

ENVIRONMENTAL ANALYST 3

KIND OF WORK

Professional and/or lead environmental analysis work.

NATURE AND PURPOSE

Under limited supervision, analyzes environmental samples; may direct the work of other analysts within the Health Department Analytical Laboratory in one of the following areas of specialization: general chemical analysis, microparticulate analysis, radiochemical analysis, organic chemical analysis, environmental microbiology analysis, air chemistry analysis, or metal analysis to ensure test results are provided to clientele so that hazardous situations are detected, monitored, and corrected and State and Federal regulations are followed, and in order to ensure and protect the quality of the environment; performs related work as required.

EXAMPLES OF WORK (A position may not include all the work examples given, nor does the list include all that may be assigned.)

Analyzes environmental samples for parameters which produce generally predictable results from sample to sample, but where the lack of precise methodology exists in order to meet the requests of clientele using established methodology and knowledge and judgment gained from scientific experience.

Analyzes environmental samples which have unpredictable behavior or where interferences must be recognized and neutralized to meet requests of clientele using established methodology.

Analyzes special environmental samples as assigned to meet requests of clientele using methodology specified by unit leader.

Follows quality control procedures and unit protocol to ensure accuracy of tests using documented procedures of the Analytical Services Laboratory and the unit in which they work.

Implements changes in existing techniques and procedures to ensure or improve upon the quality and reliability of data generated and reported using recommendations from other staff and observations based on own laboratory experience.

Studies new developments in appropriate areas of environmental analyses to be aware of new procedures and instruments in order to improve accuracy and efficiency of current procedures and instrumentation by using analytical literature and other sources.

Monitors and trains less experienced personnel, as necessary, so that reliable data is generated and instrument misuse is eliminated using expertise and specialized knowledge gained from study and experience; as directed by supervisor.

Stocks supplies and reagents to maintain adequate inventory so that sample flow through the unit is not disrupted by observing stock levels and usage rates or as directed by unit leader.

Investigates and/or leads laboratory investigations of human exposure to environmental contaminants as a part of epidemiology survey, health risk assessment, or hazardous material spill so that the health impact of exposure is evaluated by using analytical techniques and procedures that will produce the desired information in a shortened timeframe and by participating in discussion with other members of investigation team.

Monitors quality assurance testing of reagents, collection containers and preservatives to ensure their suitability for field sampling by using knowledge gained from experience in the Analytical Laboratory and established protocol.

Guides less experienced laboratory employees in research projects relating to improvements in analytical techniques so that data can be used to design public health and environmental study controls by using specialized expertise.

Testifies on procedures, results, and instrumentation used in analyses of samples and provides expert testimony in area of specialization as required during pre-litigation meetings or in actual court proceedings using laboratory records, experience and knowledge.

#### KNOWLEDGE, SKILLS, AND ABILITIES REQUIRED

Knowledge of:

Fields of environmental measurement sciences, practical sciences and health effects of environmental contaminants in at least one of the following areas sufficient to provide lead work direction: general chemistry, microparticulate analysis, radiation chemistry, organic chemistry, metal analysis, air chemistry and microbiology.

Analytical techniques, scientific theory, and instrumentation used in the measurement of environmental contaminants in the area of specialization.

The literature in the area of specialization sufficient to provide lead work direction in the Analytical Laboratory.

Electronic data processing as applied to laboratory data reduction and output.

Contaminants in the environment and their effect on the public's health and pollution of the environment as applied to area of specialization.

Ability to:

Operate one or more of the following instruments: radio activity counters, gamma spectrometers, microscopes (electron, light, and phase contrast), x-ray diffraction apparatus, gas chromatographs, liquid chromatographs, atomic absorption spectrometers, spectrofluorimeters, ultraviolet, visual, and infrared spectrometers, etc.

Design, carry out, coordinate research and laboratory work of others in the development of analytical techniques in area of specialization.

Operate sophisticated instruments at laboratory bench for extended periods of time.

Communicate results in verbal and written reports that are concise and correct.

Communicate highly technical information in layman's terms both verbally and in writing.

Lead the work of less experienced personnel.

Est.: 3/83

Rev.:

T.C.: 4/84

Former Title(s): Environmental Analyst Senior