

THORIUM

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The principal risk in this case would be ingestion," said Morgan in advising parents not to allow offspring near the brook. Thorium is "quite insoluble," he said, and the body does not retain the element to any large degree. But experiments in Denmark have indicated there is danger to the liver when thorium is ingested, he added.

Well water from the area should not be consumed, he advised.

He also expressed concern because the element was buried in quantity and has been at the site from the Rare Earths Inc. firm, which began operations in 1947, through the sale in 1957 to the W.R. Grace Co.'s Davison Chemical Division. Operations ceased in 1974.

The thorium was used for the making of lantern mantles.

The use of contaminated earth or water in landfill operations or construction materials such as brick or mortar would be dangerous, Morgan said. Soil or materials containing thorium would harbor the element until it "decayed into thoron 220 gas," which is a lung carcinogen. That would pose a danger to people living in or near buildings made of materials containing thorium in its solid state, he said.

Thorium can also be converted into the fissionable isotope Uranium 233 through neutron bombardment in laboratories, he said.

"I would certainly want it removed from my community," Morgan said. "It should be taken away or recovered" for other uses. It's valuable."

Dr. Peter Montague, director of the National Radioactive Waste Program at Princeton University, also advised that the thorium be removed as soon as possible.

An expert in mining and extraction of radioactive materials and their effects on humans, Montague was instrumental in publicizing the risks of uranium mining when several oil companies leased lands in West Milford and Jefferson Township two years ago to mine the ore.

New Jersey later passed a seven-year moratorium against such activity, pending study by the Department of Environmental Protection.

"You wouldn't want your kids to play around it," said Montague. "It

should be cleaned up."

Montague did extensive research in New Mexico uranium-mining towns with regard to long-term exposure to low-level radioactive elements. Based on his conclusions, Montague said, "Any amount of radiation causes damage to some portion of the population."

Officials for the Nuclear Regulatory Commission in King of Prussia, Pa., said yesterday no "immediate" danger is posed by the thorium buried off Black Oak.

But those officials did say long-term exposure should be avoided. Carl Abrahams, spokesman for the Nuclear Regulatory Commission, yesterday declined comment on potential effects of the thorium from the time of its burial to the present.

"We don't know what the situation is," he said. "We don't know if it's on the surface" or if it was contained along the brook's banks.

The Sheffield Brook runs into the Pompton River near the Pompton Plains Crossroads. The Pompton River runs into the Passaic River at Two Bridges in the township — one of the sites where the Wanaque South water-diversion project will siphon river waters for a supplementary water supply when the project is completed in 1986.

Riverside Park and several athletic fields line the banks of the Pompton River downriver from the burial site.

Abraham said no trace of thorium was found in the aerial survey along the Pompton River, but federal study teams will be in the township through this week and next to investigate.

Research teams are scheduled to come from the Oak Ridge Associated Universities in Tennessee — the group that operates the famous nuclear-development laboratory.

Township officials have taken a wait-and-see stance regarding the thorium and its removal. Mayor Walter Jasinski has said officials have known of the situation for "some time" and were awaiting word from the appropriate agencies before making any decisions.

The matter arose after Councilman David Waks wrote to the Nuclear Regulatory Commission seeking information about the burial site. Waks said that after about a year, he received word that a survey team from the Department of Environmental Protection would test the area last November.

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By GARRY DUFFY
Staff Writer
WAYNE — Leading scientists in the fields of radiation and human health have urged the earliest possible cleanup of 19,000 pounds of thorium buried off Black Oak Ridge Road.
The thorium, extracted from imported monazite ore at a now-defunct chemical-company site, was detected along the banks of the Sheffield Brook last November through aerial surveys conducted by the state Department of Environmental Protection.
Readings of 2 millirems per hour — 10 times the normal dose of radiation — were recorded during those surveys.
The Sheffield Brook runs through the backyards of a number of township residents. While the level does not pose an immediate health hazard to residents, said officials for the Nuclear Regulatory Commission, the officials have expressed concern over the effects of long-term exposure to the substance.
Dr. Carl Morgan, founder of the field of health physics in the U.S. and a consultant for the University of North Carolina and its Appalachian State College Health Physics Department, said yesterday from his home in Atlanta that while the radiation level detected along the brook was not "a high dose," exposure to thorium over a period of time could pose some problems for humans.
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Cleanup is urged