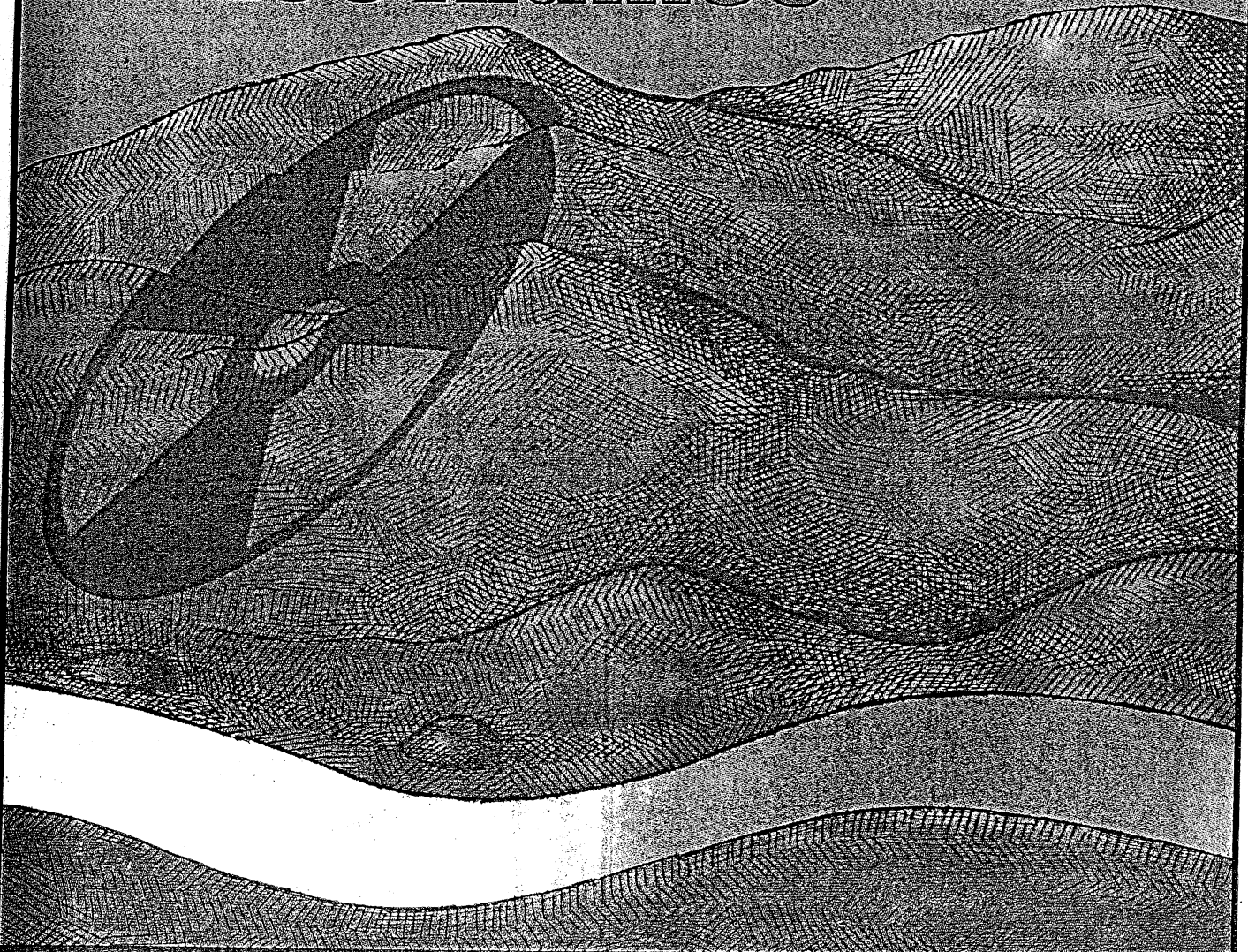


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The Waste Mess at Los Alamos



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peas and vasectomies**

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without violence**

The Waste Mess at Los Alamos

What's up there and how it got that way

by Benjamin McLaughlin

In the pre-dawn days of the nuclear age, Ashley Ponds' Los Alamos Ranch School — where, for over 20 years, young boys had gathered to learn the skills and values of ranch life — was forced to close its doors. In its place was built what came to be known as Los Alamos National Laboratory (LANL). Here, the world's first nuclear weapons were created. Dubbed "fat man" (a plutonium bomb) and "little boy" (a uranium bomb) — and developed in Los Alamos under the Manhattan Project — these first two atomic bombs devastated two Japanese cities and ended World War II. The Cold War followed WW II, and as it gained momentum, LANL continued to serve the nation's strategic nuclear needs, ultimately designing over 60 different types of nuclear warheads.

