



graph JAEA

Studying Subsurface Geology #1
Tono Geoscience Center

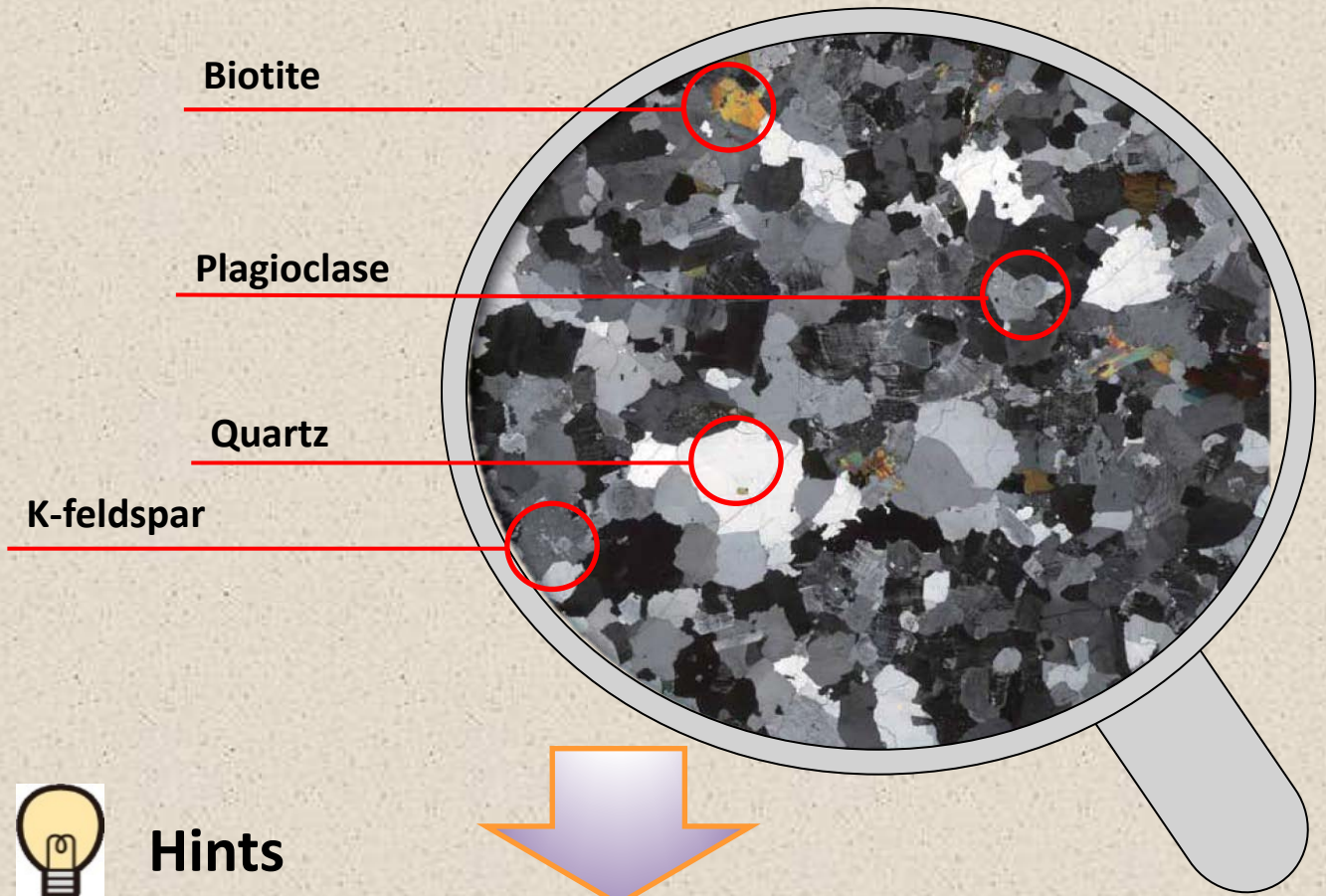
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Japan Atomic Energy Agency

“What do you think this?”

