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## The Lowdown on Lowry

### The city thought it had settled any questions about the Lowry Landfill. The truth is a toxic shocker.

By Eileen Welsome

published: April 12, 2001

One hot morning last summer, a small valve was turned on at the Lowry Superfund Site, and groundwater from the old landfill began flowing through a newly constructed sewer line. The water had no color, no odor, and had already undergone several procedures at the landfill site to remove certain chemicals. It looked cool and refreshing -- almost good enough to drink. Day and night, at the

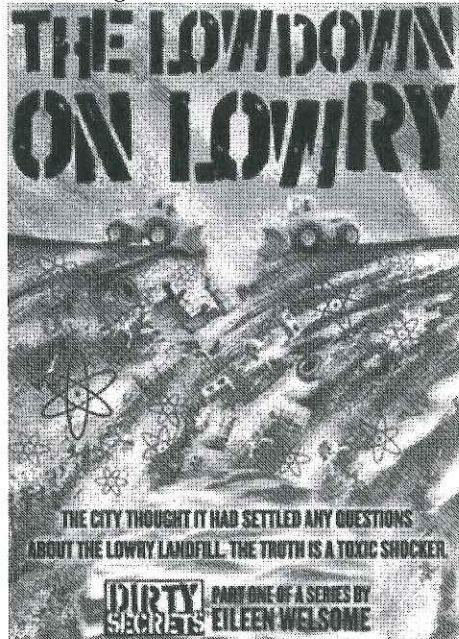
rate of about ten to twenty gallons per minute, the groundwater surged through the subterranean network of sewers that crisscross the city. Some of the water was diverted to Aurora, where it would be sprayed on parks and golf courses, but the rest eventually flowed into the vast river of sewage that pours daily into the Metro Wastewater Reclamation District plant in north Denver. At Metro, the largest sewage-treatment facility between the Mississippi River and the West Coast, the water was filtered and cleansed, then eventually discharged into the South Platte River. Some of the heavier Lowry elements were left behind in the plant's malodorous sludge, or "biosolids," as those in the business prefer to call it, and the sludge was then hauled away in trucks to be spread on farms in eastern Colorado.

If all goes according to plan, this discharge will continue for the next fifty years, possibly much longer. And when the valve is shut off for good, millions of gallons of hazardous waste -- containing dioxins, PCBs, pesticides, heavy metals and radionuclides -- will have been transferred from the landfill site to Colorado's rivers and creeks and farmland.

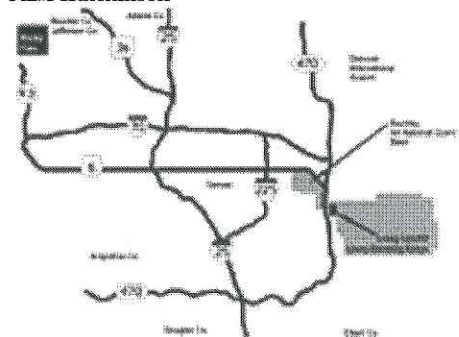
City, state and federal officials insist the process is a safe and cost-effective way to treat Lowry's hazardous waste, but one longtime Environmental Protection Agency official says the deal simply lets polluters off the hook. "You're basically transferring the liability of the hazardous materials from the responsible parties at the landfill to the City and County of Denver and the region of Colorado where the material's going to be dumped," says Hugh Kaufman, who helped craft the laws governing Superfund sites in the late '70s and, until recently, was the chief investigator for the EPA Office of Ombudsman.

A confidential legal analysis prepared in 1996 for the City of

Michael Hogue



Julie Hutchinson



Julie Hutchinson

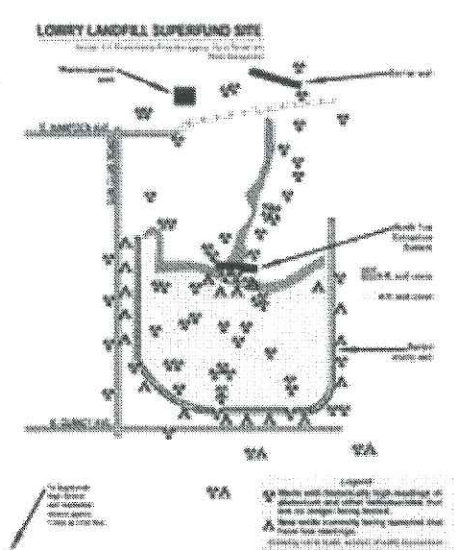
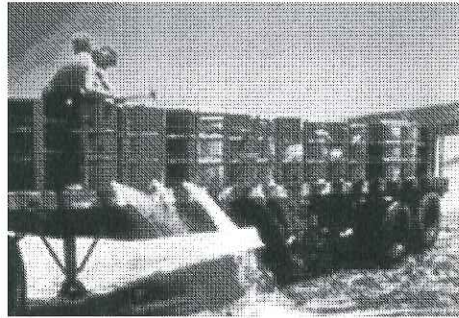


photo courtesy of the U.S. Environmental Protection



Truckers dump liquid wastes at the Lowry Landfill.

