

CITY OF CUMMING
DEPARTMENT OF UTILITIES
WATER POLLUTION CONTROL DIVISION
LABORATORY ANALYST

GENERAL NATURE OF WORK

This is skilled technical work in the operation and maintenance of the City's Water Pollution Control Division Laboratory and assisting the Pretreatment Coordinator in the field. An employee in this position is responsible for conducting laboratory tests on wastewater samples, collecting wastewater samples from the facility and outlying locations and maintaining the laboratory and its certification with the State of Georgia. Duties are performed under the general supervision of the Pretreatment Coordinator.

EXAMPLES OF WORK

- Conducts all laboratory tests required to meet local, state, and federal regulations. Collects, preserves, records, and stores samples according to the required methods as detailed in Standard Methods for the Examination of Water and Wastewater, USEPA methods, and HACH Procedures Manual
- Conducts laboratory testing such as but not limited to: pH, dissolved oxygen, total residual chlorine (TRC), Chemical Oxygen Demand (COD), Biochemical Oxygen Demand (BOD), Total Kjeldahl Nitrogen (TKN), temperature, nitrates, nitrites, ammonia (NH₃), Total Phosphorous (P), hardness, turbidity, Total Suspended Solids (TSS), Volatile Suspended Solids (VSS), oil and grease, alkalinity, fecal coliform bacteria, and percent solids of sludge.
- Determines from laboratory testing: Sludge Volume Index (SVI), Mixed Liquor Suspended Solids (MLSS), Mean Cell residence Times (MCRT), Specific Oxygen Uptake Rates (SOUR), Waste Activated Sludge (WAS) rates, percent cake of biosolids,
- Collects water samples from the Advanced Water Reclamation Facility, the Collection System and designated sample points in the service area watersheds.
- Follows proper chain-of-command and sample recording protocol. Records all dates, times, personnel, locations, etc. of sample collection, transport, and testing.
- Compiles accurate bench-sheets from data generated from testing, quality control, quality assurance, and equipment calibrations. Specifies what

testing method was used and references the method on the bench-sheet, e.g. Standard Methods #, EPA Method #, or Hach Method #

- Ensures that incubator, drying oven, volatile oven, and water bath temperatures are consistently accurate.
- Ensures that water purification system is working properly.
- Ensures that the composite samplers are programmed and running properly.
- Communicates with the Pretreatment Coordinator, Daily Operations Supervisor, and Superintendent and other plant personnel when test results indicate that the Advanced Water Reclamation Facility is not operating properly.
- Compiles monthly data and helps generate the monthly monitoring report.
- Ensures that preventive maintenance and equipment calibration is performed by and independent contractor as recommended by the equipment manufacturer.
- Records preventive maintenance events in the preventive maintenance/inventory program on the computer. Inputs additional or new equipment into the preventive maintenance program as required. Records activities such as but not limited to repairing equipment, temperature, new equipment installed, and tracking of inventory items used and inventory quantity in stock. Utilization of current technology such as mobile tablets, cell phones, laptops, and desktop computers are used to accomplish these tasks.
- Assists with determining chemical feed rates for alum, chlorine, lime, and polymer. Conducts jar testing to determine chemical feed rate and dosage accuracy.
- Records information such as chemical feed rates on the proper forms as required.
- Informs the Pretreatment Coordinator when laboratory chemical supplies run low and before they are depleted. Orders chemicals, reagents, and other laboratory supplies as needed. Requests approval from the Pretreatment Coordinator before purchasing equipment and other large ticket items.

- Performs regular housekeeping on laboratory area. This includes but is not limited to sweeping, mopping, waxing, buffing, painting, washing, and vacuuming.
- Records preventive maintenance events in the preventive maintenance program on the computer. Inputs additional or new equipment into the preventive maintenance program as required by the Superintendent.
- Assists in the repair of equipment.
- Records preventive maintenance events in the preventive maintenance program on the computer.
- Records information received from telephone conversations regarding sewer spills and reports the information in a timely manner to the Pretreatment Coordinator and Daily Operations Supervisor and the Distribution and Collection Division.
- Maintains good public relations with water and sewer customers.
- Complies with all safety rules, regulations, and requirements of the City of Cumming and the Water Pollution Control Division.
- Completes other duties as assigned.

NECESSARY KNOWLEDGE, SKILLS, AND ABILITIES

- Knowledge of sample collection, storage, preservation and testing methods.
- Knowledge of standard laboratory equipment.
- Knowledge of flow monitoring, the activated sludge process, chemical addition rates, flocculation, coagulation, settling, filtration, filter backwashing, pH adjustment, chlorination, and de-chlorination.
- Knowledge of the chemical applications involved with sludge handling and sludge disposal.
- Knowledge of electronics and mechanics.
- Basic knowledge of biology and chemistry.
- Knowledge of computer technology including but not limited to word processing, spread sheets, SCADA, and data entry.

- Ability to read, write, and perform mathematical calculations.
- Ability to read meters, charts, and graphs and to compile accurate data for facility records and reports.
- Ability to perform laboratory testing involved in wastewater treatment.
- Skills in interpersonal communication, both written and oral.
- Ability to work under general to limited supervision.
- Ability to understand and follow oral and written instructions.
- Knowledge of Federal, State, and Local rules, regulations, and standards governing water treatment.
- Knowledge of policies and procedures of the City of Cumming and the Water Pollution Control Division.
- Thorough knowledge of City safety rules and procedures.

DESIRED EDUCATION, TRAINING, AND EXPERIENCE

Graduation from a standard high school, vocational school, or equivalency supplemented by additional courses in chemistry and water analysis to provide the required certification, and one year of training as a wastewater treatment facility laboratory analyst, or an equivalent combination of training and experience.

NECESSARY SPECIAL REQUIREMENTS

Possession of or the ability to obtain within the required period of time, a Georgia Wastewater Laboratory Analyst Operator License or equivalent. Possession of a valid drivers license.

MINIMUM PHYSICAL REQUIREMENTS

Must be able to exert up to 50 pounds of force occasionally and up to 25 pounds frequently. Physical demand requirements are at levels of those for medium work.

FSLA Status: Non-Exempt

Classification: Semi-Skilled