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Discovery of toxin at El Toro raises questions

ENVIRONMENT: Some on an advisory panel fear financial peril for future developers.

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By **PAT BRENNAN**
The Orange County Register

The discovery of perchlorate, a potentially harmful chemical, in ground water beneath the El Toro Marine base is raising questions about what other, unknown contaminants might be found there once the military leaves in July.

Cleanup officials at the base say the Navy will remain responsible for cleanup of any

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contaminants discovered after the base closes.

"We have a pretty high degree of confidence that we have captured just about all the contaminated sites," said Joseph Joyce, environmental coordinator at the Base Realignment and Closure Office. He said 85 percent of the base has been cleaned up so far.

But Greg Hurley, a Newport Beach environmental attorney who represents about 40 cities and communities that have inherited closed military property across the country, said he is not reassured.

"On any base of any size whatsoever that has been transferred or is in the process of being transferred (to private developers), there has been an incidence of the development community coming across unknown or undisclosed contaminants," said Hurley, who is also chairman of the Restoration Advisory Board, a citizens group that monitors

beneath El Toro base

PERCHLORATE: THE BASICS

Perchlorate, often found in association with solid rocket fuel, is a chlorine atom with four oxygen atoms attached. It is an anion, or negatively charged molecule, that is used to help initiate explosions.

The U.S. Environmental Protection Agency is studying the chemical's toxic effects, and it might be several years before the agency can set a definite health standard. Meanwhile, state officials have imposed an "action level" of 18 parts per billion; in other words, government agencies should consider taking action when they find the chemical at that level or higher.

Perchlorate is extremely stable in water and moves through it rapidly — so much so that scientists sometimes use it to

base cleanup.

Hurley said the real question is how fast such cleanup would occur, although the military will remain responsible for cleanup at El Toro and the Tustin Marine Corps Air Facility, also scheduled for closure in July.

"How quickly they do it is subject to available funding," Hurley said. "What happens if Congress decides it doesn't want to appropriate the funds?"

Halting a development project to clean up contamination can be disastrously expensive for developers, Hurley said, and there are still unanswered questions about whether the military would reimburse such costs. The Department of Defense, he noted, will not fund insurance policies to cover such losses.

Chuck Bennett, a chemical engineer who is also a member of the advisory board, said El Toro officials had received many requests during the years to search for perchlorate.

sometimes use it to gauge how fast water moves underground.

Tests in the 1950s showed that perchlorate can disrupt the function of the thyroid gland by mimicking iodine, which the gland must absorb to work properly. If the thyroid absorbs perchlorate instead, metabolic problems can result. Adults can become lethargic, gain weight or have trouble maintaining body heat. Infants can develop a condition called "cretinism," a failure of physical or mental development.

Source: Kevin Mayer, perchlorate issues coordinator, U.S. Environmental Protection Agency.

Ninety percent of the perchlorate found at sites in the state and nation is left over from the manufacture of solid rocket fuel. It was not considered to be present at El Toro, Joyce said, because rocket fuel has never been manufactured there.

"Initially, we thought our operations were not consistent with the types of operations where there were high concentrations of perchlorate," he said.

But the chemical is also used in explosives.

Only after an Orange County Water District sampling just outside the base appeared to show evidence of the chemical did the military decide to check for it.

Perchlorate has only recently become a concern to state and federal environmental agencies, and its potential health effects are still being studied.

Early indications are that the chemical, if consumed with drinking water, can interfere with the function of the thyroid gland, causing harmful metabolic changes in adults or interfering with infants' brain development.

If the site remains an explosives training range after the base is closed — something other law-enforcement agencies hope will be the case — it might not be necessary to remove the perchlorate, Joyce said.

Still, Joyce said cleanup officials will follow recommendations by state and federal agencies on whether or not to clean up the chemical.

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