Details:

For more detailed maps and other documents, click to our [Lowry Superfund Site](#) website.

Westword's coverage of [Rocky Flats](#)

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Denver illuminates another aspect of the arrangement that's beneficial to polluters: As long as the contaminated groundwater remains on-site, it is categorized as hazardous waste and subject to the plethora of federal laws governing the disposal and storage of such wastes. But once the liquids are pumped through the sewers, the "site waters" need only meet the standards of the sewage-treatment facility accepting the wastes.

The EPA is currently reviewing whether the remedy at Lowry Landfill is adequately protective of "human health and the environment." Much has changed since the agency issued its formal cleanup program for the site seven years ago: Housing developments have sprung up within a mile of the landfill, and explosive growth is expected in the area in the coming years.

From roughly 1964 to 1980, nearly every major industry operating in or near Denver used Lowry Landfill as its personal dumping ground. Waste oils, sludges, pesticides, cleaning solvents, construction debris, paint, hospital waste, pharmaceutical chemicals, even dead zoo elephants were dumped into unlined pits and covered with household garbage. The pits belched and steamed, often catching fire, and the poisonous liquids eventually seeped down into the groundwater. Beneath the landfill are four aquifers that supply water to suburban and rural residents.

The landfill was placed on the EPA's National Priorities List of Superfund sites in 1984. In subsequent years, public officials and the companies responsible for the pollution tried to determine exactly what had been dumped at the landfill, who was responsible, and what was the best method for cleaning up the toxic waste. Since all of the potential polluters, from small mom-and-pop outfits to well-heeled companies such as the Adolph Coors Company, were equally liable for cleaning up the mess, there was a lot of finger-pointing. Eventually the dispute wound up in federal court.

The City and County of Denver and Waste Management of Colorado Inc., the contractor that operated the landfill, took the lead, filing lawsuits against scores of companies in an effort to obtain the \$94 million that the EPA said would be needed to clean up the site. The last party to settle was the Metro Wastewater Reclamation District, which had spread millions of gallons of sewage sludge at the landfill during the '60s and '70s; Metro was the big fish that the city and Waste Management wanted to reel in. Finally, in the spring of 1996, Metro agreed to pay \$1.9 million, some of which would be used to construct a new sewer line and, most important, to pump the Lowry groundwater through that sewer system.

With Metro's capitulation, the city and its private partner were on their way to devising a permanent solution for the foul-smelling liquid that roiled beneath the landfill. But fierce opposition soon emerged from an unexpected quarter: One of Metro's newly appointed boardmembers, a self-contained and articulate woman named Adrienne Anderson, was worried that the Lowry discharge could endanger Metro's workers and the public at large. At a request from the Oil, Chemical

and Atomic Workers Union, Anderson spent weeks at the EPA Superfund Records Center in downtown Denver, poring over microfilmed records related to the Lowry site. Late one afternoon, when her eyes were burning with fatigue, the parking meter was running outside, and her children were waiting to be picked up from a daycare center, she found what she refers to as the "smoking gun" memo -- a letter that had been prepared by the polluters themselves, a group known as the Lowry Coalition, and hand-delivered to the EPA a few weeks before Christmas 1991. Attached to the letter was page after page of monitoring data that described contaminants found in scores of wells drilled around the site.

The polluters summarized the most salient points in their letter to the EPA. Numerous wells at the landfill had alarmingly high levels of americium and plutonium, they told the EPA, and those radioactive contaminants could have come from only one place: the now-defunct Rocky Flats nuclear-weapons plant located northwest of Denver. Plutonium is a highly carcinogenic substance, and americium, a contaminant usually found in the presence of plutonium, can also cause cancer.

With this new piece of evidence and hundreds of additional documents, Anderson met with the union and then set out to alert the public to the danger. "I was sad, sick, nauseous, horrified and alarmed," remembers Anderson, who subsequently filed a whistleblower lawsuit against the Metro Wastewater Reclamation District that will be ruled upon this spring.

