

MICHIGAN CIVIL SERVICE COMMISSION
JOB SPECIFICATION

GEOLOGICAL TECHNICIAN

JOB DESCRIPTION

Employees in this job provide geologic support for managing hydrogen sulfide gas releases from wells and investigating groundwater, surface water, and soil contamination.

Position Code Title - Geological Technician-E

Geological Technician 8

This is the entry level. The employee performs a range of Geological Technician assignments while learning the methods of the work.

Geological Technician 9

This is the intermediate level. The employee performs an expanding range of Geological Technician assignments in a developing capacity.

Geological Technician E10

This is the experienced level. The employee performs a full range of Geological Technician assignments and uses independent judgment to make decisions in specific work situations.

Position Code Title - Geological Technician-A

Geological Technician 11

This is the advanced level. The employee functions as a lead worker overseeing the work of lower-level Geological Technicians and performing experienced-level Geological Technician assignments; or as a senior worker performing the most complex assignments.

Position Code Title - Geological Technician-SS

Geological Technician 12

This is the staff specialist level. The employee uses specialized technical knowledge to perform highly complex Geological Technician assignments involving sole, full-time responsibility and authority for an assigned specialty area.

NOTE: Employees can progress to the experienced level based on satisfactory performance and possessing required experience.

JOB DUTIES

NOTE: Listed job duties are typical examples of work of positions in this classification. Not all duties assigned to every position are included, nor will all positions be assigned every duty. The general description of job duties does not authorize performance contrary to any state or federal licensing or certification requirements.

Inspects and monitors oil, gas, and mineral wells for compliance with applicable regulations.

Inspects new wells or facilities with reported hydrogen sulfide and investigates related odor complaints.

Installs monitoring wells to detect groundwater contamination.

Oversees the encapsulation of drilling reserve pits to minimize soil and groundwater contamination.

Maintains records and maps on each well and treatment and storage facility to gauge hydrogen sulfide levels.

Conducts well testing programs to ensure compliance with equipment standards.

Oversees field plugging operations and advises on alternate procedures, methods, and materials.

Conducts geologic and geophysical studies and field surveys and sets up survey grids.

Operates various geophysical instruments such as seismographs, magnetometers, and electrical receptivity instruments.

Inspects brine injection and production facilities for compliance.

Collects and transports soil, water, air, and debris samples to identify contamination and hazardous waste.

Decontaminates equipment for the prevention of cross-contamination during monitoring well installations and environmental media sampling.

Prepares mining plans for the extraction of rock, sand, and gravel.

Conducts hydrogen sulfide safety classes for employees, industry personnel, and the general public.

Responds to hydrogen sulfide emergencies to mitigate public safety threats.

Investigates and collects geological and technical data for compliance and enforcement activity and compiles environmental sampling data for hearings and court testimony.

Leads and participates in the operation of equipment for installing monitor wells to assess groundwater flow, detect contamination, define lithology, and evaluate optimal placement of long-term monitor well networks.

Assists in the inspection of potentially uncontrolled hazardous waste or contaminated sites.

Performs general maintenance of vehicles and equipment.

Procures supplies and equipment.

Maintains and monitors various instruments that measure and record the flow of water and air.

Performs related work and other tasks as assigned.

Additional Job Duties

Geological Technician 11 (Lead Worker)

Assigns work to lower-level Geological Technicians.

Instructs and trains in proper work methods and processes.

Reviews job performance by observing and critiquing work techniques and completed assignments.

Prepares and maintains records related to the work.

Geological Technician 11 (Senior Worker)

Regularly performs the most complex and difficult assignments in the work area.

Geological Technician 12

Performs technician assignments involving responsibility for coordinating an assigned specialty area.

Serves as a recognized expert within a specialty area and provides technical assistance to other departmental staff.

JOB QUALIFICATIONS

Knowledge, Skills, and Abilities

NOTE: Some knowledge in the area listed is required at the entry level, developing knowledge is required at the intermediate level, considerable knowledge is required at the experienced level, and thorough knowledge is required at the advanced level.

Knowledge of methods of prevention and control of hydrogen sulfide.

Knowledge of petroleum field equipment and machinery.

Knowledge of drilling machine operations.

Knowledge of excavation and earthwork procedures.

Knowledge of groundwater table levels.

Knowledge of pollution investigation methods.

Knowledge of basic mathematics.

Knowledge of the equipment and techniques used to sample environmental media for analysis.

