How does geoscience preservation impact the economy?

- The use of geoscience data results in new discoveries and redevelopment of old oil and gas fields and mineral deposits. This results in more investment in the community, creates more jobs, helps maintain an infrastructure for sustained economic growth, and increases tax revenues.
- Conclusions reached using geoscience data provide information to government and industry, allowing intelligent planning decisions about assessment and management of valuable natural and strategic resources.

Without these data, more resources would be consumed in duplicate exploration and development, and there would be a greater chance of failure because of increased cost overrides and decreased production.

- Without good and efficient management of current and future resources, economic development cannot be sustained.
- Geoscience data provide solutions to scientific, economic, and environmental issues and potentially to natural disasters.

What is the cost to drill?

At today's cost, the value of the cores, well samples, and other geoscience data collected over the last 150 years is estimated in the hundreds of billions of dollars. Most cores are irreplaceable.

Obtaining well samples and cores is expensive. To drill new holes each time new information is needed would be grossly inefficient and time-consuming.

Therefore, a library that documents the results of previous exploration and makes this valuable information available to the public is the only reasonable solution.

How would preservation of geoscience data impact future generations?

- Provide opportunities for research, development, and exploration, leading to new discoveries.
- Establish record results with greater scientific success and predictability.
- Result in less development and exploration time, and lower exploration cost, increased efficiency, and safety.
- Some data are irreplaceable or will be cost-prohibitive to reacquire in the future.
- Data are available to rework old reservoirs, reevaluate environmental concerns, and predict natural hazards as new technology and new extraction techniques are developed.
- Continued economic prosperity and energy independence will be insured, resulting in greater national security.

Brochure production provided by the Kentucky Geological Survey www.uky.edu/KGS

What are the advantages of a repository?

Samples and cores submitted to repositories are:

- Stored
- Cataloged
- Indexed
- Added to data bases and web sites
- Protected for immediate or future use for anyone wishing to examine them

Repositories provide:

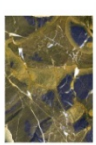
- Central location
- Easy access
- Permanent storage

All of the above require special care in handling and a great deal of space.

Without preserving these resources, private companies and government agencies would have to provide storage at their own expense. Most companies would discard a great deal of information after initial use.

At a core and sample library, geologists can obtain not only the material deposited by their own company or institution, but also those from other companies and institutions in their state.

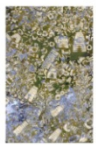
What can examination of rock materials reveal?



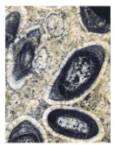
Structure

Chemical Alteration

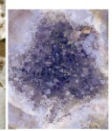
Sedimentary



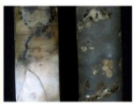
Fossils



Volcanic



Fractures Minerals



Oil

Petrified wood

American Association of Petroleum Geologists

Preservation of Geoscience Data

www.aapg.org

Mission Statement

Preservation – Accessibility – Utilization

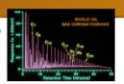
The mission of the AAPG Preservation of Geoscience Data Committee is to promote collection, preservation, and utilization of samples and cores, as well as data directly attributable to this rock material, including:

- Core analysis
- Stratigraphic data
- Petrographic data
- Porosity, permeability data analysis
- Other rock data relating to the well samples and cores
- Sample descriptions
- Photographs
- Photomicrographs
- Geochemical

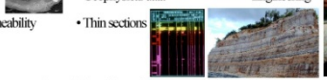
AAPG would also like to bring about a greater awareness of the importance of this material in exploration and research.

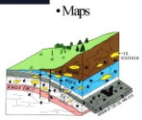
What is geoscience data?

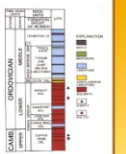
Some examples include:



- Well cuttings
- Geologic descriptions
- Fossil collections
- Outcrop samples
- Porosity and permeability measurements
- Geochemical analyses
- Oil samples
- Plats
- Geophysical data
- Thin sections
- Core samples
- Drillers' logs
- Testing results
- Engineering
- Seismic images
- Mineral analyses
- Maps







These are important in the discovery and development of U.S. energy.

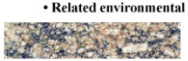
Why are these cores and samples important?

1. ***For the discovery of oil, gas, coal, lead, zinc, and other minerals:***
   Although many tools are available for exploration, the examination of rock samples and cores is the greatest single source of information.
2. ***To understand the evolution and history of the earth:***
   They are the best sources of information about the nature and occurrence of rocks beneath the earth's surface.

How do geologists use them?

Cores and well samples provide essential information for a better understanding of our:

- Rock strata in which mineral deposits occur
- Associated deposits
- Groundwater resources and karst systems
- Related environmental problems



Why do we need to store them?

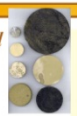
There is a constant need to go back and re-examine samples as:

- Geological and engineering concepts evolve
- New analytical instruments and techniques are developed
- Advances in technology and computer modeling are made
- New methods of examination and interpretation emerge

Samples and cores are of great value to industry and research.

Where do cores and well cuttings come from?

Who drills and donates to core libraries?



- Coal companies
- Oil and gas companies
- Quarries
- Construction firms
- State agencies
- Engineering firms
- Water exploration
- Federal agencies
- Research projects
- Mining

Who uses this material?

Who can come to inspect it?

Anyone, including:

- Researchers
- Academia
- Students
- Earth scientists
- Engineers
- Consultants
- Drillers
- Operators
- Farm owners
- Government geologists

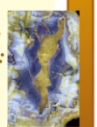
How are cores and well samples used in Education?

Rock materials can be used to generate:

- Theses
- Class projects
- Lab exercises
- Project proposals
- Instructional & professional presentations
- Papers and publications
- Dissertations
- Term papers
- Reports
- Exploration

Cores allow you to expand your knowledge of rocks and conduct research on a wide range of geological material, while providing a greater understanding of the subsurface.

Geoscience data are used for a wide range of interests, including:



- Oil and gas
- Coal
- Exploration
- Engineering
- Environmental
- Mining
- Construction
- Land use
- Stratigraphy
- Sedimentlogy
- Paleontology
- Geochemistry
- Structure
- Subsurface mapping
- Seismic studies
- Geologic reconstruction

Are important cores being destroyed?

Each year, millions of feet of cores and well cuttings are discarded and destroyed all over the country.