Anderson's pronouncements were met with heated denials from virtually every city, state and federal official involved with the landfill. Members of the local media soon followed suit, dismissing her as a radical environmentalist or worse. "Her allegations are bullshit," says the EPA's Marc Herman, who served as project manager at Lowry for nearly a decade. "No, no, no; they're *horseshit*, because horseshit stinks more than bullshit. I think that says it all."

Yet an employee who once worked for Waste Transport, a company that transported liquid wastes to Lowry from numerous plants in the Denver area, now admits that drivers stopped at Rocky Flats two to three times a month and suctioned thousands of gallons of water from sumps located near the buildings. "We hauled out of Rocky Flats, we hauled out of Shattuck, we hauled out of Arapahoe Chemicals in Boulder," says Lloyd Hesser, who lives in Needles, California, and is suffering from numerous ailments that he believes were caused by the chemicals he hauled to Lowry. "I feel sorry that I hauled that shit. How many people have I poisoned?"

According to a database maintained by the City of Denver, at the time public officials were loudly insisting that there was no plutonium at Lowry, they were making no effort to retest wells there that had consistently showed high readings of plutonium or americium. Instead, the results of the radioactivity component of the study -- which had been gathered over a four-year period at a cost of millions of dollars -- were simply "re-analyzed" and then jettisoned for technical reasons.

The database, which dates back to 1975 and contains more than 155,000 test results, can be sorted to analyze sampling activity at Lowry in seconds, showing what wells were sampled, when they were sampled, and what was found in them.

The database was part of in a formal public-records request *Westword* filed with the City of Denver last December, yet officials didn't include it in the boxes of documents and electronic data that were made available; *Westword* obtained a copy from another source. Among the trends revealed by that database:

- With the exception of one well, none of the approximately 65 wells sampled between 1988 and 1991 that showed high results for plutonium or americium have ever been resampled. The wells have either been plugged, abandoned or simply not tested for those radionuclides.

- Some wells sampled early during the testing period show extraordinarily high levels of numerous radionuclides, ranging up to 4 million picocuries for americium-241, 6 million pico-curies for neptunium-239, 2 million picocuries for iodine-133, and 8 million picocuries for arsenic-76. While these figures are listed in the "results" column, officials nevertheless say they represent laboratory "detection limits" and not the actual levels of contamination. But according to several scientists who reviewed the data, those detection limits are set so high that they reveal nothing about what is present at the site.
- The current low readings for plutonium and americium -- touted everywhere from City Hall to the EPA as proof there is no contamination at Lowry -- are being taken from approximately 35 newly drilled wells located just outside the areas of historic contamination, or from wells that never showed much contamination to begin with.
- None of the roughly 25 wells that are deeper than 100 feet are being sampled for plutonium or americium. By contrast, those that *are* being sampled are mostly shallow wells located in the alluvium or uppermost bedrock. The deep wells -- not the shallow wells -- could alert officials as to whether the plutonium and americium are descending toward the underlying aquifers.
- Wells located at the outermost western edge of the landfill and north of a barrier wall are not being sampled for plutonium or americium. These wells could provide officials with important information regarding whether any radioactive contaminants are creeping toward populated areas.

Waste Management's Lori Tagawa and Dennis Bollmann, one of the city's environmental scientists based at Lowry, defend the current sampling program, arguing that new wells drilled in the last two or three years provide ample data about any potential lateral and downward migration of contaminants. "We have early-warning monitoring wells for just about everything," Tagawa says.

Both Tagawa and Bollmann also say there's no evidence that any contaminants have descended into the lower aquifers. "We haven't seen any kind of contamination in the deeper wells," notes Bollmann. Yet documents on file at the Superfund Records Center and the database itself show positive results for both radioactive and nonradioactive chemicals in wells drilled deeper than 300 feet.

