PUBLIC HEALTH

High Alaska Fallout Risk

➤ FALLOUT DANGERS to humans, animals and plants from proposed nuclear explosions at Cape Thompson, on the northwest coast of Alaska, were reported as high by the Committee for Nuclear Information in St. Louis.

The committee said the public has a chance to decide in advance whether gains from Project Chariot outweigh risks. Project Chariot, part of the Plowshare program for developing peaceful uses of nuclear blasts, is designed to test large-scale nuclear excavation by digging a hole 1,500 feet in diameter and a channel 2,000 feet long to connect the hole with the sea.

John S. Kelly, chief of the Atomic Energy Commission's peaceful nuclear explosives branch, said AEC has authorized investigations, but not the actual explosions. Approval will not be given until AEC is sure local inhabitants and "the plants and animals from which they derive their living" will not be endangered, he said.

The job would require one 200,000-ton atomic bomb and four 20,000-ton bombs. The smaller bombs are the same size as the Hiroshima bomb.

Dr. Michael W. Friedlander, associate physics professor at Washington University, St. Louis, challenged a laboratory prediction that only five percent of the total radioactive yield would emerge as fallout. Wind conditions and other uncertain factors could raise it to five times that much, he said.

Caribou in the region supply the Eskimo with food. Caribou graze on lichen, a plant absorbing mineral nutrition from airborne dust rather than soil. Dr. Barry Commoner, plant physiology professor at Washington University, said fallout absorbed by lichen could harm the entire northern Alaskan "food chain" of interdependent plants, animals and humans.

He pointed out that the strontium-90 level content in the bones of Alaskans already is known to he higher than that found in inhabitants of temperate zones. Additionally, present levels of strontium-90 in caribou bones are "probably the highest found in any known food animals."

Carnivorous animals also affected include grizzly bears and wolverines, both on the "danger list" of rare mammals threatened with extinction.

• Science News Letter, 79:375 June 17, 1961

PUBLIC HEALTH

AEC Finds No Biological Reason to Stop 'Chariot'

➤ SCIENTIFIC SURVEYS "have not revealed any biological reason for stopping or deferring" Project Chariot, the proposed experimental nuclear blast in northwest Alaska, the Atomic Energy Commission declared in Washington, D. C.

But the Commission said studies will continue, and again promised the test will not be approved unless there is full assurance that plant, animal and human life will not be endangered. Final authorization must come from the President.

Chariot, a phase of AEC's Plowshare program on peaceful uses of nuclear explosives, would use five bombs to dig a man-made harbor in the Ogotoruk Creek area at Cape Thompson. Although not commercially useful, the harbor would provide information on nuclear explosions for excavation purposes.

Preliminary estimates indicate large canals could be excavated at one-third the cost, in half the time, and would be "wider, deeper, less vulnerable to destruction and otherwise better" than conventional types.

In St. Louis, the Committee for Nuclear Information cited fallout dangers from Chariot as a potential threat to the entire northern Alaskan "food chain" of interdependent plants, animals and humans.

But the more than 30 surveys made since 1959 by Chariot's Committee on Environmental Studies led to AEC predictions of "exceedingly remote" chances for major biological change in the area. No plants or animals "essential to the livelihood or culture of the Eskimo" would be wiped out or scattered, the AEC believes.

Localized effects include two that would also result if conventional excavation techniques were used—the redepositing of 30 million cubic yards of debris, and possible shore current modifications when the new basin fills with sea water.

In the immediate crater area, plant and animal populations and habitats will be totally destroyed. Radiation effects are expected to be "negligible, undetectable, or possibly nonexistent" in areas distant from the crater. But intensive pre-shot studies are still in progress.

AEC now holds a land use permit, but application is still pending for withdrawal from public domain of the 1,600 square miles involved.

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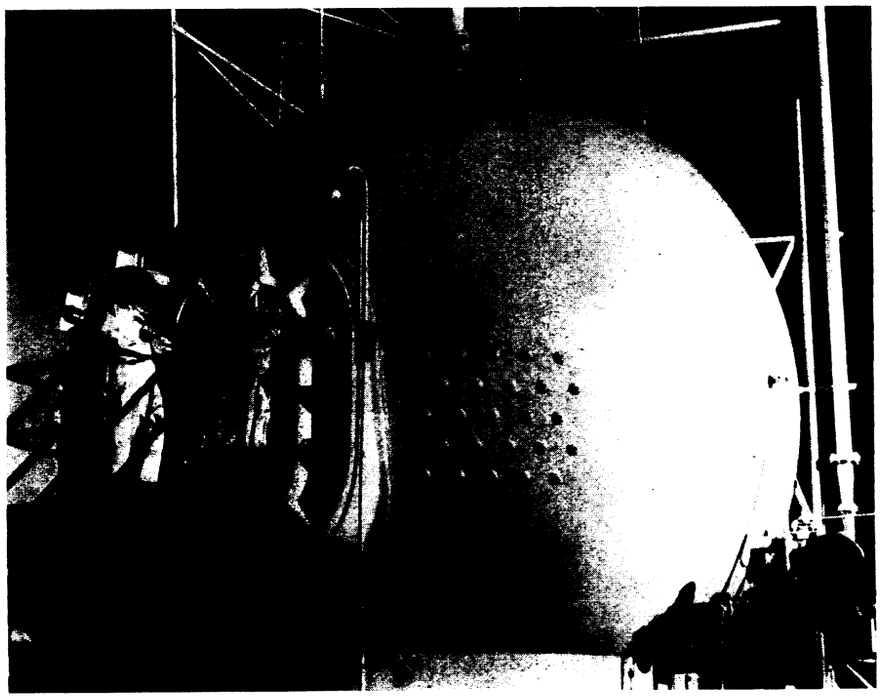

TESTING SPHERE—An 18-foot sphere simulates space conditions for testing solid rocket fuels. The testing facilities, developed by Esso Research and Engineering Company, Linden, N. J., include a laboratory from which propellants can be fired remotely.

BOTANY

Wood Shows Pattern In Microphotograph

See Front Cover

➤ INTERESTING PATTERNS are shown when thinly cut slices of wood are viewed and photographed under the microscope. The cover picture this week is of the interior of a South American species of avocado, *Persea lingue*, a tree that grows in lowland areas of the Andes in Chile. Such trees, used for wood, grow as high as 90 feet tall.

The 380X microphotograph was made at the Universidad Austral de Chile at Valdivia, a southern city of that nation that was badly damaged by a severe earthquake in May 1960. The university has been rebuilt partly with American funds and is becoming an important educational and research center under the presidency of Dr. Edwardo Morales.

Prof. Guillermo Mittak, forestry engineer of the University's Institute for Wood Utilization took the microphotograph during investigations on Chilean wood resources.

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