Knowledge of the hazards and handling of contaminants, wastes, sewage, and other pollutants.

Knowledge of the installation, operation, calibration, maintenance and repair of equipment used to measure water flow, and air quality.

Knowledge of occupational hazards and safety precautions applicable to the work.

Knowledge of the equipment and techniques necessary to safeguard people in proximity to hazardous and waste at industrial sites.

Skill in the use of the tools and equipment used in the work.

Ability to inspect and monitor well operations.

Ability to write technical reports.

Ability to investigate and collect geological and technical data.

Ability to conduct hydrogen sulfide safety classes.

Ability to use petroleum field equipment and machinery.

Ability to interpret work plans, topographic maps, aerial photos, and compasses.

Ability to differentiate between clean and contaminated material.

Ability to maintain favorable public relations.

Ability to use, maintain and repair equipment and tools associated with the work.

Ability to communicate effectively.

Ability to observe the collection of monitoring data or assessment work being conducted by other parties.

Ability to operate large vehicles and drill rigs, and the ability to tow small to medium-sized box and flatbed trailers.

Ability to operate mills, lathes, drill presses, welding devices, and grinders.

Additional Knowledge, Skills, and Abilities

Geological Technician 11 (Lead Worker)

Ability to train and oversee the work of others.

Ability to prioritize, organize, and coordinate the work of the unit.

Ability to prepare and maintain records related to the work.

Geological Technician 11 (Senior Worker)

Ability to perform the most complex Geological Technician assignments.

Geological Technician 12

Knowledge of the programmatic and developmental aspects of assigned specialty area.

Ability to organize and coordinate assigned specialty area.

Ability to adapt new technology and methods to increase specialty area effectiveness.

Working Conditions

The job requires an employee to be exposed to hazardous waste and hydrogen sulfide environments and other chemicals and by-products and requires the use of protective clothing and equipment.

The job requires considerable travel.

The job requires an employee to be exposed to hazards associated with the work.

Some jobs require an employee to be exposed to inclement weather and environmental conditions.

Physical Requirements

The job duties require an employee to bend, reach, stoop, stand and/or walk for extended periods.

The job duties may require an employee to traverse rough terrain.

The job duties require an employee to lift and/or move heavy objects.

Education

Possession of an associate degree in petroleum technology, earth science, or geology.

Experience

Geological Technician 8

No specific type or amount is required.

Geological Technician 9

One year of experience performing geological technician assignments equivalent to a Geological Technician 8.

Geological Technician E10

Two years of experience performing geological technician assignments, including one year equivalent to a Geological Technician 9.

Geological Technician 11

Three years of experience performing geological technician assignments, including one year equivalent to a Geological Technician E10.

Geological Technician 12

Four years of experience performing technical geological technician assignments equivalent to a Geological Technician, including two years equivalent to a Geological Technician E10 or one year equivalent to a Geological Technician 11.

Alternate Education and Experience

Geological Technician 8 - 12

Four years of experience in any of the following: well drilling; service/inspections of pumps, tanks, and water systems; soil and water sampling; well maintenance and repair; welding of pipes and repair of well related equipment; or, operation of heavy equipment including backhoe, well drilling rig, and related equipment may be substituted for the educational requirement.

Completion of one year of college (30 semester or 45 term credits) and two years of experience in any of the following: well drilling; service/inspections of pumps, tanks, and water systems; soil and water sampling; well maintenance and repair; welding of pipes and repair of well related equipment; or, operation of heavy equipment including backhoe, well drilling rig, and related equipment may be substituted for the educational requirement.

Geological Technician E10

Possession of a bachelor's degree or higher with 16 semester (24 term) credits in job specific or related course work may be substituted for the education and experience requirements.

NOTE: Civil Service can individually evaluate equivalent combinations of education and experience providing required knowledge, skills, and abilities to qualify.

Special Requirements, Licenses, and Certifications

Possession of a driver's license.

See individual position descriptions for other requirements.

JOB CODE, POSITION TITLES AND CODES, AND COMPENSATION INFORMATION

Job Code

GEOLOGTCH

Job Code Description

GEOLOGICAL TECHNICIAN

Position Title

Geological Technician-E

Geological Technician-A

Geological Technician-SS

Position Code

GEOLTCHE

GEOLTCHA

GEOTCHSS

Pay Schedule

L32-006

L32-012

L32-013

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09/28/2025