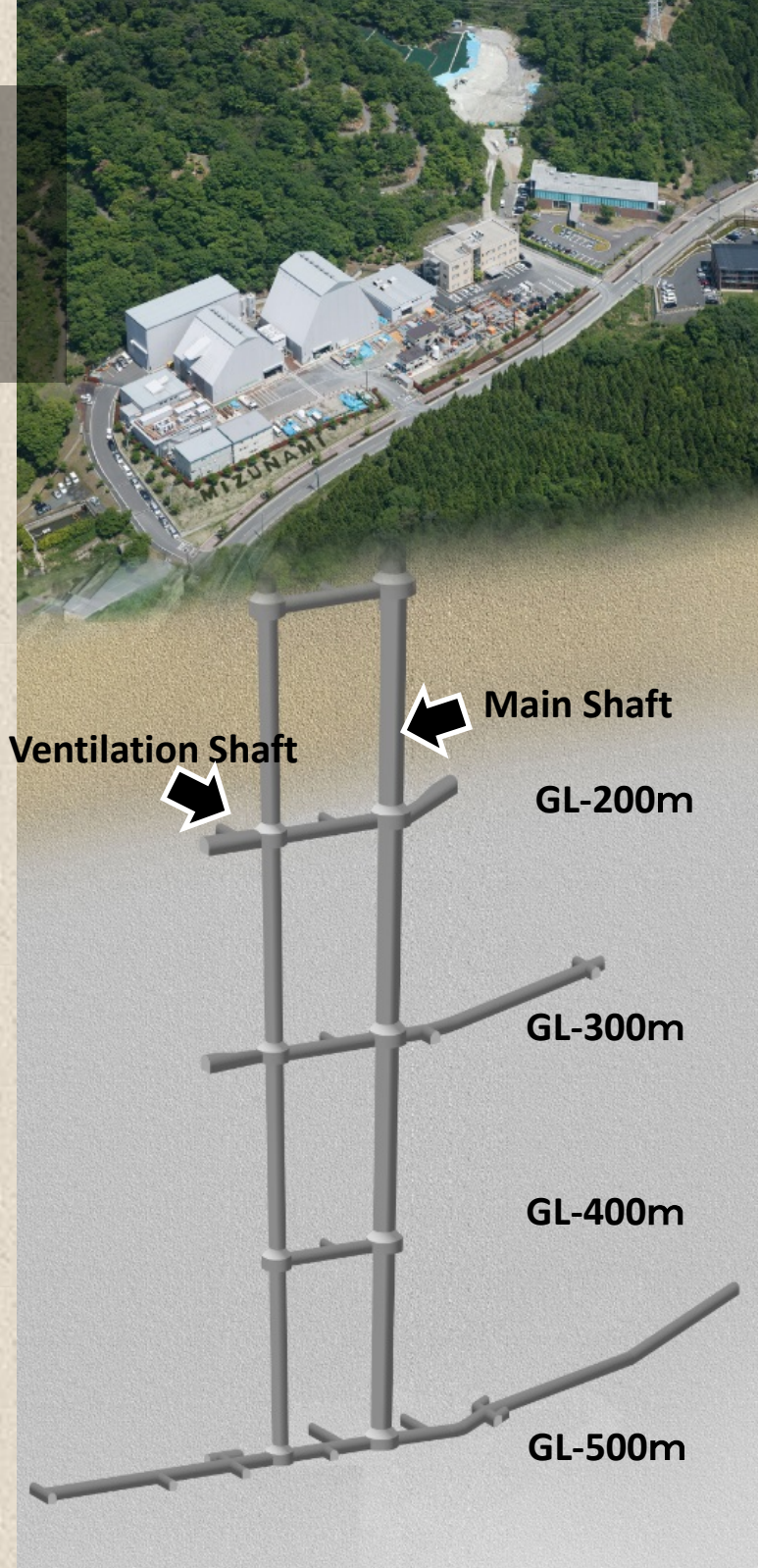
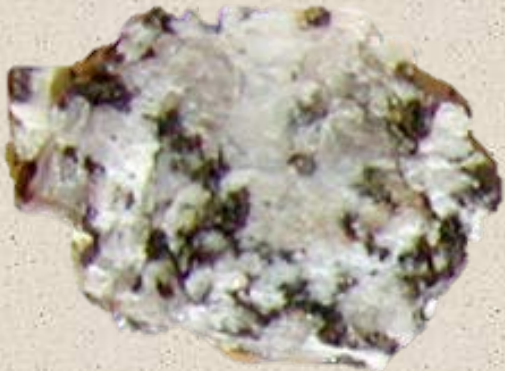
It includes several components



This is mainly used for decorations on the external wall columns or frames around the window.