*Westword* has also obtained numerous confidential documents describing settlement agreements that the city and Waste Management entered into in the early- to mid-'90s with the companies that dumped wastes at Lowry, as well as the two multimillion-dollar trusts that were established with the settlement funds. Those documents indicate that all of the parties involved in the lawsuits have a huge financial stake in making sure the landfill's cleanup costs do not exceed the \$94 million set forth by the EPA in its 1994 Record of Decision, a legally binding document that guides cleanup activities at the site. In fact, the "profits" that the city and Waste Management hope to someday reap from overseeing the cleanup and the expenses polluters may have to pay for that cleanup are directly linked to how much money they can save on the remediation. These records also show:

- Some polluters were apparently so concerned about potential radioactive contamination that they purchased "radioactive premiums" from the city and/or Waste Management. The radioactive premiums were one of a number of premium options offered to the various polluters during settlement negotiations; the premiums protect them from such things as cost overruns, private-party litigation, potential toxic tort claims, and natural-resource damage claims that could conceivably be brought by Colorado's attorney general, or even fines levied by the EPA itself. The City of Denver, the two trusts established with the settlement funds and/or Waste Management get to pocket the premiums as profit, court documents state. But if lawsuits are eventually filed or cleanup costs increase substantially as a result of some unforeseen event -- such as radioactive contamination -- then the city and Waste Management could be out millions of dollars.

- Some of the companies that settled with the city and Waste Management have "reopener" clauses in their agreements, which means that if cleanup costs exceed a certain amount, those companies could be forced to come up with more money.
- In recent years, the city and Waste Management have been debating whether they can legally withdraw "management fees" from the trust funds established to pay for the cleanup. Denver officials won't say how much is collectively held in the two trusts, but records indicate that by the end of 1994, approximately \$110 million had been collected in cleanup costs, premiums and other fees. The management charges, which could amount to millions, would be based on several factors, including the difference between the money actually spent by the city and Waste Management on cleanup versus the \$94 million that the EPA estimated in 1994 it would cost to remediate the site.

Other than a handful of city officials and a few private individuals, most people in Denver have no knowledge of the settlement agreements or the trusts, which are administered outside the purview of the city and apparently not subject to Denver City Charter regulations governing public funds. Even the EPA says it doesn't know how the settlements were structured or how much money is currently in the cleanup fund.

The agreements were sealed by then-federal judge Sherman Finesilver at the request of Waste Management and with the tacit agreement of the City of Denver and other settling parties. Finesilver, who is now retired, was the judge who issued a gag order for the Rocky Flats grand jurors, barring them from ever talking about their two-and-a-half-year investigation into alleged environmental crimes committed at Rocky Flats by its contractors and federal officials.

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In the beginning, the land where the future Lowry Landfill would be located was little more than a vast, unbroken expanse of prairie and sagebrush, ravaged by blizzards and wind, far from downtown Denver and its growing suburbs. The area was part of a much larger parcel of property that was purchased by the City of Denver with general-obligation bond funds before World War II, then donated to the U.S. military in 1940 for a bombing range. As the heavy bombers chugged above the scorched earth, dropping their payloads on hapless targets, the area became known as Lowry Air Force Base and Bombing Range.

The bombing runs were discontinued in 1958 when the Air Force decided to excavate and build four separate missile-launch complexes, each containing three missile silos, for the Titan Intercontinental Ballistic Missile Program. Constructed from steel and reinforced concrete, the launch complexes were extremely elaborate affairs and built to withstand many pressures, including a nearby atomic blast. Located far below the ground were control centers, generating equipment, living rooms, kitchens, sleeping quarters and, of course, the long narrow silos that housed the nuclear weapons themselves. A web of underground tunnels allowed military personnel easy access to all parts of the site. Soon, twelve armed nuclear missiles -- three in each of the four launch complexes -- sat ready and waiting for the doomsday signal. But the warheads had barely been settled into their underground homes when the Strategic Air Command decided to phase them out. In an effort to wring a few pennies from the boondoggle, the General Services Administration sold three of the launch complexes for \$450,000 to a construction firm in Salt Lake City, which salvaged what it could and left the rest behind.

In 1964, the federal government conveyed back to the City of Denver five sections of land in a quitclaim deed. City officials decided to locate a new dump on Section 6, a square tract of land that was readily accessible to highway traffic and bordered on the west by Gun Club Road, on the north by Hampden Avenue and on the south by Quincy Avenue.

The government's quitclaim deed specifically stipulated that a portion of the property being conveyed

back to the city be used as a landfill. The stipulation suggests that the federal government may have already been using some of this property as a landfill; several aerial photographs of Section 6 support that hypothesis. A photograph taken in June 1963 -- a year or two before the city took over the facility -- shows numerous dirt roads crisscrossing the area and an oval-shaped lagoon in what would become the southeastern corner of the landfill. Another aerial photograph taken two years later, in December 1965, shows roads leading east from this lagoon to two long, liquid-filled trenches and several smaller ones on the landfill proper.