But creating nuclear weaponry means creating nuclear waste. Lots of it. And plenty of this so-called "heritage waste" still sits, hot and toxic, in and around LANL. How to dispose of or store such potentially deadly waste is something that's been chewed over for decades. The recent terrorist attacks in New York and Washington, D.C. have renewed concerns that our nation's nuclear waste needs to be dealt with, quickly, efficiently and securely.

THE CITY ON THE HILL

Los Alamos is situated northwest of Santa Fe in the Jemez Mountains. The lab sits atop a series of wooded mesas separated by a network of canyons that run through the site and the surrounding area. For years, waste was dumped in several locations on LANL property, sometimes in the canyons themselves. Some of it was just thrown on the ground, some was put in drums and some accumulated in holding ponds. A lot of it, to this day, has not been completely identified.

Determining just how much, and what kind of waste, isn't easy. Some of the waste that's been in storage for decades is unlabeled. LANL simply doesn't know what is in some of their old barrels. What to do with it is another problem altogether. A tiny percentage of LANL's waste has been shipped to the Waste Isolation Pilot Plant (WIPP) near Carlsbad. But LANL has far more waste than WIPP can hold, and most of it is too highly radioactive for WIPP to accept.

In almost all of LANL's operations, some type of hazardous waste is generated, much of it intensely radioactive. All in all, LANL produces about 99 percent of all nuclear waste in New Mexico. Although the facility is known as a nuclear weapons and research lab, there are also degrees of chemical and non-radioactive waste located in many sites

throughout the laboratory. Various explosives testing and storage sites throughout the lab produce much of this chemical waste, which includes different solvents, lead and mercury.

Radioactive waste is categorized in different ways. Under environmental regulations, for instance, transuranic waste, or TRU, is generally generated by working with plutonium. Such waste can contain anything from contaminated machinery to old protective clothing. There is also low level waste, or LLW, which can be roughly defined as anything that can't be classified as TRU. The LLW classification has nothing to do with the level of radioactivity. It includes spent reactor fuel rods and waste from uranium processing. When such waste is mixed with other hazardous, but non-radioactive waste, it is called mixed low level waste, or MLLW.

DUMPING GROUNDS

The south fork of so-called Acid Canyon was one of the lab's typical dumping sites. Located near



These 1946 lab photos show materials dumping (above) and Acid Canyon (r.) when they were still pouring raw, hot liquid waste onto the ground. photos courtesy of www.lanl.gov



downtown Los Alamos between the city swimming pool and the local skate park, this stretch served as a dump for different types of liquid waste, some of it radioactive, between 1945 and 1966. The waste was mostly dumped straight — meaning it was not in any type of protective container.

A cleanup was performed before the site was transferred to Los Alamos County in 1967, and again about 20 years later. But in 1999, alarming levels of plutonium were discovered in deposits in the canyon. Last May, LANL officials announced at a public meeting that it would perform a partial cleanup of the canyon. They argued that a full cleanup of the site wasn't economically feasible and the scope of the planned cleanup would sufficiently protect the public.

But Joni Arends, a director with Concerned Citizens for

Nuclear Safety (CCNS), a Santa Fe-based environmental activist group, is concerned that a partial cleanup won't fully address the problem and that radiation could one day be carried into the Rio Grande and eventually, further downstream.

"If this isn't cleaned up," says Arends, "it is going to have a profound effect on what ends up in Cochiti dam and in the fish in the Rio Grande."

LANL's main dump site is Technical Area 54, otherwise known as Area G. It's southeast of the lab toward the town of White Rock. Since it originally commenced operations in 1957, Area G has grown to 63 acres — making it larger than WIPP. As of last year, the site had received 10.7 million cubic feet — or about 1.4 million 55-gallon drums — of waste. The lab now plans to add an additional 70 acres to the site.

However, the site is subject to erosion and runoff, says Greg Mello, Director of Los Alamos Study Group, another lab watchdog. In addition, the site has no "cap," or engineered way of stopping erosion or preventing water from getting in, which poses a contamination threat. LANL has proposed ideas such as putting dams in surrounding arroyos, but some worry that anything short of a cap for the site isn't safe.

