

Field Research Technician Kansas Geological Survey

The Kansas Geological Survey at the University of Kansas seeks a Field Research Technician

The Kansas Geological Survey (KGS) seeks a Field Research Technician to provide technical field support for KGS scientists and collaboration with outside parties with primary responsibilities to drilling, data collection, equipment modification, upkeep, and fabrication. Support includes drilling and sampling operations, borehole/well logging, maintenance and plugging, observation well installations, water level measurement, seismic/geophysical field support, and earthquake station installation and maintenance.

The person in this position will be required to become a proficient driller operating all the KGS drilling units (wireline coring, auger, sonic). Guidance in achieving this high level of proficiency will be provided by the Senior Field Advisor under the oversight and direct supervision of the Section Lead. With the current level of drilling and sampling undertaken at the KGS, obtaining this training/experience might take several years. During this period and beyond, when not engaged in drilling or sampling activities, a great deal of independence and direction will be provided to become familiar and experienced participating in geophysical surveys, water level measurement projects, instrument installation (e.g., earthquake stations), and fabrication of specialized equipment and tools. Prior experience with drilling or use/maintenance of heavy equipment is expected and required. Candidates who enjoy working outdoors and shop work (e.g., machining, woodworking, maintenance, or fabrication) and want a long-term, secure, collaborative, and stable career in this field with a great deal of latitude are encouraged to apply.

Exploration Services Section

The Kansas Geological Survey (KGS) Exploration Services (ES) section develops and uses several investigative methods to provide information about the subsurface, using both invasive and non-invasive approaches with a focus on higher resolution and accuracy while reducing cost.

The ES section provides drilling in support of water, energy, and basic subsurface research. It also runs a program designed to monitor changes and identify regional trends in the High Plains, Dakota, and alluvial aquifers, measuring about 1,380 wells in 47 central and western Kansas counties. As well, the ES section is responsible for installation, maintenance, and collection of



The S-27 RotoSonic drill rig, one of the three deep penetrating drill rigs operated by the Exploration Services section of the KGS.

data from earthquake recording stations in Kansas — both permanent stations and several temporary networks — to detect and analyze seismic activity.

Kansas Geological Survey

A research and service division of the University of Kansas, the Kansas Geological Survey studies the geology of Kansas, develops new techniques for exploring and analyzing geologic data, and produces and disseminates maps, reports, and scientific papers. The KGS, created in 1889, has an annual state budget of approximately \$6 million and employs more than 90 scientific researchers and technical support staff, and approximately 35 students, engaged in a variety of disciplines, including geophysics, energy resources, geohydrology, sedimentology, stratigraphy, petroleum geology, Quaternary geology, geoarchaeology, GIS and computer science, and public outreach. In addition to core and data repositories at its headquarters in Lawrence, the KGS operates a well-sample library in Wichita that is a repository for rock samples from oil and gas wells drilled in the state.



A bungee-assisted weight drop attached to the front of a Bobcat Toolcat (shown here in Galena, Kansas) is one example of active seismic sources used by scientists at the KGS.

The KGS is organized into four research areas — energy research, geohydrology, geophysical exploration, and stratigraphic research — and a number of service sections. KGS researchers have available a variety of tools, equipment, and labs for the applied geosciences, including a state-of-the-art shallow seismic-reflection system, ground-penetrating radar, a direct-push unit, three drill rigs, well-logging unit, a distributed temperature sensing system, and electromagnetometers, as well as a core storage facility, the W. Lynn Watney Core Laboratory, a petrophysical core analysis lab, a soil and sediment laboratory, and an analytical chemistry lab.

Technical support includes editing, publishing, and cartographic services and full-service support for a diverse array of computing platforms and software, GIS, and web applications. The KGS also houses and operates the Kansas Data Access and Support Center, an important source of state geospatial data.

For more information about the KGS, visit our website: <http://www.kgs.ku.edu>.



A KGS research assistant operates a Geoprobe direct-push rig as part of a DOE-funded project to assess the potential of nuclear magnetic resonance technology for shallow groundwater applications.

About the University

Founded in 1865, KU is a major public research and teaching institution of 28,500 students and 2,600 faculty on five campuses (Lawrence, Kansas City, Overland Park, Wichita, and Salina).

About Lawrence

A city of approximately 95,000, Lawrence is located on a rolling landscape 35 miles west of the major metropolitan area of Kansas City and 20 miles east of Topeka, the state capital. Home to Haskell Indian Nations University as well as KU, Lawrence offers the cultural and athletic events of a university setting. For more information about Lawrence, visit <http://www.lawrence.com>, Unmistakably Lawrence (<https://unmistakablylawrence.com>), and Lawrence Public Schools (<https://www.usd497.org>).

Application Deadline

Review of applications will begin November 16, 2020, and continue until the position is filled.



The W. Lynn Watney Kansas Geological Survey Core Laboratory is operated as a service to the people and industry of Kansas. Industrial users include the oil and gas industry, where determining the porosity and permeability of an underground reservoir can help determine the potential productivity of a field.

Responsibilities

70% Drilling and Sampling

- Maintain and expand operational capabilities of KGS drilling, plugging, and logging equipment and techniques.
- Capable of supervising one helper/assistant, maintaining peak efficiency and safety.
- Oversee/participate in mobilizing and demobilizing for drilling, plugging, and logging operations.
- Maintain and enhance drilling, logging, and plugging skills; independently design and complete drilling and/or sampling operations as requested by KGS scientists.
- Manage drill site and assume responsibility for deliverables. Assume responsibility for drill site operations, both safety and product quality/quantity.
- Maintain accurate and up-to-date records of workload and projects.
- Schedule and execute services in support of scientists throughout the KGS.
- Work with outside agencies to complete tasks associated with KGS research or service.
- Maintain and record inventory of necessary supplies and tools related to drilling/sampling activities.
- Operate logging equipment.
- Supervise drill helper, taking responsibility for safety of people and equipment on drill site.
- Develop field drilling schedules that meet needs of scientist, supervisor, and affected field support staff.