To the unpracticed eye, Section 6 seemed like a perfectly reasonable place to put a landfill. The land was relatively flat, sloping gently down to a bowl-like depression where an intermittent stream called Unnamed Creek emerged during heavy rains and flowed in a northerly direction. Beneath the site lay four aquifers -- the Dawson, the Denver, the Arapahoe and the Laramie-Fox Hills -- that provided water for rural communities and Denver suburbs alike. The U.S. Geological Survey, which did a seminal study of the area in the late '70s, concluded that surface water and shallow groundwater generally moved north, while water located in the deeper aquifers flowed west. But later investigations also found that water bubbled up to the surface and flowed down through fractures, two phenomena that would greatly complicate future efforts to determine the migratory path of contaminants. "Sand lenses" -- shallow beds of loosely packed soils beneath the surface - are also present at the site and could affect water flow.

But no one was thinking about aquifers when the dump opened for business in the mid-1960s. Instead, the city was widely applauded by regulators and private companies alike for providing such a vital public service. "The willingness of the city and county of Denver to dispose of questionable wastes (formerly without charge) keeps much of this material out of less suitable landfills and provides a useful service to industries and institutions. The 'concentration' of these materials at this site has prevented potential pollution of other drainage areas and aquifers," wrote one state official in a 1976 Colorado Department of Health report.

Soon, trucks from Denver, Golden, Longmont and Boulder began rumbling down Highway 30 toward the new landfill. Sloshing inside their shiny tankers were hazardous chemicals that scientists decades later would learn were capable of producing birth defects, genetic anomalies, immune system disorders -- even cancer if exposures were large enough. The EPA estimates that between 1964 and 1980, about 140 million gallons of hazardous waste were dumped at the site. But that number could significantly underestimate the problem. Landfill records maintained by the City of Denver show that in the first two weeks of 1975 alone, some 611,925 gallons of liquid waste were dumped at Lowry -- a figure that could push the total closer to 220 million gallons.

EPA officials spent countless hours studying landfill receipts, trucking records and other documents in an effort to figure out how much the various private and public entities had dumped at the landfill. Using their considerable federal clout, they demanded from private companies and public agencies alike waste disposal records and information about industrial processes. From this, they developed "waste-in lists," or compilations of what a particular firm had dumped at Lowry. The EPA officials then sent these rough estimates to the "potentially responsible parties," who, in turn, fired back with their own invariably low estimates. The potential responsible parties, or PRPs, kept a close watch on the EPA and each other: When one company's liability went down, another's usually went up. The EPA eventually concluded that Coors was the single largest user, trucking to the site an estimated 32 million gallons of sludges, solvents, acids, pesticides, inks and waste oil. Syntex Chemicals came in second, with 28.6 million gallons of waste, and S.W. Shattuck Chemical Company was third in line, with 17.6 million gallons.

But there were many others who took advantage of the city's dumping ground. "The landfill served industries up and down the Front Range," remembers Orville Stoddard, a former official with the state

health department. "Somebody had to take care of the liquid problem." Small businesses, large industries, school districts, hospitals, universities and numerous federal agencies -- including the U.S. Mint and the EPA itself -- also dumped their wastes at Lowry.

"For sixteen years, industry was provided a Denver taxpayer-subsidized disposal facility that in all probability limited industry's Superfund liability to one site instead of many," wrote Theresa Donahue, an aide to Mayor Wellington Webb, in a fiery letter dated Christmas Eve 1991 -- the very day the city filed the first of two mammoth lawsuits against various polluters. (Today Donahue is the director of the city's Department of Environmental Health.)

But the City of Denver, owner-operator of the landfill from 1964 to 1980, could hardly be characterized as a shining knight. Disposal practices were shockingly crude by today's standards. Backhoes simply dug pits down to the bedrock, and then tanker trucks backed up to the unlined pits and, in the words of one former trucker, "let it rip." Sometimes pits were dug directly into the mounds of trash, and household garbage and construction debris were then thrown into the holes, under the theory that the solids would "soak up" the liquids. By 1979, an aerial map showed that the landfill contained millions of tires, dead-animal pits, low-level radioactive waste disposal pits, and a special area reserved for Continental Oil's "sludge experiment."