In addition, points out Mello, Area G, along with other sites containing radioactive waste, is not subject to regulation by any outside agency, such as the New Mexico Environment Department (NMED), the Environmental Protection Agency (EPA) or the Nuclear Regulatory Commission. Because so much of what goes on at Los Alamos is top secret the lab basically answers to itself.

James Bearzi, Chief of NMED's Hazardous Waste Bureau, says that people often misunderstand the role NMED plays in regulating the lab. He points out that NMED's scope of concern is within areas such as ground water quality and hazardous (not radioactive) waste and does not apply to the whole of the lab. Bearzi also adds that "certainly we could do a lot more, but our funding is paltry for what the public expects us to do." He feels that NMED is effective and often cannot inform the public of its plans, because they involve surprise inspections of LANL and other DOE facilities.

THE CITY IN THE LIME LIGHT

In December of 2000, after two events brought LANL's safety and security systems into question — a forest fire that blazed onto the western edge of the lab's property, and a security scandal involving Wen Ho Lee and lost hard drives — citizens gathered in Santa Fe and Albuquerque to view the premier of the CCNS documentary *Shadow on the Hill*. The movie highlighted LANL's 60-year history and discussed the environmental ramifications of its continued operation. According to CCNS, the documentary's premier had a large turnout and the movie provoked discussion from people

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not normally inclined to talk about the lab.

LANL is by no means unaware of the suspicion with which much of the public views it. Concerns about contaminated run-off in the wake of the Cerro Grande fire, and the highly publicized Wen Ho Lee case, drew a lot of attention, much of it negative. Accordingly, LANL has sought to strengthen its image with greater public dialogue. James Rickman, a public outreach director at LANL points out that LANL has also contributed a great deal to Northern New Mexico.

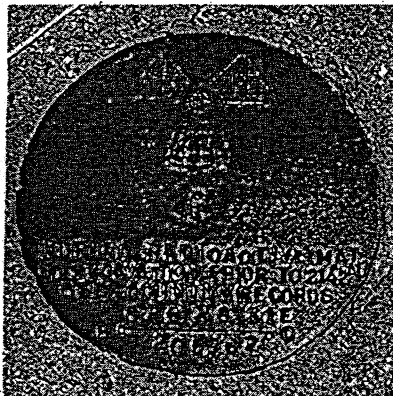
LANL, he points out, is the largest employer in the region, employing 30 percent of the population of Northern New

“People have accused us of not being forthcoming with information,” says Rickman. “That’s absolutely incorrect.” Lab environmental information, he says is available to “anyone, from any organization, at any time.” LANL shares that information through public meetings and the Northern New Mexico Citizens Advisory Board, made up of residents of the region, nominated by their municipalities and appointed by the Department of Energy (DOE).

“It’s a chance for the public and others to actually have a dialogue with lab officials and be able to ask questions firsthand,” says Rickman. LANL hopes that by



An aerial view of Area G — the lab's largest waste dump — shows the steep terrain and dense foliage that make waste cleanup so difficult. photo courtesy www.lanl.org



A radioactive waste disposal site marker in Bayo Canyon proclaims “No excavation prior to 2142 AD.” photo courtesy of www.lanl.org

Mexico and 4 percent of the state. LANL’s work force consists not only of full-time staff, but also of many subcontracted employees, such as materials specialists, crafts people and security guards. The lab, he said, led a small business initiative that encouraged female- and minority-owned businesses to pursue contracts at LANL.

In fiscal year 2000, salaries for all workers, including those subcontracted, exceeded \$800 million. In the same year, the lab procured a half-a-billion-dollars worth of subcontracted labor. “We’ve contributed a hell of a lot of money to the New Mexico economy,” says Rickman. “And a hell of a lot of jobs.”

He also points out that LANL has a long history of environmental monitoring studies that dates back to the 1950s. These studies include air, water and soil sampling as well as how contaminants may move downstream through canyons. The studies are similar to those performed by NMED, and the data collected by LANL is often compared with that taken by the environment department.

providing people with a forum and other measures, concerns over their commitment to the public and its safety will be eased. In fact, much of the statistical ammunition that its critics use to quantify the alarming amount of hazardous and radioactive materials stored at Los Alamos, comes from its own public reports.