The Answer is Granite!

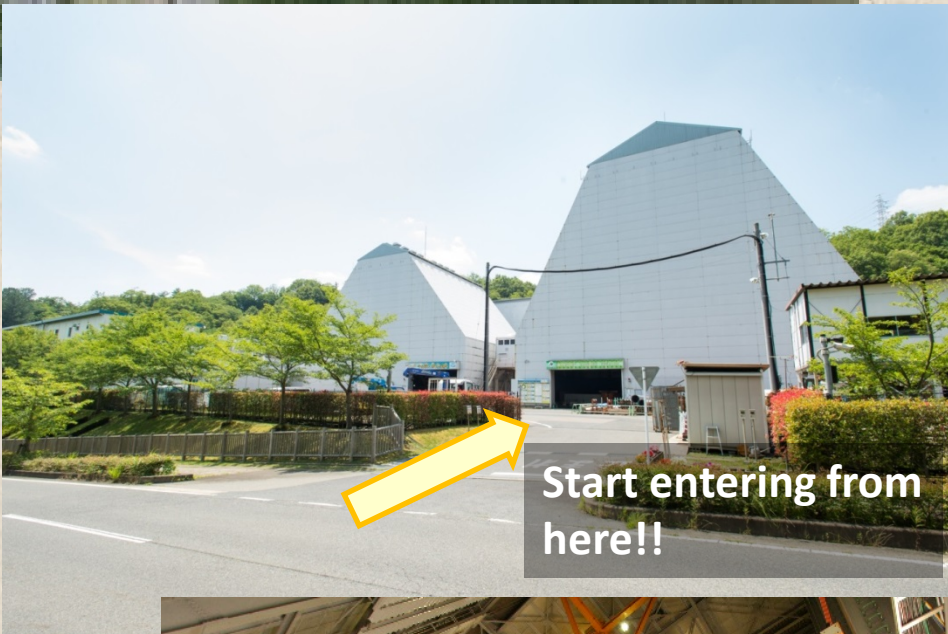
Photo of granite through a special microscope (Polarizing microscope)!



