

## STATE OF SOUTH DAKOTA CLASS SPECIFICATION

**Class Title: Geology Specialist**

**Class Code: 40523**

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### **A. Purpose:**

Provides departmental oversight to geologic research projects and activities carried out by the department and regulated entities by providing guidance to professional staff, department managers, local governments, other state and federal agencies, and private entities concerning the collection and evaluation of surface and subsurface geologic data necessary for the proper management, development, conservation, and protection of the earth's mineral and natural resources and the environment.

### **B. Distinguishing Feature:**

Geology Specialists provide direct departmental oversight to geologic projects, research, and data collection and analyses; and routinely provide comprehensive geologic information and evaluations to the department secretary, division directors, program administrators, and department boards for critical decisions regarding the development, monitoring, and protection of the earth's mineral and natural resources.

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. Supports the department secretary, division directors, program administrators, and boards in critical decision-making by providing geologic expertise, information, and evaluation necessary to carry out department goals and objectives in proper management, development, and conservation of the earth's mineral and natural resources and protection of the environment.
  - a. Oversees geologic investigations to determine geologic resources including the potential of strategic and critical mineral deposits.
  - b. Provides guidance and expertise to department personnel, local governments, federal and other state agencies, and private businesses regarding surface and subsurface geology.
  - c. Recommends protocols and methodologies for regulating mineral development activities such as oil and gas exploration and development, and mineral exploration and mining.
  - d. Acts as staff advisor to department boards by researching and preparing reports, reviewing applications for regulatory permits and orders, preparing draft orders, and providing technical testimony to the boards.
  - e. Recommends rules and regulations related to mineral development and environmental protection, and permit programs.
2. Formulates, plans, and develops geologic research to provide data for use in the management of the earth's natural resources and protection of public safety and the environment.
  - a. Develops study plans for both statewide and site specific geologic investigations and research; plans budgets and reviews and approves expenditures; monitors project progress; and ensures studies are completed within schedules and budgets.
  - b. Negotiates terms for research contracts and study proposals.

- c. Provides technical expertise and recommendations for new or improved geologic research to department staff.
  - d. Coordinates geologic research with other agencies.
  - d. Develops and implements strategies and procedures for collecting and maintaining information produced by geologic studies.
  - e. Disseminates geologic information to the public, industry, and government agencies in a form that is understandable and useable.
3. Directs geologic regulatory investigations and inspections and scientifically evaluates results to ensure continuation and maintenance of professional standards and procedures and compliance with environmental regulations.
- a. Monitors oil and gas exploration, production, and development; and enforces regulations.
  - b. Approves certification of gas wells, and monitors well development and production.
  - c. Monitors underground injection operations and enforces rules under memorandum of agreement with the Environmental Protection Agency (EPA).
  - d. Establishes proper plugging procedures of oil and gas exploration, production, and injection wells to ensure protection of the ground waters of the state.
  - e. Directs the evaluation of permit applications to determine potential impacts of permitted activities on surface and subsurface geology and the earth's natural resources.
  - f. Develops investigative project standards and procedures.
  - g. Writes, reviews, edits, and approves both technical reports and geologic reports for the general public.
4. Performs other work as assigned.

**D. Reporting Relationships:**

Reports to a Natural Resources Administrator, the State Geologist, or an administrative engineer. Does not supervise.

**E. Challenges and Problems:**

Challenged to identify the necessary scope of geologic investigations and develop plans that will provide the most understanding of, and information about, geologic problems and conditions with the least amount of expense. This is challenging because it requires a thorough understanding and analysis of geologic and hydrologic conditions, determining data needs, and extensive rule interpretation. Further challenged to communicate with a wide variety of people to ensure that geologic needs are met and there is a geologic basis for making positive mineral and natural resource management decisions.

Problems encountered include making recommendations to the program administrator to allocate budget and personnel to accommodate unplanned activities, ensuring adequate assessment and remediation of impacts to the environment and natural resources from mineral exploration and mining activities, being able to develop and support conclusions based upon limited geologic data and information, and recommendations for enforcement actions.

**F. Decision-making Authority:**

Decisions include recommendations for protocols and methodologies for regulating oil and gas exploration, mineral exploration and mining, and geologic remediation practices; recommendations for rules and regulations governing mineral development and protection of the earth's natural resources, and permit programs; whether operating and reclamation procedures are adequate and appropriate; research contract terms; the scope and objectives of research projects, and assignment of equipment and personnel; whether work was completed according

to contracts; approval and release of drilling and surety bonds; approval of well-completion reports, and sundry notices and plugging reports on wells; recommendations for project budgets; and recommendations for design and construction methods of field monitoring studies and equipment.

Decisions referred include final approval of rules, regulations, and procedures regarding mineral development and environmental monitoring; budget requests; research projects and their priorities; and contracts.

#### **G. Contact with Others:**

Daily contact with program administrators and other division personnel to share progress reports and provide technical assistance; with staff of other divisions and United States Geological Survey (USGS) cooperators to share data, provide technical assistance, and coordinate efforts; with oil companies operating in the state to provide rule interpretations and oversight; and with state and federal agencies to provide information on oil and mineral resources; weekly contact with local government staff to report on project progress and resolve problems; and with federal agency staff to exchange research information, explain progress on projects, and arrange project inspections; and monthly contact with department secretary, division directors, and department boards regarding geologic research projects, permit applications, and mineral exploration and development projects; and with the public to provide information about geologic projects, data, and information.

#### **H. Working Conditions:**

Works in a typical office environment.

#### **I. Knowledge, Skills, and Abilities:**

Knowledge of:

- environmental statutes;
- legislative and administrative processes;
- the principles and practices of geology;
- the state's geology and hydrology;
- personnel and fiscal management;
- the principles and procedures of supplying expert testimony;
- technical report writing.

Ability to:

- advise others in technical matters;
- organize and analyze available information and reach sound conclusions;
- write both technical reports and reports for the public;
- communicate persuasively and defend a position or decision;
- recognize situations of potential liability to the department and take appropriate action;
- plan and organize work activities to meet schedules and deadlines;
- budget monetary, material, and equipment resources;
- communicate complex technical and natural resource issues clearly and concisely to department managers, elected officials, and the general public.