

Summary of Duties: Operates heavy duty hydraulic and mechanically operated rotary and percussion types of drilling equipment to drill through soil and rock in connection with engineering, environmental and construction projects; extracts representative soil and rock samples for laboratory testing; keeps records of drilling time and the footage drilled; and does related work.

Distinguishing Features: A Drill Rig Operator is primarily concerned with the safe and efficient operation of a drilling rig and related equipment, attaining the required depth and obtaining sufficient and accurate samples and data from the holes drilled for use by engineers and geologists in the design of buildings and other public improvements and in assessing contamination remediation projects. Instructions received are of a general nature and an employee in this class is responsible for the safe and effective operation of the equipment and for procuring valid samples for laboratory testing. While in the field, a Drill Rig Operator works without immediate supervision and may direct the work of one or more helpers. The work is somewhat hazardous and requires considerable skill in the use of large drill rigs.

A **Drill Rig Operator** differs from other equipment operators in that duties involve not only operation of specialized equipment, but responsibility for locating the test holes at safe locations and a knowledge of basic techniques of soil and rock identification and sampling.

Examples of Duties: A **Drill Rig Operator:**

Locates specified drill sites in the field with the use of maps and substructure plans;
Operates drilling equipment such as a bucket auger drill, rotary core drill, flight auger drill, including hollow stem augers hand drilling equipment, compressors and generators, and hillside bucket auger drill, and other auxiliary drill equipment to drill holes of up to 36 inches or more in diameter and to depths exceeding 150 feet vertically or at various angles up to horizontal;
Drills and installs groundwater monitoring wells or other in-situ installation of Geotechnical or geological monitoring devices.
Cuts, welds, installs, and retrieves steel casings, up to 36 inches in diameter, which prevent the caving-in of test holes;
Drills holes into sloping ground by lowering hillside drill rig down slopes by means of a power winch truck and stabilizing the rig before drilling;

Occasionally lowers a geologist into a test hole for close-up examination of the subsurface strata in their natural state;

Obtains accurate undisturbed, representative, and oriented core samples of soil and rock for geological and foundation engineering studies;

Occasionally operates pavement coring equipment and performs laboratory tests as needed;

May direct one or more helpers who assist in the drilling;

- Makes minor repairs and adjustments to the equipment;

- Requests various types of drilling equipment and supplies needed to perform the work;

- Responsible for the safety of the work crew, the public, and the equipment at the drill site;

- May be assigned to operate the drill rig in special jobs not routinely performed where the drill rig will be used in sampling, such as debris sampling from manholes, harbor sediment sampling, and sanitary landfill sampling.

- Answers queries from officials and the public regarding the drilling operations while in the field;

- Keeps accurate records of drilling operation and sampling;

May occasionally be assigned to other duties for training purposes or to meet technological changes or emergencies.

Qualifications: Incumbents must have the following knowledges and abilities:

A good knowledge of:

- Operation and maintenance of drilling and sampling equipment;

- Hazards of soil and rock under varying conditions;

- Operating procedures, regulations, characteristics, and maintenance requirements of engines, generators, air-compressors, and other related equipment;

- Safety practices in rigging loads for hoisting and in locating and avoiding underground and overhead utilities and other obstructions;

- Environmental drilling and sampling procedures, including the decontamination procedures required for drilling equipment and the handling of generated contaminated material from the drilling site.

A working knowledge of:

- Work area traffic control;

- Soil types;

- Sampling operations;

- In-situ testing, such as the Standard Penetration Test (SPT), Lower Explosive Limit (LEL), Organic Vapor Analysis (OVA) and Vane Shear tests;

The ability to:

- Operate drilling and other related equipment safely and efficiently, and to make minor repairs and adjustments to such equipment;

- Detect unsafe cables, ropes, sheaves, hydraulic hoses, and other defects;

- Locate drill sites and substructures from sketches and maps;

- Operate equipment in rough or sloping terrain and withstand inclement weather;

- Recognize hand and verbal operating signals;

- Keep accurate records and prepare routine reports;

- Direct helpers;

- Understand and follow written and oral instructions;

Minimum Requirements: Two years of full-time paid experience in the operation or assisting in the operation of hydraulic, mechanical or percussion drilling equipment to drill through soil and rock for engineering and construction projects or to extract soil samples for laboratory testing.

NOTES:

1. Candidates must provide a specific description either on the application form or on an attached sheet regarding the equipment used (i.e. hydraulic, mechanical, and/or percussion) which meets the experience requirements above.
2. Employees of this class are required to operate conventional/hollow stem auger, rotary wash and core drilling equipment to depths of 100 feet or more. Candidates who have operated this type of equipment are especially desired.

License: A valid California Class B driver's license with special tank vehicle endorsement and a good driving record are required prior to appointment.

Physical Requirements: Strength to perform average lifting over 70 pounds; good coordination, equilibrium, and agility involved in activities such as climbing, balancing, and operating equipment and doing rigging under precarious conditions; capacity for sitting, standing, walking, crouching, reaching, and grasping while driving or operating equipment, including hand drilling tools; good eyesight with normal color vision; and good hearing ability.

Those with medical limitations may be able to perform the duties of some positions in this class with reasonable accommodation. The decision to accommodate someone's limitations will be made on an individual basis and depends on the types of limitations, what the hiring department can reasonably do to accommodate them, and the specific qualifications for the job.

Medical Testing: Some positions in this class may require incumbents of the class to pass an annual or periodic work fitness evaluation to determine their eligibility for continued employment in the class.

Fair Labor Standards Act Status: All of the positions in this class are covered by the minimum wage and overtime requirements of the Fair Labor Standards Act.

As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory and not restrictive. It is not intended to declare what all of the duties and responsibilities of any position shall be.