

SENIOR LABORATORY TECHNICIAN (WASTEWATER TREATMENT)

DISTINGUISHING FEATURES OF THE CLASS: This position exists in the County wastewater treatment plant and involves responsibility for performing physical, chemical, bacteriological and microscopic examination and analysis of raw and treated wastewater, sludge and industrial waste. The incumbent is responsible for performing standard laboratory tests and procedures required for control of the treatment process and necessary stream or industrial waste surveys. Additionally, the incumbent makes treatment plant process control recommendations to shift operators in the absence of the Water Resources Chemist. The work is performed under supervision of the Water Resources Chemist, with leeway allowed for the exercise of independent judgement in carrying out details of the work. May supervise subordinate laboratory personnel. Does related work as required.

TYPICAL WORK ACTIVITIES: (Illustrative Only)

- Operates a variety of scientific equipment used in analysis, such as atomic absorption and uv/visible spectrophotometers, microscopes, PH meters, dissolved oxygen meters, conductivity meters, balances, incubators, constant temperature baths, drying ovens, furnaces and autoclaves;
- Performs microbiological examinations such as microscopic examination of activated sludge and fecal coliform counts on effluent samples;
- Performs reporting and record keeping activities associated with the pretreatment program as required.
- Reviews, analyzes and interprets technical data for purposes of composing technical reports for the laboratory and the pretreatment program;
- Establishes methodology, for and maintains a laboratory quality control program, including calibration of equipment, preparation of chemical standards, and preparation and testing of spiked and replicate samples;
- Performs chemical tests on sludge, wastewater, industrial waste and lakes, streams and treatment plants, such as ammonia nitrogen analysis, organic and total Kjeldahl nitrogen analysis, nitrite and nitrate determinations, alkalinity analysis, chloride analysis, phosphate analysis, metals determinations, suspended solids, total solids and volatile solids testing to determine effects upon plant operations and quality of receiving waters, including field sampling and field testing;
- Prepares and standardizes required reagents, bacteriological media and solutions necessary for chemical and bacteriological tests;
- Maintains laboratory and chemical storage facilities in a safe, clean and orderly fashion;
- Evaluates analytical work and methodologies as necessary for laboratory certification by regulatory agencies;
- Participates in training of new laboratory staff and plant personnel regarding laboratory procedures and care of laboratory equipment;
- Provides technical advice to operating personnel based on analysis of sludge, waste and wastewater for effective and efficient control of plant operations in the absence of the Water Resources Chemist.

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FULL PERFORMANCE KNOWLEDGE, SKILLS, ABILITIES AND PERSONAL CHARACTERISTICS:

Good knowledge of modern technical laboratory techniques, equipment, terminology and safety precautions used in the analysis of water, wastewater, sludge and industrial waste; good know-ledge of the principles of environmental health, as they relate to wastewater treatment; good knowledge of the practices and methodology of analytical chemistry, bacteriology and microbiology, as they relate to wastewater analysis and the treatment of wastewater; good knowledge of instrumental analysis; good knowledge of the use and storage of chemicals; good knowledge of pretreatment program record keeping and reporting requirements; good knowledge of the wastewater treatment process; skill in the operation and care of laboratory equipment; ability to interpret results for control of plant operations; ability to direct operating personnel in collection of samples and performance of simple tests; ability to understand and carry out technical oral and written instructions; ability to maintain technical records and reports; ability to apply accepted scientific procedures, methodology and formulas to work assignments; ability to analyze and interpret laboratory results for making process control adjustments; accuracy.

MINIMUM QUALIFICATIONS: Either:

- (A) Graduation from a regionally accredited or New York State registered college or university with a Bachelor's Degree in chemistry, biology, laboratory technology, engineering, civil, chemical, physical or biological sciences or a closely related field; **OR**
- (B) Graduation from a regionally accredited or New York State registered college or university with an Associate's Degree in chemistry, biology, laboratory technology, engineering, civil, chemical, physical or biological sciences or a closely related field, **AND** two (2) years of experience in performing technical laboratory tests involving water or wastewater analysis; **OR**
- (C) An equivalent combination of training and experience, as defined by the limits of (A) and (B) above.

NOTE: Verifiable part-time experience will be pro-rated toward meeting full-time experience requirements.

SPECIAL REQUIREMENT: Certain assignments made to employees in this class will require access to transportation to meet field work requirements in a timely and efficient manner.