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Lloyd Hesser remembers screaming through downtown Denver during rush hour traffic with his tanker truck loaded to the gills. He made three, four, five trips a day to the landfill, hauling wastes from companies throughout the metro area. Even now, decades later, a tone halfway between awe and horror creeps into his voice when he thinks back to the vast pit where he would dump his loads. "We could get about eight or ten trucks backed up to it at one time," Hesser says. "We'd back in there and pull the cord. You ought to have seen that pit. The ducks would land and it would kill them instantly."

It took exactly eight minutes to empty a tanker, and then Hesser would be back on the road. He used to haul three or four loads a day out of Arapahoe Chemicals, a Boulder company that is now known as Syntex Chemicals; one of his buddies hauled six to eight loads a day from the Shattuck facility in south Denver, and other truckers worked from dawn to dusk and on weekends hauling liquid waste from the Rocky Mountain Arsenal. "We'd start loading at 4:30 or 5 in the morning," Hesser remembers. "We got paid by the gallon, a penny a gallon." The truckers were given no safety manuals and no protective clothing -- except, perhaps, an occasional pair of rubber gloves.

Hesser's big industrial customers maintained that the liquids being removed from back lots, underground tanks and evaporation ponds simply contained wastewater. "We were too dumb to know better," Hesser says. "All we knew is that we were making good money, and most of us were home every night raising families."

Hesser was one of a fleet of drivers who worked for Milt Adams, a self-made Commerce City businessman who'd started off recycling used oil and eventually became the owner of Waste Transport Company, the largest transporter of liquid waste to Lowry. "If your wastes are flammable, toxic, odorous, or organic in nature, then the bombing range is the safest place for their disposal," Adams once wrote in a letter circulated to customers.

Adams had begun his Denver career collecting used oils from gas stations and garages and then selling them to a Utah firm that re-refined the oil and sold it back to railroads. "We were heroes because we took it to be re-refined and used by the railroads," he said in a 1993 deposition, "whereas, before that, why, some of it was thrown over the fence..." As a favor to his corporate customers, Adams said he'd occasionally "blend" some of his used oil with the company's liquid wastes so that they could "get rid of it, and it wouldn't have to go to Lowry."

Over time, it became evident that Denver did not have the ability to cope with the diversity and amount of liquids being hauled to the landfill. Records documenting what went into the pits, and where, were extremely sketchy. Often a city employee would just scrawl "brine water" or "waste water" on receipts. The workers, one former manager said disdainfully, "wouldn't know water from Pepsi-Cola anyway."

During one routine inspection in June 1972, an official with the Tri-County Health Department, which oversees Adams, Arapahoe and Douglas counties, noted that six new toxic waste pits, each approximately 300 feet long and fifty feet wide, had been dug down to the bedrock. "At present there is no log as to what type of chemicals, or how much toxic waste, is being dumped," he wrote.

Chemical fires broke out frequently. Rats swarmed over the garbage mounds. Hazardous gases collected within the landfill mass and often exploded, tossing barrels fifty to sixty feet in the air. Operators complained of acids and unknown chemicals being dumped into "oil holes" and the indiscriminate "dumping of carcinogenic agents and radiation-contaminated substances." Workers were advised to don respirators, and in 1974, the Colorado Department of Wildlife reported one confirmed animal death that could definitely be tied to Lowry.

For the unfortunate residents who happened to live downwind of the site, the odor was simply unbearable. The sludge and chemicals in the open pits created a stench "so strong it makes outdoor activity impossible and the opening of windows limited to only certain times of the day. Even if the odor were not overwhelming, the flies are so abundant they soon chase us indoors," one resident, a Mrs. Crab, told the EPA in 1979.

The neighbors were also worried about the quality of their well water, according to numerous documents in the EPA's Superfund Records Center. "The water well contamination is a terrific concern to all of us," wrote Maryann Rains in a letter to former Colorado senator William Armstrong. "We've met with Shell Co., Colo. State Health, etc., and they reassure that precautions are being taken and any number of tests being made etc., but nobody *really knows* what the long-term effects are going to be."

In 1968, just four years after the landfill opened, Don Turk, an official with the Tri-County Health Department, warned that the disposal of "liquid industrial hazards may create a water table pollution problem." A few years later, Don Berve, also with Tri-County, noted that high levels of cyanide had been detected in water flowing off-site. Even more ominous, one of the liquid pits seemed to mysteriously recede overnight. In a letter, state health department official Orville Stoddard theorized that the subsidence might be caused by "a possible 'lens' in the shale layer at the bottom of the pit," then added, "This leaching material could adversely affect groundwater quality."

