

SENIOR GEOLOGIST

DEFINITION: Under general direction, performs advanced professional geology work of considerable difficulty and complexity; independently carries out a full range of scientific studies where application of geology is critical to a number of engineering solutions; serves as a senior scientific expert on geologic issues; performs related work as assigned.

ESSENTIAL FUNCTIONS: This list is ILLUSTRATIVE ONLY and is not a comprehensive listing of all functions and tasks performed by incumbents of this class.

TASKS:

Represents scientific projects and/or department with authority on technical geologic matters; independently addresses and reconciles a broad range of controversial geologic problems, where expertise on geologic issues is crucial to the overall success of the scientific study; serves as technical advisor on federal and state regulations by handling a number of laws and regulations that govern the management of the Navajo Nation's resources and environment (minerals, mining, water, forest, wilderness, archaeological sites, cultural and sacred locations, etc.); provides expert testimony on such elements associated with mineral and water rights, transportation and utility systems, residential and commercial use of land and water, environmental and reclamation related issues; serves as an authority on the prevention of groundwater storage depletion; develops groundwater management policies of critical importance to the Nation.

Conducts comprehensive analysis of Nation aquifers; coordinates studies with various government agencies regarding the hydrology of the Nation's aquifer system; carries out a comprehensive assessment of mineral deposits where geologic problems are extensively controversial; identifies minerals and evaluates findings; determines grade of mineral, quantity of reserve, production cost and environmental concerns related to mining and various constructions; maps and graphs deposits; studies surface and subsurface geologic data by researching background; compiles archival information; obtains data from county, state and federal agency archives; reconciles archival data where disagreements are found.

Coordinates work efforts with other organizations and/or programs to ensure compatibility and acceptance of scientific approach is uniform; advises on geological problems where construction operation may be required to revise engineering design plan; recommends appropriate action to solve engineering problems; presents conclusions in scientific reports; develops procedures and standards for scientific exploratory projects; coordinates and schedules field projects; interprets radiological survey measurements used in the exploration, evaluation, rehabilitation and designing of water wells; assures radiological equipment are appropriately calibrated and correlated; monitors safety application and use of radiology equipment; recognizes radiological and physical hazards associated with radiology; performs all duties described at the next lower level.

KNOWLEDGE, SKILLS AND OTHER CHARACTERISTICS:

Knowledge of the principles and practices of geology as applied to surface and subsurface exploration for mineral, petroleum such as oil and gas, surface and ground water.

Knowledge of geology methods and practices related to mineral exploration and development.

Knowledge of engineering problems normally associated with the construction of buildings, highways, dams, mines, irrigation, etc.

Knowledge of soil composition as it related to mining and construction.

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Knowledge of mining and geologic mapping.

Knowledge of mining industry practices, exploration and marketing of minerals.

Knowledge of radiation protection standards including protective devices and methods appropriate to the radiation instrument used.

Skill in analyzing maps and geological reports.

Skill in evaluating geological mining data.

Skill in oral and written communication.

Ability to apply seasoned judgment where a variety of conflicting engineering related conditions present a major problem.

Ability to provide advisory guidance, where erroneous expert advice is likely to hinder progress of construction projects.

Ability to prepare complex reports.

PHYSICAL REQUIREMENTS AND WORK ENVIRONMENT: Work requires inspection of mines where exposure to extreme temperatures, toxic gases, fumes and chemicals are highly potential.

MINIMUM QUALIFICATIONS: A Bachelor's degree in Geology; and six (6) years experience in petroleum and mineral exploration and development; or a Master's degree in Geology; and five (5) years experience in petroleum and mineral exploration and development. Must possess a valid state driver's license.

Depending upon the needs of the Nation, some incumbents of the class may be required to demonstrate fluency in both the Navajo and English languages as a condition of employment.