

STATE OF SOUTH DAKOTA CLASS SPECIFICATION

Class Title: Geologist

Class Code: 40521

A. Purpose:

Conducts geologic investigations and studies and compiles results under the direction of a team leader to provide information for inclusion in projects and to develop working knowledge of state and federal laws and regulations governing protection of natural resources and the environment.

B. Distinguishing Feature:

Geologists are entry-level positions and work under direct supervision of other staff for a minimum of one year.

Senior Geologists are assigned complete geologic projects, research studies, and investigations; independently carry out assigned portions of natural resources regulatory programs; and work under general supervision.

C. Functions:

(These are examples only; any one position may not include all of the listed examples nor do the listed examples include all functions which may be found in positions of this class.)

1. Conducts geologic research on assigned portions of scientific projects to provide data to senior personnel for incorporation into research projects and department reports related to the development and protection of the earth's mineral and natural resources.
 - a. Compiles production data on oil, gas, and water wells.
 - b. Compiles information and drafts assigned portions of mineral development plans.
 - c. Compiles results of laboratory analyses or field investigations to be used in preparation of maps, charts, tables, permits, or other parts of scientific reports.
 - d. Collects and prepares geologic data for analyses to provide information requested or required by supervisor or team leader.
2. Conducts directed field work on geologic investigations to provide specific data required by team leader for reports and permit investigations.
 - a. Conducts test drilling programs to identify subsurface geologic conditions.
 - b. Performs geologic logging of testholes.
 - c. Locates, evaluates, and maps aggregates.
 - d. Inspects surface restoration of drilling locations of producing and abandoned wells.
 - e. Inspects drilling of wells, producing wells, abandonment of wells, and mine sites; and prepares inspection reports.
 - f. Witnesses mechanical integrity tests (MITs) on water injection wells and provides test criteria to private operators during tests to ensure compliance with rules.
3. Prepares draft maps, charts, and reports to be edited and used to disseminate scientific information for use by government, industry, and the private sector.
 - a. Prepares cross-sections detailing location and condition of subsurface geology.
 - b. Compiles geologic maps using topographic maps, air photographs, test-hole data and geologic exposures.
4. Performs other work as assigned.

D. Reporting Relationships:

Reports to a Natural Resources Administrator or the State Geologist. Does not supervise.

E. Challenges and Problems:

Challenged to apply geologic principles to solve problems and interpret information. This is challenging because available data is sometimes scarce or irrelevant which makes finding buried geologic units of limited extent difficult to locate and interpret to reconstruct the geologic history of an area. Further challenged to learn and apply a wide scope of applicable environmental and natural resources management laws, and to be able to explain them to the regulated community and the public.

Problems encountered include applying proper policies, procedures, and standards to work assignments.

F. Decision-making Authority:

Decisions are limited to activities related to work assignments. Unusual situations or circumstances are referred.

G. Contact with Others:

Daily contact with staff for training purposes and to receive work direction; and occasional contact with the regulated community, the public, and consultants when working on assigned projects.

H. Working Conditions:

Works in a typical office environment and outdoors in all types of weather around drilling rigs, around oil and gas wells, and at spill or disposal sites; may be exposed to dangers relating to utilities, both above and below ground; hazardous materials and infectious bacteria; and physical exertion.

I. Knowledge, Skills, and Abilities:

Knowledge of:

- classification, recognition, origin, and significance of land forms, and land form analyses;
- earth materials;
- field geology and report writing;
- principles of geochemistry;
- geologic spatial methods;
- occurrence, movement, and properties of subsurface water;
- petrology;
- the basic principles and terminology of data processing;
- human relations sufficient to establish working relationships with coworkers.

Ability to:

- use geologic field instruments, interpret field data, and prepare reports;
- read, interpret, and use maps, plans, charts, and related graphic material associated with geologic studies and investigations;
- analyze and present technical data effectively;
- communicate information clearly and concisely;
- establish and maintain effective working relationships.