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Environmental Team Cleaning Up Past Mistakes

Kari Hawkins, USAG Redstone



Corroded air filters and disintegrated pieces of gas masks mar the natural beauty of a once popular fishing and swimming hole on Redstone Arsenal.

But it's not what's above the water in the quarry at the corner of Neal and Mills roads that worries environmentalists Terry de la Paz and Wes Smith.

It's what's underneath.

An underwater video camera has revealed chemical drums and ordnance on the floor of the quarry pond. What the camera doesn't reveal is if those chemical drums actually hold substances that could damage the environment.

"It will cost four to five million dollars to get the drums and ordnance out of the water and to clean up the site," de la Paz said. "But if there is a chemical warfare agent in those drums that we have to dispose of, then we will have to figure out how to destroy them and that will cost a lot more.

"The problem is we don't know and it's a big risk. We have to plan on the drums having chemicals in them until such time as we can prove there's not."

Redstone Arsenal is one of the Army's top three installations for the number of contaminated sites that have to be restored based on the regulations of the Environmental Protection Agency and the State of Alabama Department of Environmental Management.

"We've had a cleanup program here since the 1970s that originally started with the DDT cleanup with Olin Chemical Corporation activities," said de la Paz, chief of the Installation Restoration Branch, Environmental Management Division, Directorate of Public Works, Garrison.

"In 1994, Redstone Arsenal was on the national priorities list for cleanups that must follow superfund requirements and the requirements of the state's hazardous waste permit. Since then, we've done a lot of investigative work and some remedial work."

In August, a 10-year, \$350 million Redstone Arsenal cleanup contract was awarded to Shaw Environmental & Infrastructure Inc., of Baton Rouge, La., for the investigation and remediation of more than 150 contaminated sites on the Arsenal that have been designated by the Installation Restoration Program. The contractor has until 2014 to either remedy or have remedies in place for these contaminated sites. The Installation Restoration Program is overseen by de la Paz and Smith, a contracting officers representative with the Corps of Engineers, Savannah, Ga., district.

Currently, 24 sites have been remedied, and five sites are undergoing treatment.

The contaminated sites herald back to the early days of Army activities on the nearly 40,000-acre Arsenal, which then consisted of the Gulf Chemical Warfare Depot, Huntsville Arsenal and Redstone Ordnance Plant.

"The chemical warfare activities in the past made a mess out here," de la Paz said. "Some contaminated sites are in remote areas, some are in active areas. The ones near people are the ones we are most concerned about."

All contaminated sites have been verified as areas where chemicals were manufactured, stored or released. These areas have been fenced off and clearly marked as "off limits" to the Arsenal population. A few sites are currently being remedied under a previous contract with Shaw E&I. One is near building 5435, the Test Measurement and Diagnostic Activity headquarters on Fowler Road, where digging and cleanup work is being done to remove soil containing arsenic and mercury. The other is off Digney Road near the Fox Army Health Center, where lewisite, a chemical warfare agent, was produced during World War II.

"The chemical turned out to be too unstable. It was difficult to use in warfare. But they did produce a lot of it out here. They filled ton containers and drums with it," de la Paz said. "When it breaks down, it is part arsenic with mercury as a byproduct. It breaks down very easily and metal is left behind in the soil."

None of the contamination sites on the Arsenal are considered dangerous. They do, however, become dangerous when soil from the sites is dug up or ingested.

"You wouldn't want to find these kinds of contaminations in a neighborhood where children play," Smith said. "But, as long as the soil is not disturbed, they are safe."

Even though child's play is not part of the Arsenal mission, some of the contaminated sites have been chosen for future building construction, making it vital that the Garrison remedies the sites quickly.

"We are prioritizing the sites that are near people or that involve land the Arsenal needs for its mission," de la Paz said. "A lot of BRAC (Base Realignment and Closure Commission) facilities have been placed in areas that are not contaminated.

"But with one-third or more of Arsenal land set aside as wetlands, a lot of the buildable areas have been used. Those sites used in the '40s for manufacturing and ordnance facilities are still the best land we have. So we need to clean them up to support the Arsenal mission."

For instance, an area near building 5400 (McMorrow Labs) that was once used as a sanitary landfill has been given high priority for cleanup because it's needed in fiscal 2011 for a new parking lot and building.

Sites can be cleaned up sooner if time critical removal actions are deemed necessary. That was the case in an area near the Software Engineering Directorate where new construction was planned, and at building 5681, Program Executive Office for Aviation, where force protection measures had to be put in place around the building.

The new contract with Shaw E&I involves only one contractor in an effort to streamline efforts and combine clean-up efforts, de la Paz said. Shaw will investigate the Arsenal's contaminated sites, determine which sites can be grouped together in a work package and how best to remedy the contamination.

"With the new contract with Shaw, we will see a lot of investigation work going on at our contamination sites. There will be drill rigs. Employees will be taking ground water samples and soil sample," de la Paz said.

"Congress and DoD program goals are to have all environmental sites cleaned up or a remedy selected for them by 2014. That gives our contractor five years to do investigation, to decide on remedies and to get some areas cleaned up. At each site, they will be looking at how widespread the contaminant is, how deep it is, who is coming into contact with an environmental contaminant and how much harm it is causing."

Shaw has until 2019 to complete the cleanup program. The company will use several different techniques in their operations, including thermal treatments and chemical injections that decontaminate soil. If metals are found in the soil, then it will be stabilized, removed and shipped to an appropriate landfill.

Although the Garrison is overseeing the clean-up program, the work falls under the Army Environmental Command, commanded by Col. Maria Gervais.

"One of the reasons the Army Environmental Command was set up was because there were thousands of sites within the Army that were contaminated," de la Paz said. "Most of these are cleaned up now. We are one of the last installations to remedy our contaminated sites because we have such a huge number of them.

"The Environmental Command first focused on installations that had a smaller concentration of contaminants and were easier to clean up, and on installations that were being BRACed or closed and eventually turned over to land reuse authorities. Once our fencing went up around our sites to prevent imminent danger, we became a lower priority."

Now, Redstone is a top priority, de la Paz said, and contaminated sites will be cleaned up and made available once again for the Army's mission.