

City of South San Francisco  
Human Resources Department

**Senior Laboratory Chemist**  
Class Description

**Definition**

Under direction organizes, assigns and reviews the work of assigned personnel engaged in a variety of biological, bacteriological, physical, and chemical analysis of water, wastewater or other materials; develops new and reviews established laboratory operating procedures; performs the more complex lab analysis; provides administrative support to assigned supervisor; and performs related work as required.

**Distinguishing Characteristics**

This is the advanced journey level position in the Laboratory Chemist series. Positions at this level are distinguished from other classes within the series by the level of responsibility assumed, complexity of duties assigned, independence of action taken, and by the amount of time performing the more complex duties. Employees perform the most difficult and responsible types of duties assigned to classes within this series, including providing technical and functional supervision over assigned personnel. Positions in this class are required to have complete working knowledge of water quality analysis and are expected to carry out assigned duties and responsibility.

**Typical and Important Duties**

(Essential and other important responsibilities and duties may include, but are not limited to, the following:)

1. Plans, prioritizes, and reviews the work of staff assigned to perform a variety of chemical, bacteriological, and biological analysis.
2. Develops schedules and methods to accomplish assignments ensuring work is completed in a timely and efficient manner.
3. Participates in evaluating the activities of staff, recommending improvements, and modifications.
4. Provides and coordinates staff training; and works with employees to correct deficiencies.
5. Compiles, records, reviews, and manages laboratory data and records; ensures calculations are performed accurately; develops methods and procedures for record keeping and data retrieval.
6. Schedules, organizes and participates in monthly, semi-annual and annual monitoring with contractors.
7. Assists with forecasting budget needs for lab equipment and inventory; monitors expenditures.
8. Prepares monthly, semi-annual, and annual self-monitoring reports for proof of compliance to mandated limits; composes cover letters; prepares Discharge Monitoring Reports; and submits reports to appropriate agencies.
9. Develops, reviews, and revises established laboratory Standard Operating Procedures

- to ensure compliance with rules and regulations.
10. Maintains proper laboratory inventory; researches and reviews new equipment and lab materials; prepares requests for necessary laboratory supplies and equipment.
  11. Performs routine, complex and special chemical, physical, bacteriological, and related laboratory tests on samples of wastewater, various plant processes and final plant effluent.
  12. Processes tests including analyses of activated sludge, mixed liquor, sludge digestion units, industrial wastewaters, and receiving water monitoring; as well as dissolved oxygen, suspended solids, biochemical oxygen demand, chemical oxygen demand, hydrogen ion concentration, ammonia, and total and fecal coliform.
  13. Prepares reagents, microbiology media, and chemical solutions.
  14. Filters and weighs samples in preparation for further laboratory analysis.
  15. Cleans and assembles laboratory apparatus and glassware; ensures lab equipment is maintained and certified as required; manages documentation of lab equipment, maintenance, and repair; and prepares and maintains required laboratory records and reports.
  16. Oversees and facilitates the Environmental Laboratory Accreditation Program audit; ensures that Quality Assurance Plans, datasheets, Chemical Hygiene Plans are updated and representative.
  17. Performs necessary arithmetic computations.
  18. Prepares and maintains required laboratory records and reports.
  19. Performs monthly bioassay.
  20. Performs annual Environmental Protection Agency DMR-QA tests.
  21. Builds and maintains positive working relationships with co-workers, other City employees and the public using principles of good customer service.
  22. Performs related duties and responsibilities as assigned.

### **Job-related Qualifications**

#### **Knowledge of:**

- Principles and practices of technical and functional supervision and training.
- Operations, principles, methods, and techniques used in a wastewater treatment plant.
- Advanced techniques, equipment and terminology used in chemical, bacteriological, physical, and biological analysis.
- Care and use of laboratory equipment.
- Advanced methods used in statistical and mathematical analysis.
- English usage, spelling, grammar, and punctuation used in report writing.
- Safety principles, practices, regulations, and procedures related to the work, including OSHA regulations.
- Principles and practices of customer service.
- Modern office equipment, methods, procedures, and computer hardware and software.

#### **Ability to:**

- Provide technical and functional supervision over assigned staff; and effectively train

staff.

- Independently perform the most complex duties related to chemical, bacteriological, physical, and biological analysis and related laboratory work.
- Analyze and communicate lab results.
- Prepare and maintain accurate records and required reports.
- Maintain, use and operate a variety of laboratory equipment in the performance of standardized and specialized laboratory tests.
- Understand and interpret related rules, regulations and guidelines.
- Observe proper safety precautions and procedures.
- Take a proactive approach to customer service issues.
- Understand and carry out oral and written directions.
- Work in a safe manner, following City safety practices and procedures; safely handle hazardous materials; identify, correct, and report safety hazards; and administer first aid.
- Organize own work, set priorities, meet critical deadlines, and follow-up on assignments with minimal supervision.
- Communicate effectively in writing and orally, and with others to assimilate, understand and convey information, in a manner consistent with job functions.
- Establish and maintain cooperative working relationships with those contacted in the course of work.
- Maintain confidentiality regarding sensitive information.

Skill in:

- Operating a personal computer and a variety of software applications.
- Using lab equipment.

### **Experience and Training**

Any combination of experience and training that would provide the required knowledge, skills, and abilities would be qualifying. A typical way to obtain the knowledge, skills, and abilities would be:

Experience:

Four years of experience performing duties comparable to a Laboratory Chemist with the City of South San Francisco.

Training:

A bachelor's degree from an accredited college or university in microbiology, biology, chemistry, or a related field.

### **Licenses and Certificates**

All licenses and certificates must be maintained as a condition of employment.

- Possession of, or ability to obtain, and maintain a valid California driver's license and maintain a satisfactory driving record.
- Possession and maintenance of a California Water Environment Association

Laboratory Analyst II Certificate; and a Grade III within two years of employment.

### **Special Requirements**

Essential duties require the following physical skills and work environment:

#### **Physical Skills:**

Able to use standard office and laboratory equipment, including a computer; sit, stand, walk, kneel, crouch, stoop, squat, crawl, twist, and climb stairs and ladders; lift and carry up to 25 pounds; maintain sustained posture for prolonged periods of time; distinguish among various colors; distinguish various computer generated auditory signals; vision to read printed materials and a computer screen; hearing and speech to communicate in person, over the telephone, and to make public presentations; smell to distinguish odors.

#### **Work Environment:**

Mobility to work in a typical office setting or laboratory environment; exposure to cold, heat, noise, outdoors, inclement weather, dust, dirt, vibration, chemicals, traffic, traffic hazards, confining workspace, odors, mechanical hazards, electrical hazards, explosive hazards, and biohazards.

#### **Ability to:**

Travel to different sites and locations; drive safely to different sites and locations; maintain a safe driving record; maintain a clean, well groomed appearance; work shifts including weekends, nights, and holidays; work protracted and irregular hours; respond to a pager; take 24-hour call and stand-by; available for unusual hours in emergencies; available for evening meetings and training.

### **Additional Information:**

- Approved: September 2013
- Revised Date: July 2009, May 2013
- Former Titles:
- Abolished:
- Bargaining Unit: Operating Engineers
- DOT: No
- Status: Classified/Non-exempt
- Job Code: D170