



New Mexico State Personnel Office

2600 Cerrillos Road
Santa Fe, New Mexico 87505-0127

Classification Description

MINING AND GEOLOGICAL SPECIALISTS (NL)

Class Title	Class Code	Pay Band	Alt Pay Band*
Mining & Geological Specialists (NL)-B	E2152B	60	65
Mining & Geological Specialists (NL)-O	E2152O	65	70
Mining & Geological Specialists (NL)-A	E2152A	70	75

**In accordance with SPB Rule 1.7.4.10 NMAC, the assignment to alternative pay bands shall be reviewed annually to determine their appropriateness.*

Occupation Description

Determine the location and plan the extraction of coal, metallic ores, nonmetallic minerals and building materials, such as stone and gravel. Work involves conducting preliminary surveys of deposits or undeveloped mines and planning their development, examining deposits or mines to determine whether they can be worked at a profit, making geological and topographical surveys, evolving methods of mining best suited to character, type, and size of deposits and supervising mining operations.

Nature of Work

Mining and geological specialists, find, extract, and prepare coal, metals, and minerals for use by manufacturing industries and utilities. They design open-pit and underground mines, supervise the construction of mine shafts and tunnels in underground operations, and devise methods for transporting minerals to processing plants. Mining specialists are responsible for the safe, economical, and environmentally sound operation of mines. Some mining engineers work with geologists and metallurgical engineers to locate and appraise new ore deposits. Others develop new mining equipment or direct mineral-processing operations that separate minerals from the dirt, rock, and other materials with which they are mixed. Mining specialists frequently specialize in the mining of one mineral or metal, such as coal or gold. With increased emphasis on protecting the environment, many mining specialists are working to solve problems related to land reclamation and to water and air pollution. Mining safety specialists use their knowledge of mine design and practices to ensure the safety of workers and to comply with State and Federal safety regulations. They inspect the surfaces of walls and roofs, monitor air quality, and examine mining equipment for compliance with safety practices.

Distinguishing Characteristics of Levels

Note: Examples of Work are intended to be cumulative for each progressively higher level of work. The omission of specific statements does not preclude management from assigning other duties which are reasonably within the scope of the duties.

Basic

- Employees in this Role evaluate and review programs and projects; review federal, state, local and private water development projects; make field inspections; evaluate the design

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and construction of flood control facilities, dams, and reservoirs; analyze past and present uses of water; assist in the preparation of information for expert witnesses; review technical papers; report on water and land uses.

Recommended Education and Experience for Full Performance*

Bachelor's degree in Geotechnical Engineering, Mining Engineering, Geology, Hydrology, Mineral Extraction and two (2) years of experience in mining or extractive technologies.

Minimum Qualifications

Associates degree in Geotechnical Engineering, Mining Engineering, Geology, Hydrology, Mineral Extraction and two (2) years of experience in mining or extractive technologies. Any combination of education from an accredited college or university in a related field and/or direct experience in this occupation totaling four (4) years may substitute for the required education and experience.

Operational

- Employees in this Role plan, coordinate, and review technical personnel; schedule mine inspections; review inspection reports; provide technical assistance; respond to inquiries/complaints on surface mining activities; serve as an expert witness; act as a liaison between state/federal officials; oversee geological investigation programs and the preparation of geological profiles; conduct specialized geological studies of oil and gas pools; consult with and advise oil industry representatives; and participate in field inspections and field tests.

Recommended Education and Experience for Full Performance

Bachelor's degree in Geotechnical Engineering, Mining Engineering, Geology, Hydrology, Mineral Extraction and four (4) years of experience in mining or extractive technologies.

Minimum Qualifications

Bachelor's degree in Geotechnical Engineering, Mining Engineering, Geology, Hydrology, Mineral Extraction and two (2) years of experience in mining or extractive technologies. Any combination of education from an accredited college or university in a related field and/or direct experience in this occupation totaling six (6) years may substitute for the required education and experience.

Advanced

- Employees in this Role design open pit and underground mines, oversee construction of mine shafts, work with geologists and metallurgical engineers, conduct field investigations; oversee field sampling procedures; analyze scientific data and convey field investigation results; review contractors' reports, write technical reports, and determine threats to the environment and public health; direct geological assessments; analyze scientific data.

Recommended Education and Experience for Full Performance

Bachelor's degree in Geotechnical Engineering, Mining Engineering, Geology, Hydrology, Mineral Extraction and six (6) years of experience in mining or extractive technologies.

Minimum Qualifications

Bachelor's degree in Geotechnical Engineering, Mining Engineering, Geology, Hydrology, Mineral Extraction and four (4) years of experience in mining or extractive technologies. Any combination of education from an accredited college or university in a related field and/or direct

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experience in this occupation totaling eight (8) years may substitute for the required education and experience.

Knowledge and Skills

*Note: This information has been produced by compiling information and documentation provided by O*NET. O*NET™ is a trademark of the U.S. Department of Labor, Employment and Training Administration.*

Knowledge

Engineering and Technology — Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.

Design — Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.

Mathematics — Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Law and Government — Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.

Production and Processing — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.

English Language — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.

Building and Construction — Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.

Computers and Electronics — Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

Physics — Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub-atomic structures and processes.

Public Safety and Security — Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.

Skills

Oral Comprehension — The ability to listen to and understand information and ideas presented through spoken words and sentences.

Oral Expression — The ability to communicate information and ideas in speaking so others will understand.

Problem Sensitivity — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.

Written Comprehension — The ability to read and understand information and ideas

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presented in writing.

Written Expression — The ability to communicate information and ideas in writing so others will understand.

Category Flexibility — The ability to generate or use different sets of rules for combining or grouping things in different ways.

Deductive Reasoning — The ability to apply general rules to specific problems to produce answers that make sense.

Information Ordering — The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).

Inductive Reasoning — The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).

Near Vision — The ability to see details at close range (within a few feet of the observer).

Statutory Requirements: This is a non-licensed occupation.

Conditions of Employment: Working Conditions for individual positions in this classification will vary based on each *agency's utilization, essential functions, and the recruitment needs* at the time a vacancy is posted. All requirements are subject to possible modification to reasonably accommodate individuals with disabilities.

Default FLSA status: Exempt. FLSA status may be determined to be different at the agency level based on the agency's utilization of the position.

Bargaining Unit: This position may be covered by a collective bargaining agreement and all terms/conditions of that agreement apply and must be adhered to.

Established: 07/07/2001

Revised: 9/20/2011

**Adapted from the United States Bureau of Labor Statistics and are intended to illustrate the typical education and experience required for this occupation.*

Note: Classification description subject to change. Please refer to the SPO website www.spo.state.nm.us to ensure this represents the most current copy of the description.