

ASSISTANT ENVIRONMENTAL CHEMIST (INORGANIC)

DISTINGUISHING FEATURES OF THE CLASS: Under supervision of a higher level professional, an incumbent in this position is responsible for performing, conducting and interpreting various environmental inorganic chemical and physical analyses of water, wastewater, estuarine water and other environmental materials, for the detection of inorganic elements and compounds following established New York State and Environmental Protection Agency procedures to insure that all tests adhere to established standards of proficiency. The incumbent must maintain a satisfactory rating of performance for those procedures for which approval has been granted to the laboratory by the New York State Department of Health. This position may provide supervision and instruction to subordinates in laboratory procedures or specific chemistry analysis. Does related work as required.

EXAMPLES OF WORK: (Illustrative Only)

Evaluates and prepares samples for analysis utilizing the most effective or appropriate chemical techniques;

Performs and interprets environmental inorganic chemistry and physical analyses of drinking water, raw and processed waste, sludge and ashes for cyanides, phenols, nitrates, nitrites and phosphates by automated wet chemistry methods utilizing manual distillation methods for non-potable samples, as required by the State of New York;

Performs various other analyses such as total inorganic carbon, Kjeldahl nitrogen, ammonias, surfactants, sulfates, chlorides, hardness, alkalinities, solids, chemical oxygen demand, nitrites, oils and greases, etc., utilizing colorimetric, titrametric, extraction, distillation and gravimetric techniques and analytical procedures used in U.S. Environmental Protection Agency laboratories for the examination of ground and surface waters, domestic and industrial waste effluents, and treatment process samples;

Performs statistical analyses (i.e.: linear regression, standard deviation) utilizing spiked samples, duplicate samples, etc. in order to evaluate instruments and analyses data;

Maintains quality control through the preparation and standardization of reagents and standards, and the generation of standard curves using reference and primary standards;

Performs analyses on quality assurance reference samples as required by current guidelines which include initial calibration verifications and continuing calibration verifications to assure stability of the instruments, duplicates and spikes for each matrix type;

Maintains assigned areas, instrumentation and equipment (i.e.: Technicon Autoanalyzer, distillation apparatus, 603 AA spectrophotometer, UV-VIS spectrophotometer, etc.) in a clean and safe manner and at operational readiness; troubleshoots and does repairs when necessary;

Performs environmental bacteriology examinations as required;

May be required to testify in court or before other administrative hearings regarding results of examinations;

EXAMPLES OF WORK: (Illustrative Only) (Cont'd.)

Assists in gathering statistical data for monthly and other reports;

Maintains inventories of supplies as well as assisting in the purchasing of supplies;

When assigned to Environmental Facilities, assists in the process control of a wastewater treatment plant using results obtained from chemical analysis;

Participates in the New York State Department of Health proficiency testing programs in the assigned areas of discipline;

May instruct trainees or subordinates in specific chemistry analyses or general laboratory procedures;

Uses computer applications or other automated systems such as spreadsheets, word processing, calendar, e-mail and database software in performing work assignments;

May perform other incidental tasks, as needed.

FULL PERFORMANCE KNOWLEDGE, SKILLS, ABILITIES AND ATTRIBUTES: Good knowledge of environmental inorganic chemistry laboratory procedures, techniques and safety precautions; knowledge of instrumental methods of analyses by such means as atomic absorption spectroscopy, UV-Vis spectroscopy, ion chromatography auto-analytical systems and selective ion electrodes and probes; skill in the use, operation and care of laboratory equipment; ability to compile and present data in a clear and concise manner; ability to communicate effectively both orally and in writing; ability to follow detailed oral and written instructions; ability to read, write, speak, understand, and communicate in English sufficiently to perform the essential duties of the position; ability to use computer applications such as spreadsheets, word processing, e-mail and database software; accuracy; thoroughness; dependability; initiative; judgment; integrity; physical condition commensurate with the demands of the position.

MINIMUM ACCEPTABLE TRAINING AND EXPERIENCE: A Bachelor's Degree* in Chemistry, Chemical Engineering or a biological science, which must have included twelve credits in Chemistry and one year of environmental chemistry laboratory experience or related chemistry experience in instrumentation or methodology used in an environmental chemistry laboratory.

*SPECIAL NOTE: Education beyond the secondary level must be from an institution accredited or recognized by the Board of Regents of the New York State Education Department as a post-secondary, degree-granting institution.