NEW DIRECTIONS

Although LANL may never get out from under the shadow of the Manhattan Project, it has been forced to make some changes. With the end of the Cold War in the early ‘90s, LANL’s role for the future inevitably came into question. Deployment of nuclear weapons was reduced to the point that LANL — under the auspices of the DOE — was forced to

undergo a round of downsizing. The Stockpile Stewardship Program (SSP), which was inaugurated in 1994, switched the official scope of LANL’s, and indeed the entire DOE’s nuclear weapons mission, from the development of nuclear weapons to the maintenance of America’s aging nuclear stockpile (“Keeping the Bomb Alive,” CW, April 8, 1999).

These days, according to Rickman, the lab’s main operations involve “reducing the nuclear danger, using science, to ensure the safety and reliability of the nation’s nuclear weapons stockpile.”

This is the stated purpose of the SSP and involves ensuring that the nation’s nuclear stockpile remains reliable in the event that it’s needed. This is a difficult task, says Rickman who uses the analogy of maintaining a fire truck that must be kept serviceable without ever actually being started. “We have a keen interest in trying to understand how these weapons age over

WASTE continued on page 10

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WASTE continued from page 9

time," he says. "And since there's no longer a testing capability, we have to use things like materials science and computer models to try to determine what's happening as they age." Rickman says that every scientific discipline is used in this work.

The lab is also involved in a number of non-nuclear weapons activities such as computer, biological and climate sciences. The lab's participation in these fields is highlighted in a recruiting brochure for the lab, entitled "Science is my Life." The emphasis in such literature is on the diverse scientific community present at LANL, and the role a potential employee can play in that community.

That said, the watchdog groups and

Health Department on projects such as the Acid Canyon cleanup, an audit last year of LANL's compliance with certain environmental regulations, and sampling of the canyons around Los Alamos after the Cerro Grande fire.

Arends believes that LANL could do much more, given its budget growth for weapons-related activities. In 1994, LANL's weapons budget was under \$600 million. The DOE's 2001 budget request for the lab's weapons activities was \$935 million. Further, the current nuclear weapons budget now sits at about twice the Cold War average. But the annual budget for cleanup has stayed the same — at about \$100 million — for the last ten years. "For every dollar spent for weapons," she says, "there should be a dollar spent for cleanup. We can't wait any



Some of the LANL cleanup equipment. Critics say this effort should get as much funding as weapons-related activities. photo courtesy of www.lanl.gov

other lab watchers have little doubt that at least a bit of highly classified weapons and other national security related research continues at the labs. And in fact, the lab's weapons related budget has increased steadily for the past seven years.

GETTING RID OF THE LEFTOVERS

Cleaning up large amounts of toxic waste is also part of the lab's mandate. But despite the lab's enormous budget, critics say LANL is stingy when it comes to spending money mopping up.

There are a number of watchdog and advocacy groups like CCNS that observe the lab and its growth with concern. CCNS's main focus is primarily on the environmental effects of the country's nuclear weapons industry. It has worked with agencies such as NMED, the EPA, and the New Mexico

longer."

Yet according to Rickman, much of the money that is generated for the nuclear weapons budget actually gets allotted to cleanup activities with various weapons work. "You could actually roll environmental restoration activities into the nuclear weapons side of the house," he says.

Nevertheless, "there's enough money in the nuclear weapons business to cleanup the mess," says Mello. "It's quite a bit overfunded, and it's going up every year." Mello says there are many people within NMED and at the lab itself who have worked hard at getting LANL to comply with certain environmental regulations, but, "the lab needs more money for cleanup. It can get that money if the state issued clear and enforceable cleanup orders."

Beazi says NMED is doing a better job of listening to the public's concerns. But while the door for greater public involvement and input may be open, it's not always used. "Our experience here in New Mexico is that for many permit requests [by the DOE], we never get any public comment," he says. He stresses a need for more participation from the public and adds that it would greatly help NMED in determining community desires and "give us a sense of how we're doing."

LANL operations continue as advocacy groups and other members of the public keep watch. Concerns about the possible side effects to public health and other matters are likely to continue for years to come. For its part, LANL pledges to continue with what it feels is a good record of responsibility and openness to public concerns. The fact remains that as long as lab operations continue, concerns will arise and people will ask questions. CW

Benjamin McLaughlin is a Santa Fe-based freelance writer.