



Radioactive Waste From Mother Nature

(NAPS)—The first nuclear reactor on Earth operated more than 1½ billion years ago. In 1972, scientists found the remains of this natural nuclear reactor in a uranium mine in Africa. They determined that about 1,800 mil-



A natural nuclear reactor operated in Gabon, Africa more than 1½ billion years ago.

lion years ago a nuclear chain reaction had occurred in the uranium ore.

How was that possible? Conditions were just right. Then, the composition of natural uranium allowed a chain reaction to develop in a rich deposit of uranium, when water was present. The Oklo natural reactor generated heat off and on—for up to 500,000 years. Over time the concentration of fissionable uranium decreased until the chain reaction stopped.

The discovery's real importance? This natural fission reactor produced radioactive wastes similar to those from modern nuclear reactors.

The radioactive wastes from the Oklo reactors (scientists identified several) were found essentially where they were made more than a billion years ago. They hadn't contaminated the area outside the mine.

Today we would use special containers to hold the waste and the knowledge we have about how to safely store and dispose of solidified nuclear wastes.

For more information visit the American Nuclear Society Web site at <http://www.ans.org/pi/np/oklo>. For printed material, call 708-352-6611 (ask for PI Dept–Oklo).