CAPE COD TIMES

Robots unearth explosives at Cape base

By George Brennan
gbrennan@capecodonline.com
June 26, 2008 2:00 AM

CAMP EDWARDS — William Dean sits behind two joysticks, watches his moves on a video screen, but has far more at stake should he inadvertently strike a hidden explosive.

This is no Metal Gear video game he's playing.

Dean is a field technician for the Air Force Research Laboratory — Airbase Technology Division, a team from Tyndall Air Force Base helping to clear deserted firing ranges at Camp Edwards of unexploded ordnance, or UXOs.

Dean and his co-workers are using remote-controlled Bobcats and excavators to search firing ranges. The munitions are likely buried below the surface from decades of training dating back to World War II.

In recent weeks, workers have removed 100 rounds from berms used for target practice and expect to clear more as their effort continues through at least September.

An unexploded ordnance can range from a 40mm grenade to a 105mm anti-tank round.

The idea of the cleanup, said Kent Gonser, program manager for the U.S. Army's Environmental Command on the Massachusetts Military Reservation, is to create areas that can either be used by the military again or allow safe passage for soldiers who might use the area for maneuvers.

In order to search for UXOs, the Air Force research team must first clear away years of vegetation and then sift through the rocks and soil, Gonser said.

The cicadas were buzzing Monday afternoon at what is known as the L Range, an old grenade launching site, but the robots were quiet.

The excavators are apparently finicky when it comes to wet, clumpy soil.

"None of this has been specially developed for this use," said Kris Curley, spokesman for the Army's Impact Area Groundwater Study Program, of the Bobcats turned robots. "It's equipment that's already out there, available."

Cameras onboard allow field technicians like Dean to control them from the safety of a command center that looks very much like a television news satellite van.

In the impact area, Dean and his colleagues yesterday hooked up a "brontosaurus attachment" to a large excavator that will be used to chew up pine and other brush from the old range littered with rusted tanks used as targets.

"It's like operating any excavator sitting in the seat," Dean said, "except you're doing it remotely with the help of a camera."

Once they've cleared about an acre of the 10-acre site, they plan to hook up a large magnet, similar to what's used at a junk yard, in an attempt to snag some of the UXOs that way, Gonser said.

Depending on how well it works, they'll repeat the process. And, if it works really well, the team from Tyndall will make it part of their repertoire on other bases across the country.

"They improvise and try to figure out ways to do it better," Gonser said.

It is estimated that the exploration and experimentation of about 20 acres at Massachusetts Military Reservation will cost about $1 million.

But that's a bargain compared to the $1 million it typically costs to clear one acre, Gonser said. Not to mention the potential danger that's being averted.

At Massachusetts Military Reservation there has never been a serious injury or death caused by a UXO, Gonser said. They'd like to keep it that way.

"We're looking at ways to remove UXOs without causing significant danger to people," Gonser said.

Behind the cleanup

More than 10 million acres on 1,400 sites in the United States are suspected to have unexploded ordnance, known as UXOs by the military.

The estimated cost of cleanup efforts is in the tens of billions of dollars.

- Remote-controlled robotic equipment can reduce the costs significantly.
- UXOs cause one or two fatalities every 10 years
- There have been no injuries or deaths resulting from UXOs on the Massachusetts Military Reservation.

Sources: Defense Science Board Task Force and U.S. Army Environmental Command at the Massachusetts Military Reservation