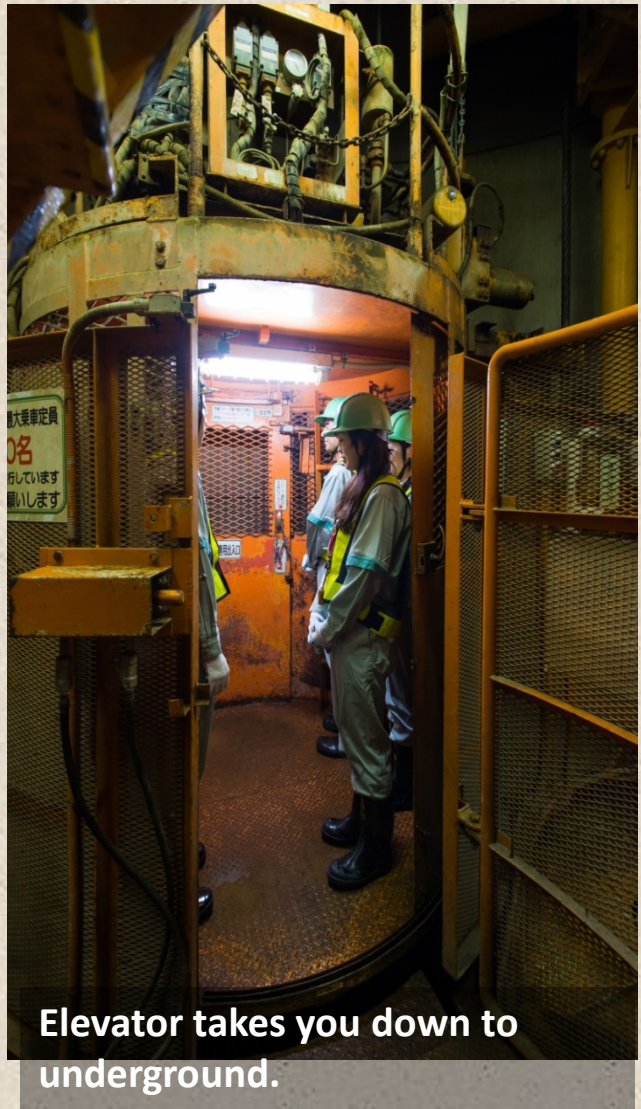
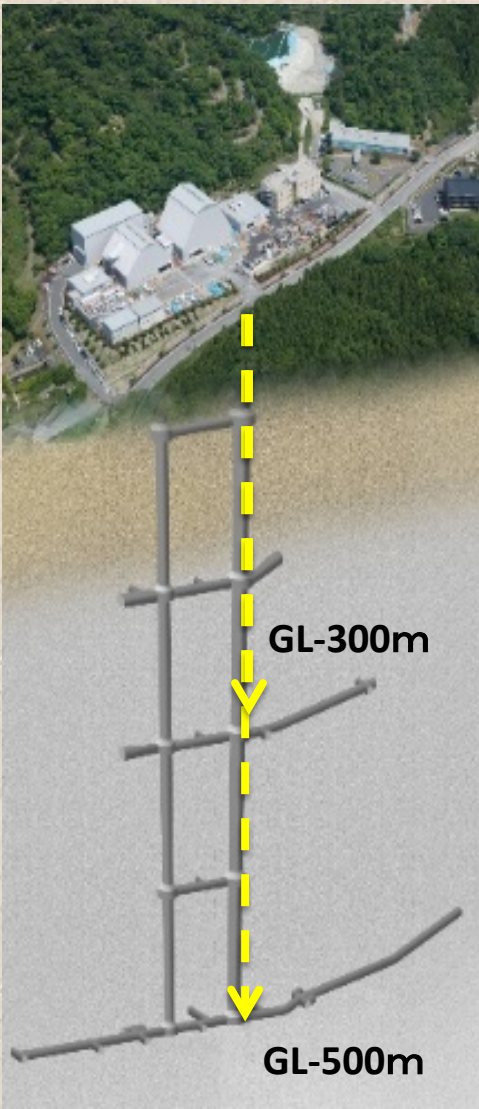
Mizunami Underground Research Laboratory (MIU) located in Mizunami City, Gifu Prefecture, is performing a research project focused on granite.

For more information please see the link below:
【 http://www.jaea.go.jp/04/tono/tgc_e/index_e.html 】

OK, let's join the site tour of the MIU underground facilities.



