



CLASS SPECIFICATION

Class Code: 3051
Date Est: 06/2002
Last Rev: 01/2015
Last Title Chg:
FLSA: non-exempt
Probation: 12 months

HYDROGEOLOGIST I

DEFINITION

Under supervision, performs a variety of technical duties in the collection and analysis of hydrology, hydrogeology, and/or groundwater contamination data; manages surface and groundwater resources; assists with resolving problems involving hydrology, hydrogeology, contaminant hydrogeology, contaminant impacts to water supplies, and water use; and performs related work as required.

EXPERIENCE AND TRAINING REQUIREMENTS

Graduation from an accredited college or university with a Bachelor's degree in Hydrology, Hydrogeology, Geology, or a closely related field; OR an equivalent combination of education and experience.

LICENSE OR CERTIFICATE

A valid driver's license is required at the time of appointment.

DISTINGUISHING CHARACTERISTICS

This class is distinguished from Hydrogeologist II in that the incumbents in the Hydrogeologist II class perform more complex and specialized job assignments.

SUPERVISION EXERCISED

Exercises no supervision.

EXAMPLES OF DUTIES *(The following is used as a partial description and is not restrictive as to duties required.)*

Construct and use surface water and/or groundwater models for the local area.

Conduct geophysical programs with respect to groundwater or geology studies.

Measure flow rates of streams to assess storm water run-off and/or to determine estimated recharge to aquifers. Compile monthly and annual discharge summaries using measured stream flow.

Run computer models with various land use and precipitation data, pumping/flow rates and durations, and water quality considerations, to delineate wellhead protection areas, analyze aquifer testing data, and assess contaminant transport, mass flux, and/or capture.

Evaluate existing hydrogeologic and contaminant data in support of conceptual site model development.

Perform aquifer/well tests on municipal and domestic wells. Conduct, design, and/or review tests and interpret results from aquifer testing. Recommend long-term pumping rates and develop drawdown estimates from testing results.

Measure water level in streams and wells throughout the County.

Design and supervise construction of wells used for compliance monitoring programs

Perform compliance water quality sampling using different sampling methods and equipment. Compile water quality results in project and/or agency specific formats.

Prepare reports describing project activities using computer graphics in report preparation and present project results at public meetings.

Monitor artificial recharge injection rates, water pressures, and water-level fluctuations.

Collect water samples according to proper procedures and protocols.

Provide support to the public on surface water and ground water issues.

Create contaminant iso-concentration contour maps of contaminant plumes.

Develop potentiometric surface maps.

Create hydrogeologic cross-sections in support of vertical distribution of contaminant assessment.

Assist in the assessment of groundwater contaminant plume dynamics and in making recommendations for management and/or mitigation of contaminant plumes.

Assist in the evaluation of groundwater pumping data to delineate wellhead protection areas; assessment of groundwater capture; and, assessment of plume capture and containment.

Assist in well drilling programs including design, development of specifications, management and/or review of construction, and testing results.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Full Performance *(These may be acquired on the job and are needed to perform the work assigned.)*

Knowledge of:

Department/division policies and procedures.

Computer software specific to the department/division/program.

Specialized data collection methods and instrumentation related to job assignments.

Groundwater flow and transport modeling techniques.

Ability to:

Make public presentations concerning technical material.

Perform complex technical analysis of water resource and water quality data.

Perform hydrogeologic modeling of data and forecasting of information.

Entry Level *(Applicants will be screened for possession of these through written, oral, performance, or other evaluation methods.)*

Knowledge of:

Geology, hydrology, and hydrogeologic concepts, principles, and practices.

Principles of chemistry, mathematics, and hydraulics as they relate to hydrology and hydrogeology.

Well drilling operations and construction practices.

Aquifer testing methods.

Principles of contaminant hydrogeology.

Database functions.

Ability to:

Develop and use computer models.

Operate a personal computer and a variety of commercial software packages including spreadsheets and databases.

Analyze hydrogeology data, evaluate groundwater resources, and develop valid conclusions.

Read, interpret, and apply regulations, policies, and procedures.

Communicate effectively, both orally and in writing.

Perform field studies.

Maintain effective working relationships with outside contractors, the public, division staff, and representatives of other departments.

SPECIAL REQUIREMENTS

Essential duties require the following physical skills and work environment.

Ability to sit for extended periods. Ability to frequently stand, walk, crouch, stoop, and kneel. Ability to walk on uneven and slippery surfaces. Ability to lift and move objects weighing up to 25 lbs. Ability to use water measuring devices such as submersible pump, meteorological equipment, aquifer testing equipment, hand tools, and office equipment including computers, copiers, telephone and FAX machine. Ability to work under conditions involving exposure to dust and electrical energy. Ability to work outdoors in various types of weather.

This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards.