CITY OF SANTA CRUZ
LABORATORY TECHNICIAN

Reports to: Water Quality Manager or Wastewater Laboratory/ Pretreatment Manager
Supervises: Non-supervisory
Bargaining Unit: Service

BASIC FUNCTION

Under general supervision, provides support to the staff of the Water Quality or Wastewater Laboratories by performing technical duties related to preparation, sampling, testing and analysis of water; biosolids; sample and data management; assists in the investigation of customer water quality complaints; and, performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

The **Laboratory Technician** is the entry level classification responsible for performing a variety of technical duties in support of laboratory testing and maintenance tasks, and field work. This classification is distinguished from the higher classifications of Chemist and Microbiologist in that the latter are responsible for performing a broader technical and professional scope of sampling, laboratory testing, and analysis.

TYPICAL DUTIES (*May include, but are not limited to, those duties listed below):*

- Performs technical duties in support of laboratory maintenance, including washing and preparing glassware and sampling equipment according to laboratory protocols; prepares, calibrates, operates and performs minor and routine maintenance on standard sampling and laboratory instruments and equipment; makes recommendations regarding the purchase of equipment and supplies.
- Under guidance, performs the less complex physical, chemical, biological and bacteriological tests of water and other materials related to the treatment, quality and distribution of water; uses field and laboratory wet bench chemistry methods in the analysis of samples; performs related chemical and mathematical calculations and statistical analyses for test results.
- Collects water samples from water distribution systems, lakes, lagoons, surface water sources; unit process sources; wells and other sources; logs water samples into laboratory database; ensures that samples are assigned required analyses; preserves samples as required.
- Performs audits and maintains records of safety and laboratory equipment; maintains inventories of chemicals, equipment and supplies.
- Performs routine wet bench chemistry laboratory tests.
- Conducts basic microbiological tests.
- Assists in the investigation of customer water quality complaints regarding potability of water.

- Prepares and completes reports relevant to regulatory monitoring and process control requirements; compiles and records data onto worksheets; enters reviewed data and results of analyses into the laboratory information management system.
- Prepares standard chemical solutions, reagents, stains, and bacteriological media; keeps laboratory in a clean and orderly condition.
- Observes standard safety precautions related to the work; maintains proper quality assurance techniques in performing analytical work.
- Assists Microbiologists or Chemists on specific projects.
- Ensures proper disposal of hazardous waste and chemicals.

Assignment-Public Works Department-Wastewater Laboratory Division

- Prepares laboratory sampling equipment, containers, labels and sample logs for special and routine environmental samples.
- Routinely operates lab-ware washers to maintain test and sampling equipment as required for each assigned area.
- Maintains the cleanliness of the laboratory by routine adherence to the Chemical Hygiene Plan.

WORKING CONDITIONS

Position requires prolonged sitting, standing, and walking on uneven and slippery surfaces; reaching, twisting, turning, kneeling, bending, stooping, squatting, crouching, grasping and making repetitive hand movements in the performance of daily duties. The position also requires near, far and color vision when performing tasks such as collecting and analyzing samples, in reading work related documents and using a computer. Acute hearing is required when providing phone and in-person service. The ability to lift, carry and push equipment, tools, and supplies weighing up to 40 pounds is also required. Additionally, when collecting samples and working in the laboratory, the incumbent may be exposed to biohazards and a variety of working conditions, including mechanical and electrical hazards, loud noise, wet, heat and cold. The use of cleaning and laboratory chemicals may expose the incumbent to fumes, dust and contaminants. The nature of the work also requires the incumbent to climb ladders, operate motor-powered boats and off-road vehicles when collecting samples, go to remote and isolated areas, drive on rough and unpaved roads in varying weather conditions, to collect samples, and enter customers' homes to collect samples in the investigation of water quality complaints. Sufficient swimming skills for self-preservation when taking samples or treating reservoirs from a boat is also required.

Some of these requirements may be accommodated for otherwise qualified individuals requiring and requesting such accommodations.

MINIMUM QUALIFICATIONS

Knowledge:

- Fundamental principles, practices, standards, methods, chemicals, and equipment used in general laboratory sampling and testing.

- Basic field chemistry techniques.
- Bench level chemistry techniques
- Laboratory safety practices.
- Sampling techniques, methods, and procedures.
- Spreadsheet and word processing software.
- Mathematical principles including proportions, percentages, and decimals.
- Principles and procedures of record keeping.

Abilities:

- Prepare glassware, sampling equipment, and containers according to laboratory standard operating procedures.
- Operate, maintain, and calibrate laboratory instrumentation and sampling equipment.
- Collect samples from a variety of locations, prepare for testing, and preserve samples.
- Perform audits and maintain records for safety equipment and preventive maintenance of laboratory equipment.
- Maintain accurate records and prepare clear, comprehensive, and concise technical reports.
- Perform mathematical calculations and statistical analysis of laboratory data.
- Learn more complex principles, practices, and techniques related to assigned duties.
- Interpret, explain, and apply related policies, procedures, rules, and regulations.
- Communicate clearly and concisely, both orally and in writing.
- Understand and carry out verbal and written instructions.
- Use a computer and a variety of word-processing, spreadsheet, and laboratory database software applications.
- Observe safety principles and work in a safe manner.
- Establish and maintain effective working relationships with co-workers, the public, and others contacted in the course of the work.
- Operate a four-wheel drive vehicle and/or boat for the collection of samples.
- Perform all duties in accordance with requirements of City Lab Quality Assurance Document, Environmental Protection Agency Regulations, State Department of Health Regulations, State Environmental Laboratory Accreditation Program Requirements, and other applicable standards.

OTHER REQUIREMENTS

Willingness to work a flexible schedule or outside typical laboratory hours, including evenings, weekends and holidays as needed.

EDUCATION AND EXPERIENCE

Any combination of education and experience that has provided the knowledge, skills and abilities necessary for Water Quality Laboratory Technician may be qualifying. A typical way of obtaining the required qualifications is to possess the equivalent of:

- Bachelors degree in chemistry, biology, microbiology environmental sciences or a related field,

OR

- High school graduation or tested equivalent; some college level course work, which included a minimum of four courses in chemistry, microbiology, or related courses with laboratory components; and, one year of experience as a laboratory assistant or laboratory technician.

LICENSES/CERTIFICATES

- Possession of and ability to maintain a valid California driver's license and a safe driving record.

DESIRABLE QUALIFICATIONS

- Certification by the American Water Works Association or the California Water Environment Association as a Water Quality Analyst.
- Certification by the California State Department of Health Services as a Water Treatment Plant Operator or Water Distribution Operator.

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Career Ladder

- Water Quality Manager or Wastewater Laboratory/ Pretreatment Manager
- Water Quality Chemist I/II, Water Quality Microbiologist I/II, Chemist I/II
- *Laboratory Technician*