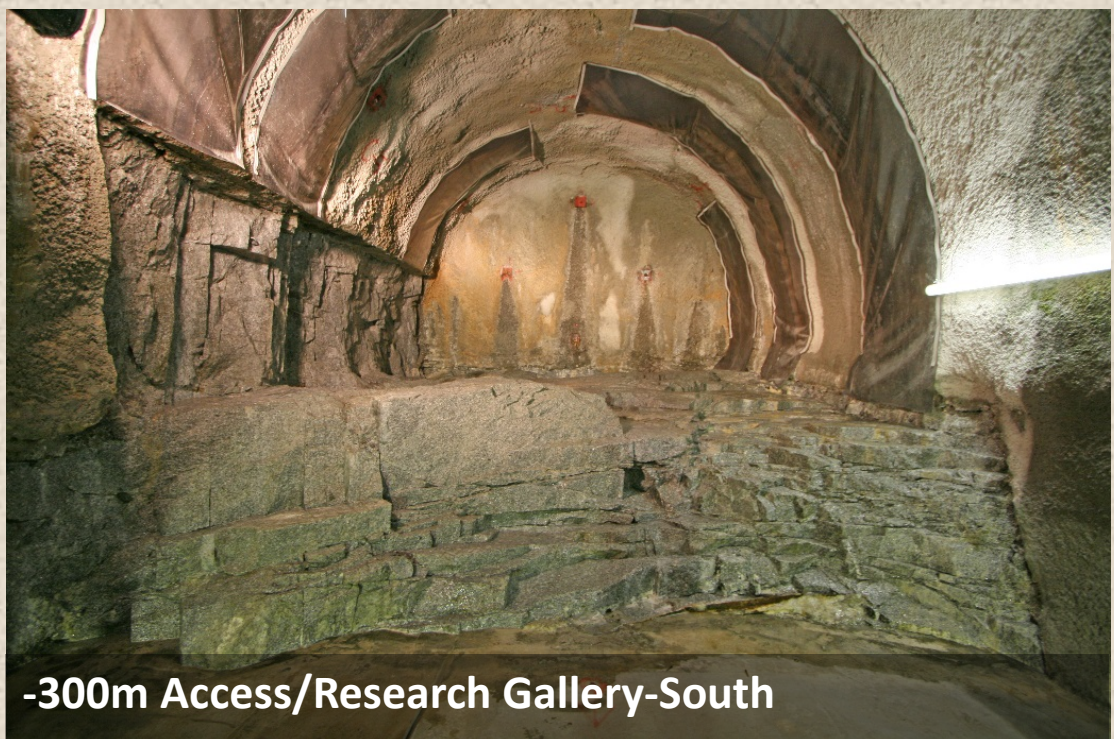
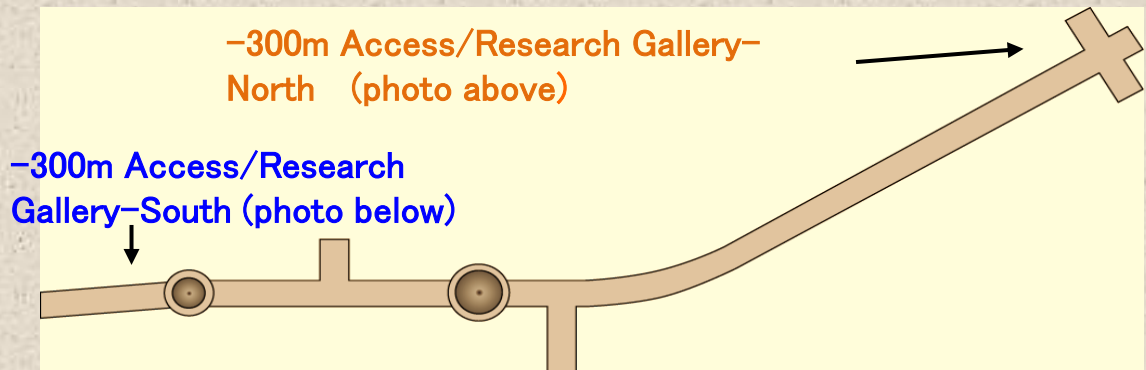
Go through the entry/exit procedures then you can reach the entrance to the underground



Welcome to the World of 300m below ground!

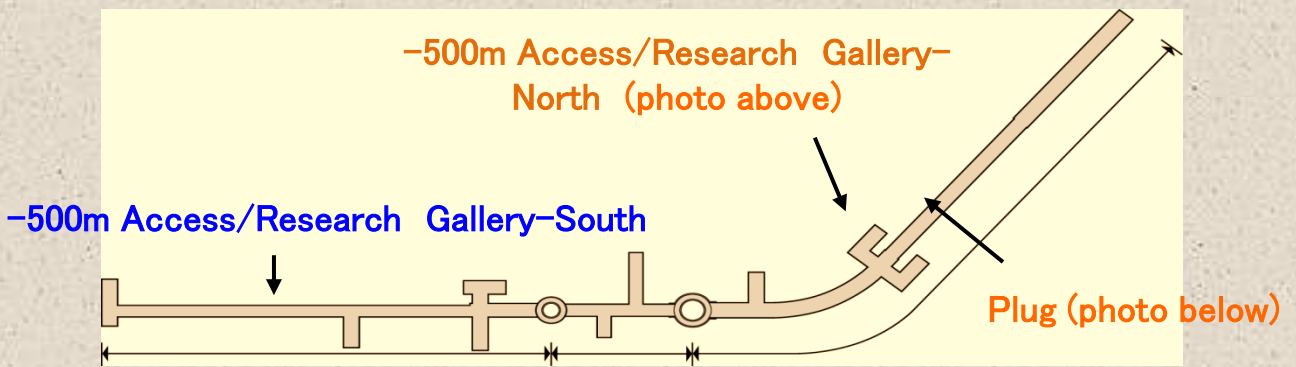


-300m Access/Research Gallery-North



-300m Access/Research Gallery-South

The World of 500m below ground!



