

Cave Data Repository

There are more than 6,300 known caves located within Missouri. Many of these caves are an important part of the groundwater recharge, transit and discharge system. Some provide habitat for endangered species. Thus, the orientation and proximity of individual caves to waste disposal facilities and spill sites are important factors in many environmental decisions. In cooperation with the Missouri Speleological Survey, the GSP maintains a repository of 2,900 cave maps and related cave data.

Mine Map Repository

Approximately 2,500 mine maps are stored in our archives that document past mining activities in the state of Missouri. As mined-out areas are developed for other uses, these maps help developers avoid hazards such as collapses into the underground workings.

McCracken Core Library

This facility is the permanent home to about 400 miles of rock core, raw well cuttings and insoluble residues from more



Sample from the McCracken Core Library

than 25,000 wells. Having these core samples and cuttings available for analysis by industry and researchers furthers economic development, and protects public health, eliminating the need to drill additional wells.

Publications

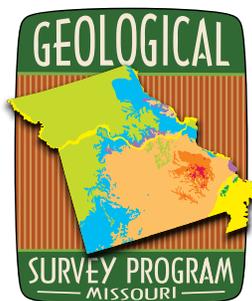
Geologic maps and other geologic and hydrologic publications are distributed by our publications center in Rolla. Call us at 573-368-2125. Fax us at 573-368-2481 or browse our publication listing: www.dnr.mo.gov/geology/adm/publications



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GEOLOGICAL SURVEY

PROGRAM SERVICES



Courtesy of Springfield News-Leader



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GEOLOGICAL SURVEY PROGRAM

Databases

The Geological Survey Program (GSP) manages databases that have information about geologic maps, mine maps, springs, sinkholes, well logs, core samples, losing streams, dye traces and stratigraphic sections, as well as other subjects. This information is routinely applied to permit decisions, protection of the environment and development of natural resources.

Geographic Information Data

Some of our high priority databases have been converted for use in Geographic Information System (GIS). Much of this information is available on our *Missouri Environmental Geology Atlas* (MEGA2007) CD-ROM. MEGA 2007 is a collection of interactive computer maps that allow

the user access to nearly 30 statewide GIS data layers, all from their computer desktop. Some of the data layers include: geology, well data, karst features, dye traces, urban areas, roads and political districts as well as other statewide layers.



Bedrock layer geology

Mineral Resources

GSP assists industry, local and state government agencies and private citizens in locating natural resources for various activities. We provide preliminary assessments to help determine whether a resource of sufficient quantity and quality is available to make it economically viable for extraction and use. Activities related to industrial minerals are supported by fees paid by mine and quarry operators.

Geologic Hazards

Faults, sinkhole collapses, landslides and clay shrinkage or swelling are common geologic hazards that can damage structures or injure people. GSP conducts on-site investigations to determine remedial measures and help overcome many of the impacts of unstable geologic features. We are also working to define earthquake hazards on a regional basis to assure proper design and safe development in areas that are prone to earthquake damage.



Exeter sinkhole

Environmental Investigations

Staff conduct about 600 on-site geologic investigations at liquid, solid and hazardous waste sites, annually. In addition to providing technical assistance and needed data on permit sites we use a variety of techniques ranging from surface geophysics and sub-surface drilling to dye tracing to locate contaminant sources at spill sites.



Water quality analysis of spring

Energy Resources

Information concerning coal beds and petroleum resources of Missouri is available through the Geological Resources Section. We assist the State's Oil and Gas Council in regulating oil and gas wells to minimize negative impacts of petroleum production regarding landowners, public health and the environment. Staff members also provide support for the federally sanctioned Underground Injection Control program.

Geologic Maps

GSP maps the location, orientation, and structure



Example of a GSP geologic map

of soil and bedrock strata to meet societal needs. This information is used in developing and protecting surface and groundwater resources and is essential in discovering and developing valuable mineral resources. GSP applies knowledge about specific geologic units in siting waste disposal facilities that are protective of public health and the environment. Analysis in an adjacent state has shown that the economic value of detailed geologic maps is between 25 and 39 times the cost of producing the map.