15% Geophysical and Water Level Program Technical Support

- Participate in annual water level measurement program.
- Participate in geophysical field work as part of the seismic crew.
- Provide a range of field support to KGS scientists. Examples include: landowner search, borehole monitoring, borehole logging, utility clearance, and field contractor oversight.



The KGS Drill Core Library in Lawrence and the Wichita Well Sample Library store core, rock samples, and cuttings for research.

- Assist with acquiring and maintaining a high level of proficiency with DGPS (Digital GPS) survey equipment.
- Assist with inventory of necessary supplies and tools for the geophysical and water level programs.

15% Earthquake Research Support

- Assist with mobilization/demobilization, site preparation, locating, preparing, permitting, and installing and troubleshooting earthquake stations.
- Provide landowner identifications, contact landowners, and secure permissions as well as routine contact and interaction to maintain high level of awareness and buy in. Coordinate with other staff to ensure inventory of necessary supplies and tools for site installation and maintenance are readily available.
- Perform periodic visits to installation sites for equipment welfare checks, troubleshooting, and routine maintenance, likely involving a significant number of self-driven miles to remote Kansas locations.

Required Qualifications

1. High school diploma/GED and eight years of combined work experience below OR Associate's degree with some science, environmental, automotive, hydraulic, welding technology, or related courses and six years of combined work experience below OR Bachelor's degree in geoscience or related field with four years of demonstrated work experience below:
Demonstrable work experience in one or more of the following categories:
 - a. Operation of drilling/sampling units
 - b. Mechanic work (vehicle/equipment repair)
 - c. Metal fabrication (including welding and cutting)
 - d. Heavy equipment operation for farm or construction work
2. Good organizational, communication, and record-keeping skills as evidenced by application materials.

Position Requirements

1. Valid, current, and unrestricted driver's license. Ability to obtain Kansas Class A CDL within 6 months of hire using KGS vehicles. This CDL position is subject to drug and/or alcohol testing under the authority of the State of Kansas Alcohol and Controlled Substance Program. The selected candidate will be required to pass a pre-duty Non-DOT drug test as a condition of employment in this position. Individuals employed in a position requiring a CDL can be selected for random testing during their employment.
2. Ability to be away from home base for around 10 days at a time, averaging 50 days per year.
3. Ability to work outdoors in challenging conditions for extended periods while performing repetitive and labor-intensive tasks over periods of several days.



The Kansas Geological Survey on the University of Kansas west campus.

4. Ability to lift and move up to 95 pounds (sack of Portland cement, for example) short distances.
5. Ability to work independently and make decisions with remote guidance.
6. Ability to come up with innovative or unique solutions to problems involving heavy equipment at risk in real time.
7. The work in this position is required to be performed onsite, to include field work sites.

Preferred Qualifications

1. College degree in Geoscience, Environmental Science, geoscience-related Engineering, and/or Automotive, Hydraulic, Drilling, or Welding technology.
2. Experience working independently and making decisions with remote consultation as evidenced by work experience and references.
3. Experience leading projects and supervising personnel.
4. Demonstrable two or more years of geoscience or environmental work experience, especially related to field work, including sample collection and preparations.
5. Demonstrable work experience at a drilling site (rotary, auger, core, direct-push) and hydraulic systems maintenance and repair.
6. Data collection including: borehole logging, water level measurement, digital GPS, seismic survey experience.
7. Experience with electrical and/or assembly of electronic or scientific equipment.
8. Design and fabrication skills with a basic knowledge of shop tools and shop safety as evidenced by academic or work experience.
9. Kansas Class A commercial driver's license with combination vehicle driving experience.
10. Computer literacy in Windows-based programs.

Tentative Start Date

January 11, 2021; sooner is possible or a later start date is negotiable.

Salary, Employment Status, and Fringe Benefits

Full-time position with benefits, subject to a six-month probation and annual performance reviews. Salary is \$45,000 or greater, commensurate with qualifications and experience.

KU offers great benefits to employees with up to 176 hours of paid vacation earned per year, 96 hours of sick leave earned per year, nine paid holidays plus one discretionary day, a retirement program, medical & dental insurance, life and disability insurance, other benefit plan options, and State of Kansas discounts offered by various vendors. KU also offers employees educational and professional development opportunities. KU is a great place to work! The University actively encourages applications from members of underrepresented groups.

Application Procedure

Apply online only at <https://employment.ku.edu/staff/18016BR>. Complete the University of Kansas Unclassified Professional Staff profile and upload the required material:

1. Cover letter addressing the required and preferred qualifications and position requirements.
2. Resume.
3. Contact information for three professional references.
4. Unofficial college transcripts to determine education requirement, if applicable.

Review begins November 16, 2020, and will continue until a qualified pool of applicants is received. For best consideration, apply by the review date above.

Contact Information

Annette Delaney, Kansas Geological Survey, University of Kansas. adelaney@ku.edu or 785-864-2152.

EO/AA Employer

<https://policy.ku.edu/IOA/nondiscrimination>

<http://www.kgs.ku.edu>

<http://www.kgs.ku.edu/General/jobs.html>