Various Surveys and Tests are Carried out in the Lab.



To reduce ground water inflow, grouting material is being injected into rock fractures.

【http://www.jaea.go.jp/04/tono/miu_e/project/project.html】

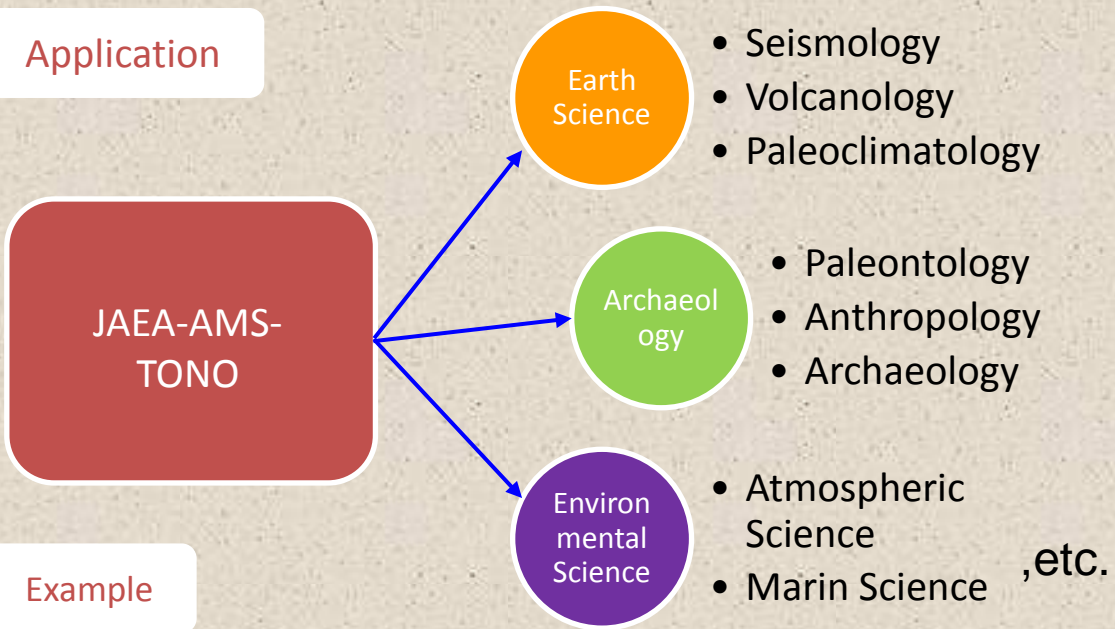


To understand the initial conditions of backfill, a borehole is drilled to install a measuring device.

We are determining age in geological sample of several ten thousand years ago

“Toki Research Institute of Isotope Geology and Geochronology” is located near Mizunami Underground Research Laboratory that has been described in previous pages. In addition to these two laboratories, “Tono Geoscience Center” comprises other neighboring research bases. “Toki Research Institute of Isotope Geology and Geochronology” has been promoting neotectonic research.

Application



Example



Depositional ages



Plant fragments in deposition



Volcanic eruption history



Charred wood in pyroclastic flow deposits

(Source: Rikanetwork)

(Source: Website of Geological Survey of Japan, AIST)