Camp, Dresser and McKee, a consulting firm working for the City of Denver, described a similar phenomenon in a 1979 report: "One of the pits appears to be full; however, wastes continue to be dumped into it without apparent increase in the level of the liquid. Wastes are emptied into other pits where liquid seeps completely from view within a short period." The firm warned that disposal practices could result in severe groundwater contamination. But the warnings apparently fell on deaf ears, and the tankers kept dumping their loads at the bombing range.

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In the spring of 1977, a number of men gathered in front of Nickerson's Restaurant in Bennett. The group included an investigator and physicist from the state health department; an official from Rockwell International, the contractor running the Rocky Flats nuclear-weapons plant for the federal government; a former Colorado state patrolman and a reporter from the *Boulder Daily Camera*. The day's outing had been triggered by a provocative letter that the former patrolman, Bill Wilson, had written to the health department a few days earlier.



While patrolling Highway 30 back in 1961, Wilson wrote, he'd once stopped a Boulder County milk transport truck. When he asked the trucker what he was hauling, the man told him that his load was "polluted radioactive waters" from the Rocky Flats plant. "He said they dumped the polluted waters in any old valley or hole on the range by government agreement," Wilson said. Although he subsequently reported the event to the Public Utilities Commission, which regulates the trucking industry, Wilson wrote that he'd continued to see strange milk trucks traversing the bombing range.

Health department officials didn't know what to make of Wilson's letter. But they were concerned enough about his allegations to read them over the telephone to a Rocky Flats official, who had them transcribed verbatim. And later that day, Albert Hazle, then head of the health department's radiation and hazardous waste division, was kind enough to deliver a copy to the home of Earl Bean, then assistant manager for the Energy Research and Development Administration, which oversaw Rocky Flats. Bean called Hazle later that night and told him they'd concluded that Wilson's communication was nothing more than a "crank" letter.

Still, Rocky Flats officials weren't taking any chances. They decided to send Burt Kelchner, a Rockwell employee, on the tour that Wilson was going to lead after lunch. So after they'd finished eating, all five men piled into Wilson's car and headed out to the bombing range. They stopped at one of the missile silos and took radiation readings, then drove to a stream bed where Wilson thought dumping had occurred and took samples. Wilson tried to find another creek bed where other milk trucks had spewed their contents, but the passage of time had rearranged the landscape, and he had a hard time finding any familiar landmarks. Finally, they stopped near the spot where Wilson thought he'd first encountered a milk truck, but by then health department officials were so skeptical that they didn't even bother to get out of the car. They simply stuck a Geiger counter out the window to get readings.

Rocky Flats officials subsequently interviewed numerous plant employees who were familiar with procedures for handling both radioactive and uncontaminated waste. "All of the personnel interviewed are certain that no liquid wastes have been shipped offsite to the Lowry Bombing Range or to any other location in the Denver area," Bean determined.

But eighteen boxes of records that were eventually found in a shed belonging to one of Milt Adams's companies suggested otherwise. Waste Transport and other recycling companies had in fact made a number of trips to the bombing range on behalf of Rocky Flats between 1970 and 1980, dumping waste oils, solvents and paint thinner at the landfill. But whether these items were contaminated with plutonium is another question: Rocky Flats did make an effort to separate "hot" wastes from "cold" ones, but even cold wastes occasionally contained small amounts of plutonium and other radioactive chemicals.

And for the earlier dumping period, from roughly 1953, when the nuclear-weapons plant opened, to 1970, few documents have surfaced showing what, if anything, Rocky Flats sent to Lowry.

Plutonium from Rocky Flats could also have been transported to Lowry inadvertently by the Waste Transport trucks that stopped at the plant two to three times a month in the early '70s to suction out water that had collected in concrete basins, or sumps, located near the buildings. According to Hesser, the former Waste Transport driver, these sumps contained anywhere from two thousand to three thousand gallons of water. "Whenever it rained, we had to go out and haul that stuff away," he says. "We'd take the manhole cover off, suck it out and go on." Today officials believe that some of the most heavily contaminated areas of Rocky Flats lay beneath those production buildings.

Neighbors who lived near the bombing range remember seeing tankers that resembled milk trucks hauling waste up and down the highway. "We all saw them. It was hard not to see them going down the road," says Jerry Rains, the son of Maryann Rains, the woman who'd complained about the landfill

odors.

