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PHOTO BY DAVID GERSTENFELD

Duke divers will emerge from their hyperbaric home today.

Duke divers to 'surface' today after 42-day test

By Steve Baumann

After 42 days of confinement, the three divers who broke the record for a simulated underwater dive at Duke Medical Center are due to emerge from the hyperbaric chamber "Foxtrot" at 4:50 this afternoon.

Dive director Dr. Peter Bennett said the men who participated in Atlantis III are in "first rate condition."

Eric Kramer, Steve Porter and Len Whitlock began the experimental dive Jan. 23, when they entered "Golfball," an eight-foot diameter steel sphere. During a period of 11 days, they gradually were pressurized to a simulated depth of 2,250 feet beneath the ocean's surface.

The previous record was 2,164 feet set by a British team last November.

Bennett, director of the F.G. Hall Environmental Laboratory in the Medical Center, termed the dive a "100 percent success" in achieving its goals. The dive was the third in a a series of simulated deep-ocean dives at Duke's hyperbaric facility.

"Atlantis III," said Bennett, "was designed to evaluate the effects of a different rate of compression from Atlantis II. . . . It has shown us that if you do compress more slowly, you get less decrement in the performance tests."

"Above all of that, of course, is the fact that with the slower compression we did go even deeper than we had in Atlantis II."

Atlantis II occurred in March 1980 and took three men to a simulated depth of 2,132 feet in just eight days.

The major portion of Atlantis III was spent in decompression. A slow "ascent" was necessary to avoid cases of the bends in the divers. The bends occur when nitrogen gas, forced into the diver's tissues during compression, bubbles out of these tissues too quickly during decompression. The bubbles may become lodged in the joints and cause great pain and tissue damage.

On Feb. 23 the men were able to transfer to the larger hyperbaric chamber, Foxtrot. Although Foxtrot is larger and more comfortable to live in than Golfball, its steel shell is unable to withstand the pressures of a simulated dive greater than 1,000 feet.

Scientists at the F.G. Hall Environmental Laboratory are exploring the ability of a gas mixture of helium, oxygen and nitrogen — called trimix — to enable divers to descend to great depths.

In the past, deep divers have been bothered by High Pressure Nervous Syndrome, characterized by tremors, nausea, dizziness, fatigue and slowed reflexes. With the proper gas mixture and compression schedule, however, HPNS can be warded off.

The amount of nitrogen in trimix is critical: too little and HPNS can debilitate a diver upon descent; too much and the bends can strike a diver ascending.

"There's a subtle balance to be made between these two effects," Bennett said. "We've learned that nitrogen is very good during compression for stopping High Pressure Nervous Syndrome, but it's not a very good thing to have around for decompression."

See Dive on page 5

Cost of breakfast will double

By Marcie Pachino

The cost of breakfast next year probably will rise from four points to eights points — the equivalent of a $1 increase — because high breakfast food costs are a main reason for last semester's dining halls' deficit, said Joe Pietrantoni, director of campus services.

Last fall the dining halls ran a $287,530 deficit.

"Our breakfast costs are way out of line. We had allocated 46 cents per person for breakfast (in food costs), but the meal is costing us 90 cents per person," Pietrantoni said.

Pietrantoni said he plans to present the proposed increase to ASDU and ask for student approval.

"This year's loss will not be carried forward to next year," Pietrantoni said. Board plan rates will rise 13 percent next year, but "solely because of inflation," he said.

"We are in the process of upstepping our service in all areas to give students more of what they want," he said. Surveys and forums have shown what he called "great" student support for the special meals in the University Room, the shrimp and crab bar in the Cambridge Inn and the new Down Under.

"We plan to continue these changes all over campus," Pietrantoni added.

An ice cream parlor in the Oak Room after spring break will be the dining halls' next experiment. "We will open it from 8:30 p.m. to around midnight for a week or two to test it out. Ice cream can be purchased on a cash or points basis," Pietrantoni said.

"Since we now know students' eating patterns, we can make the necessary refinements," he said.

Pietrantoni and his staff still are working on questions concerning carrying points from one year to the next and the option of changing plans. They also are considering changing the value of points from 25 cents to five cents so students will not have to lose money on purchases that are not in multiples of 25.

. . . Divers attract international attention

Continued from page 1

Bennett and his colleagues made many changes from the initial plans during the course of the dive, often changing gas mixtures and decompresion rates to ensure the safety and comfort of the divers.

A staff of almost 50 people worked on Atlantis III, many working 12-hour shifts, seven days a week, since training began for the dive Dec. 1.

Atlantis III cost nearly $350,000. Most of the money was used to pay staff salaries and to buy thousands of cubic feet of pressurized gas. The National Institutes of Health, the U.S. Navy, Shell Oil Co. and Oceaneering International, a marine engineering and diving firm, provided the funding for the Atlantis series of dives.

Another dive is planned for next year when Bennett and his colleagues probably will try for another record depth. Beyond that, the future of the project is uncertain.

Atlantis III has generated international interest — French, British, Norweigan, West German and Russian representatives observed the dive and toured Duke's hyperbaric facility.

Bennett talks with pride of the lab's achievements and said he is hopeful that government and industry will not ignore the need for funding to continue the research.

"We have the lead now," Bennett said. "We are actually teaching people from around the world."

Despite President Ronald Reagan's budget cuts, the president appears to support research projects such as Atlantis III. Three weeks ago, the White House sent Bennett a letter that read in part: "Congratulations to you and your colleagues on your recent dive . . . Your achievement has added greatly to our ability to explore and use the vast resources of the ocean."

Bennett is an articulate spokesman for continued funding of deep-diving research, and his openness and salesmanship have landed him in the national spotlight. Yesterday he appeared on NBC's "Today" show. Monday, he and the divers will appear on ABC's "Good Morning America."