

Soldier Canyon Water Treatment Authority (SCWTA)

Job Description

Position Title: WATER QUALITY LAB & INSTRUMENT TECHNICIAN
FLSA Status: Non-Exempt/Hourly
Reports To: Water Quality Compliance Manager
Salary Range: \$53,000 to \$80,000 - Annually
Revision Date: April 2026

Summary

Under supervision of the Water Quality Compliance Manager, the Water Quality (WQ) Laboratory & Instrument Technician performs the installation, calibration, and repair of online and laboratory process instruments and analyzers, performs field and laboratory technician duties to evaluate water treatment plant operations, conducts basic chemical analyses, keeps detailed and accurate records and enters laboratory data into information management systems; conforms to laboratory safe practices. The position analyzes the malfunctions of instruments and determines necessary steps to repair equipment, performs calibrations on various devices measuring flow, pressure, temperature, level and speed, prepares reports and records on calibration, inspection, testing, and repair activities, investigates and communicates quality-related issues including instrument discrepancies, exception reporting and other non-compliance related issues, performs general maintenance on equipment, and provides troubleshooting, diagnostic assessment and other technical support on instrumentation.

The principal functions of this role are to perform the installation, maintenance, and repair of Water Treatment Plant (WTP) instrumentation equipment, diagnose equipment faults and failures, perform Quality Assurance and Quality Control (QA/QC), verify instrument accuracy using standard laboratory tests, and accomplish needed repairs. The secondary role function is to perform water quality sampling and analyses to evaluate plant operations and ensure regulatory compliance.

Essential Job Functions

The following duties and responsibilities are illustrative of the primary functions of this position and are not intended to be all inclusive.

- Perform the installation, maintenance, and repair of process analyzers, including, chlorine, turbidity, pH, alkalinity, ultraviolet transmittance, streaming current, zeta, Total Organic Carbon, and assorted other analytical devices.
- Calibrate new or re-calibrate existing equipment and sensors using related analyzer performance verification equipment.
- Install new and factory-recalibrated analyzers working closely with treatment plant operators, laboratory, and maintenance staff.
- Assist in developing control schemes and alarm functions to maximize treatment plant and distribution system efficiency and safety.
- Work closely with vendor representatives to ensure equipment accuracy.
- Coordinate the acquisition of supplies, reagents, parts, and maintain appropriate spare inventory to maximize equipment online operation to ensure redundancy, reliability and robustness of equipment.
- Utilize a Computerized Maintenance Management System to plan and record work activities and document results.
- Coordinate and provide ongoing training to treatment plant operators, and technical staff to ensure proper interpretation of data provided by online instrumentation and analyzers.
- Maintain accurate calibration records including third party records and documentation to meet all Federal, State and local requirements.
- Provide needed information and demonstrations concerning how to perform certain work tasks to new employees for training.

- Keep immediate supervisor and designated others fully and accurately informed concerning work progress, including present and potential work problems and suggestions for new or improved ways of addressing such problems.
- Attend meetings, conferences, workshops and training sessions and reviews publications and audio-visual materials to become and remain current on the principles, practices and new developments in assigned work areas.
- Implement and maintain a comprehensive predictive, preventive and corrective maintenance program for on-line and lab analyzers and analytic equipment as needed
- Provide technical support for all emergency/after-hours work that requires troubleshooting and corrective action.
- Assist with the development/updates of operational procedures.
- Create and maintain preventive maintenance procedures for on-line and lab analyzers and instrumentation as necessary, tracked through maintenance management software
- Collect samples, including at remote locations requiring driving, walking on hard floors and uneven terrain, and navigating multiple flights of stairs.
- Conduct water quality laboratory analyses of basic to moderate difficulty.
- Conduct bench-top water quality analyses including turbidity, pH, alkalinity, hardness, chlorine residual (free and total), conductivity, temperature, fluoride, iron, manganese, TSS and other constituents as needed..
- Prepare and maintain chemical analysis records and compiles data for both written and verbal reports.
- Properly receive and log water samples into the laboratory and assure that the samples are properly identified on chain of custody, properly preserved and distributed within the laboratory.
- Work safely in a lab environment.
- May be subject to 24-hour response as necessary, including evenings, weekends, and holidays in cases of a water quality emergency.
- Perform other directly related duties consistent with the role and function of the position.

Job Knowledge, Skills, and Abilities

- Thorough knowledge of process analyzers, instrumentation and equipment.
- Thorough knowledge of online analytical equipment.
- Substantial knowledge of instrumentation theory, calibration methods, and mathematical calculations.
- Knowledge of Federal, State and local codes and regulations, safety practices, and procedures.
- Knowledge of Supervisory Control and Data Acquisition programs.
- Knowledge of Drinking Water regulations as well as upcoming regulations and potential impacts to Soldier Canyon Water Treatment Authority.
- Knowledge of laboratory skills, including common procedures and safety best practices.
- Application of logical and creative thought processes to develop solutions according to written specifications.
- Ability to work safely within industrial facilities, and remote sites.
- Ability to communicate effectively with others, both orally and in writing, using both technical and non-technical language.
- Ability to understand and follow oral and/or written policies, procedures and instructions.
- Ability to prepare and present accurate and reliable reports containing findings and recommendations.
- Ability to operate a personal computer using standard or customized software applications appropriate to assigned tasks and/or oral instructions.
- Ability to perform a wide variety of duties and responsibilities with accuracy and speed under the pressure of time-sensitive deadlines.
- Ability and willingness to quickly learn and use new skills and knowledge brought about by rapidly changing information and/or technology.

- Knowledge of proper sample collection procedures and techniques.
- Knowledge of principles and procedures of record keeping.
- Knowledge of basic mathematics.
- Ability to respond to emergency situations.
- Ability to communicate clearly and concisely, both orally and in writing.
- Ability to establish and maintain effective working relationships with those contacted in the course of work.
- Knowledge of quality assurance and quality control measures.
- General knowledge of conventional water treatment operations for a large water treatment plant.

Certificates, Licenses, Registrations

- Must possess and maintain a valid Colorado Driver's license.
- Must possess and maintain a Colorado Water Treatment D level license or higher within 12 months of hire.

Minimum Education Level and Experience

Associate's degree in science or technology field or an equivalent on the job training/experience plus at least 2 years progressively responsible experience in industrial plant operation and/or maintenance such as a water treatment plant, industrial facility, laboratory, or manufacturing setting

Computer Skills

To perform this job successfully, an individual should have knowledge of Internet software; Spreadsheet software; Word Processing software; CMMS such as Antero by Allmax; Laboratory Information System (Preferably WIMS by Hach).

Physical Demands and Working Environment

Work is performed inside and outside of the water treatment plant. Inside, there is regular exposure to high equipment noise, toxic or caustic chemicals, fumes or airborne particles, and potential electrical and machinery hazards. Required to stand, walk, reach with hands and arms, climb, descend, balance, stoop, kneel, sit, crouch and crawl. Reasonable accommodation may be made to enable individuals with disabilities to perform the essential functions. Work in a treatment plant lab environment; work with water; exposure to hazardous chemicals, infectious waste, and inclement weather conditions. Sufficient physical ability to work in an office setting and operate office equipment; stand, walk, bend and stoop for prolonged periods of time; heavy to moderate lifting; operate motorized vehicles. See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents. Hear in the normal audio range with or without correction.