Mary Ulmer, who lives near the bombing range and is a member of FES UP, or Family Farmers for Environmentally Safe Use of Property, says the stainless-steel tankers "were pretty common" around the bombing range. "Some of them were actually marked as milk trucks, but the ones I saw didn't have marks at all," she adds. Ulmer's suspicions were further aroused after she noticed that some of the tankers didn't even have license plates. Once, when she stopped to take a picture of a tanker, the driver got out and threatened to take her camera away. "They looked just like milk trucks," she says. "The same apparatus. They loaded from the top and dumped from the back."

In 1961, the same year Bill Wilson stopped the "milk truck" at the bombing range, Coors Porcelain was using steel tankers to transport liquid wastes to the evaporation ponds at Rocky Flats. Even though Rocky Flats was already overloaded with its own waste problems and rapidly becoming what one official facetiously described as the world's barrel capital, the plant continued to "accommodate" Coors through 1970. This accommodation included the acceptance of 750 barrels of enriched uranium scrap and 180,000 gallons of radioactive water containing isotopes of yttrium, zirconium, enriched uranium and beryllium -- some of the same isotopes that were eventually detected in the Lowry Landfill.

Coors Porcelain was under contract to fabricate nearly 800,000 fuel elements composed of beryllium and enriched uranium for "Project Pluto," a civilian-military effort to build a nuclear-powered jet. When the project was terminated, the company was unable to account for 3,016 of the 5,276 grams of uranium it had processed.

Coors Porcelain had other research contracts during the Cold War years, including one with Los Alamos National Laboratory to develop special ceramic sponges that could be used to absorb and hold radioactive wastes. The "sponges" were dunked in aluminum-nitrate wastes spiked with fission products, such as strontium-90, fired in ovens and then re-immersed in water to see what radioactive elements leaked out.

Confidential court documents show that Coors Ceramics, the company's successor, paid \$113,801 in cleanup costs and another \$445,598 in premiums and other costs, including \$36,000 for the radioactive premium, to settle its liability at Lowry. Terry Terens, a spokeswoman for Coors Tech, which succeeded Coors Ceramic, says the company never hauled any radioactive waste to Lowry and speculates that the payment might have been made as a precautionary measure.

On a questionnaire filed with the EPA in 1990, Coors Porcelain said it shipped waste oils, lead dross, an industrial by-product, and miscellaneous chemicals off-site during the period from 1965 to 1980 but didn't know where they went.

Terens says she was told that approximately 1,500 to 2,000 55-gallon drums of waste from Coors Porcelain were taken to the bombing range and placed in a "secured-drum burial area" that was not part of the Superfund site -- although she doesn't know where, exactly, that area is. Terens says it's her understanding that the "whole area for the landfill was the bombing range, but some of it was Superfund site and some was not, and our waste went into an area that was not part of the Superfund site."

Although the bombing range encompasses 65,000 acres, the landfill is less than a square mile in size. According to Terens, the Coors drums were later dug up and moved to another location. "We followed whatever regulations existed and put them where we were told to put them."

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At the very least, the response to Bill Wilson's letter showed that times were changing by the late '70s; open stretches of seemingly empty prairie were no longer acceptable dump sites.

Milt Adams, who had become so wealthy that he bought a new Mercedes every year, got out in the nick of time. In 1980 he sold his business to Chemical Waste Management, which is part of Waste Management, Inc., a huge multinational conglomerate. "It was an offer I couldn't turn down," he said in his 1993 deposition. Adams got \$350,000 worth of stock; Waste Management got his tankers, vacuum trucks and business records.

Just four years later, in 1984, Lowry was declared one of the most hazardous Superfund sites in the country.

The same year that Milt Adams sold his company, Chemical Waste Management contracted with the City of Denver to operate the landfill. Chemical Waste Management immediately assigned the contract to Waste Management of Colorado. Sanitary landfill operations continued until 1990 at the Superfund site, then were moved to the section directly north of the closed site. Today Waste Management shares an office at the landfill with city employees and continues to be deeply involved in the cleanup activities.

The upshot of the two transactions? The City of Denver obtained a new partner in the landfill business, but it was a partner that various parties would soon allege was equally culpable for the toxic mess at Lowry. Ironically, Denver itself had only disposed of about five gallons of garden chemicals at the site through 1980, and the city didn't really start taking household garbage from Denver residents to the landfill until that year.

**Next week:** *Lowry Coalition members make massive settlements to the city, which are put in secret trusts. But will the funds cover potential plutonium cleanup?*

**Click over to our [Lowry Superfund Site](#) website. It contains all the documents used in this investigation, database excerpts, maps, and links to discuss the story with other Westword readers**



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