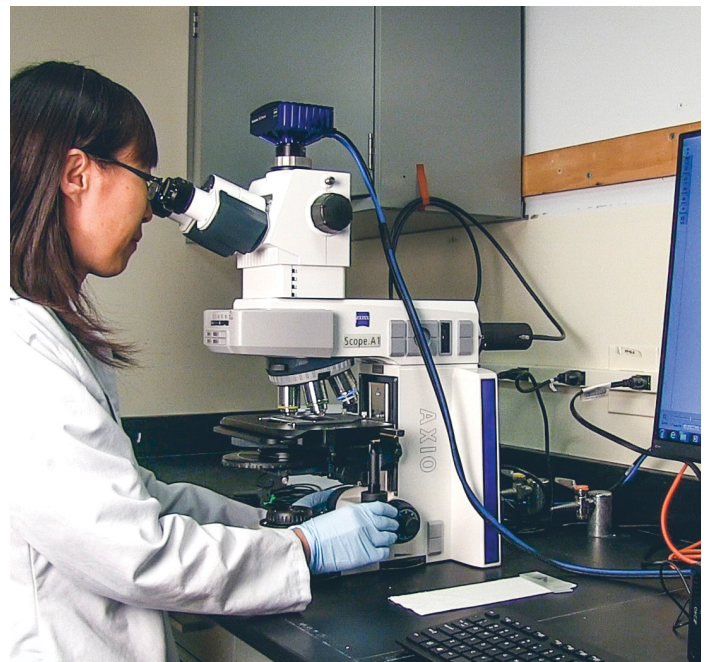
Short-term (acute) and long-term (chronic) toxicity tests are performed to monitor the Facility's effluent quality. Toxicology lab technicians also perform chlorophyll analyses on various South Bay sites.



Microbiology

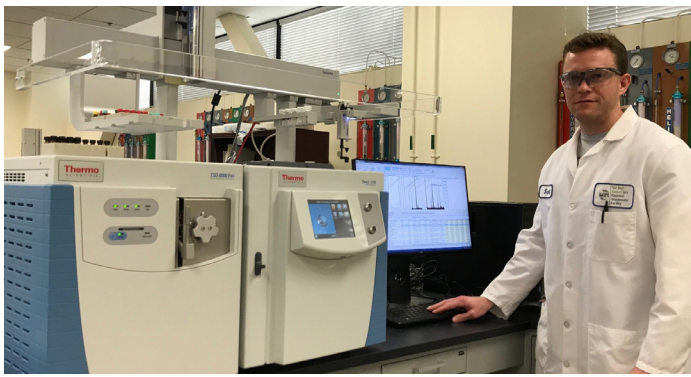
The microbiology area generates data critical to the Regional Wastewater Facility. Lab staff monitor the microorganisms present in the treatment process to ensure that healthy and balanced levels of bacteria consume organic and inorganic materials in the wastewater.

Daily analyses for bacterial counts, dissolved oxygen, pH, temperature, and residual chlorine of the Facility's effluent and recycled water are also performed.



Sample Receiving/Client Support

Staff working in this area assist lab customers with preparations for sampling events, monitor and maintain inventory of lab-wide consumables, facilitate and oversee special projects and ensure proper collection, preservation and documentation of samples to be analyzed for regulatory compliance.



Our Services

- Awarded 13 certificates of excellence in four years for quality of data in proficiency testing studies.
- First publicly owned treatment works laboratory in the nation with the capacity to analyze methyl mercury.
- One of five U.S. labs to participate in USGS comparison study for chlorophyll-a, producing excellent results in sample analyses.

Trace Organic Analyses and Inorganic Analyses

Wastewater samples from industries throughout the Facility's vast service area are routinely analyzed by ultra-trace level analytical methods capable of detecting priority pollutants at parts per billion or parts per trillion levels.

Organic analyses monitor almost 200 organic chemical compounds with varying levels of environmental toxicity.

Inorganic analyses tests for metals such as arsenic, antimony, beryllium, cadmium, chromium, mercury, selenium, cobalt, copper, lead, nickel, silver, thallium, and zinc.

Process/General Chemistry

Most wastewater samples are analyzed in this area. Process lab staff perform long-term tests and also provides quick feedback (some results in four hours or less) to Facility operators, who monitor the levels of suspended solids, ammonia, or cyanide in the treated wastewater. Process lab staff also analyze samples collected by Source Control staff from industrial waste dischargers.



Laboratory Profile

Facility: Located at the southern tip of the San Francisco Bay, the Regional Wastewater Facility is jointly owned by the cities of San José and Santa Clara, with the San José Environmental Services Department serving as the operator and administrator. It is the largest advanced wastewater treatment facility in the western United States, treating an average of 100 million gallons of wastewater per day.

Service Area: The Facility serves more than 1.4 million residents and over 17,000 businesses in eight Silicon Valley cities including San José, Santa Clara, Milpitas, Campbell, Cupertino, Los Gatos, Saratoga, and Monte Sereno. This service area encompasses 267 square miles.

Samples: The laboratory analyzes approximately 50,000 wastewater samples per year, 25 to 30 percent of which are quality control samples.

Data System: Personal computers on a local area network run a variety of programs, including Microsoft Excel and Access, Chromeleon and EnviroQuant ChemStation software. The lab uses Labworks' Laboratory Information Management System (LIMS), which is configured and interfaced with instrumentation. All relevant sample information and results, including quality control data, are stored in the LIMS database, used throughout the lab to review and validate data, monitor workloads, and generate laboratory reports.

Special Projects: Method development for the analysis of volatile acids by ion chromatography, method optimization studies for reduction in chemical waste, recreational lake monitoring for public use and determination of Total Maximum Daily Loads for bacterial are just a few of the special projects underway.



**San José-Santa Clara
Regional Wastewater Facility**

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