Accelerator mass spectrometer (AMS) in JAEA-AMS-TONO



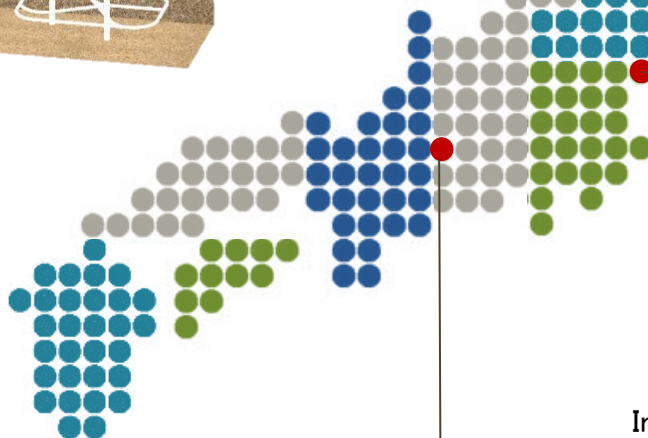
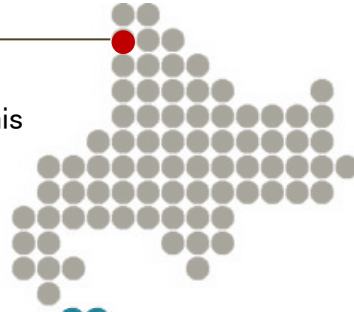
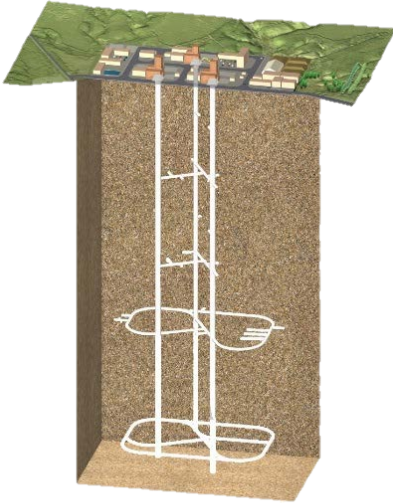
This is one of the instruments for dating.



Sample preparation for radiocarbon dating.

Horonobe Underground Research Center

The main research focus of this center is sedimentary rock and saline groundwater. This center will be a feature of the next issue.



Nuclear Fuel Cycle Engineering Laboratories

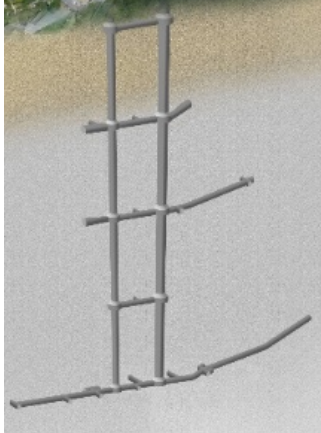


In the laboratories, laboratory simulations are conducted in order to investigate the quality of groundwater and the water quality change mechanisms.

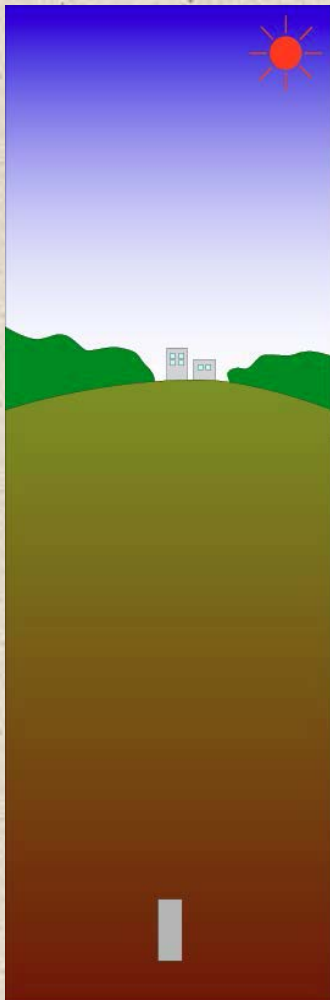
Tono Geoscience Center

Mizunami Underground Research Laboratory
/Toki Research Institute of Isotope Geology and Geochronology

Mizunami Underground Research Laboratory places the research focus on crystalline rocks and freshwater-groundwater. Toki Research Institute of Isotope Geology and Geochronology is devoted to neotectonics research. The photo below shows an accelerator of the AMS, which is a feature of this issue.



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- 02 Microscopic view of granite crystals
- 03 Mizunami Underground Research Laboratory
- 06 Underground World beneath Mizunami
- 09 Toki Research Institute of Isotope Geology and Geochronology
- 11 JAEA's study for geological disposal technologies
- 12 Geological Disposal of High-Level Wastes

(Cover photo) Seen at the back is the lateral drift, located 500m below the ground surface. The upper hole is connected to the main shaft. In this area, many investigations are conducted regarding the geology and strength of rock mass as well as the flow pattern and quality of groundwater.

Geological Disposal of High Level Wastes

For general descriptions on the geological disposal of high-level radioactive wastes, please click the link below:

http://www.jaea.go.jp/04/tisou/english/brochure/pdf/jaea_girdd_e.pdf

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