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## A Matter of Trust

### Who paid what to clean up Lowry Landfill? That's confidential.

By Eileen Welsome

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When former state patrolman Bill Wilson arrived for his interview with the Environmental Protection Agency in 1988, nearly thirty years had elapsed since he'd cruised the lonesome roads that traversed the Lowry Bombing Range. A weird Cold War paranoia lay across that land in the early 1960s. Scarred dirt roads angled into the brush, leading to military hangars, landing strips, munition storage depots and underground missile silos that housed enough nuclear weapons to blow the world to smithereens. Time and time again, as he patrolled the dusty roads, Wilson had spotted tanker trucks stopping alongside the ditches, creek beds, even the silos themselves. And there, among the broken glass and

brittle grasses, the truckers had dumped their loads.

According to state and federal records, Wilson tipped off the Colorado Department of Health to the clandestine dumping in 1977, but the department did little to either confirm or deny his allegations. Now, eleven years later, the EPA was in the midst of a multimillion-dollar investigation of the Lowry Landfill, a Superfund site located at the edge of the old bombing range, and the agency wanted to hear what Wilson had to say.

Wilson told the EPA that he was most concerned about the milk-truck-style vehicles that had been used to dump liquid wastes. "During a conversation with one truck driver who was dumping a milky-colored waste material adjacent to Highway 30, he made inquiry as to the type of waste being dumped. The truck driver told him the material was harmless wastewater and that they steamcleaned the trucks after unloading," one EPA official wrote of Wilson's interview. "The truck driver also said they had been hired by Dow to haul the liquids from Rocky Flats. It seemed strange to him that harmless wastewater would be hauled all the way to Aurora from Rocky Flats, however, he had no real authority in this area so all he was able to do was to issue a PUC warning."

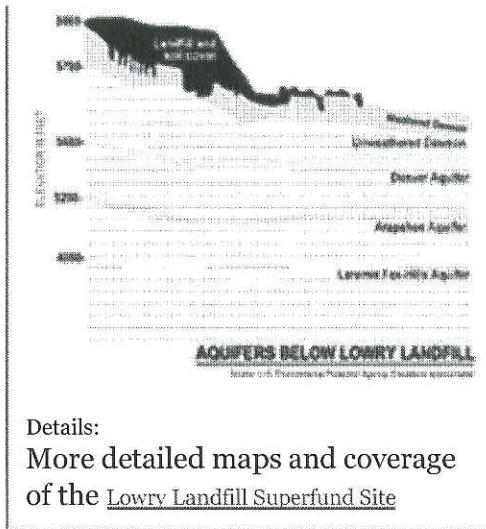
A prolific letter writer, Wilson relayed his concerns to presidents and congressmen alike. Sometimes he would talk to the media, sometimes he wouldn't. In a recent note to *Westword*, he instructed the newspaper not to use his name at all. But Wilson's letters are strewn through numerous court documents and administrative files, and what he had to say is a matter of public record.



Four aquifers are directly below the Lowry Landfill (above), a local dumping ground for over two decades.

Julie Hutchinson





Alternately describing himself as a "federal-military retired American citizen," a "notary public agent" or simply an "agent," Wilson seemed eccentric and often alluded to larger conspiracies. But he never altered the basic facts of his story. And truth was, scientists working for both the EPA and the private companies that had dumped at Lowry were encountering high levels of radiation at the site. Wilson's recollection suggested one way the radiation might have gotten there.

"Since we have found elevated radiation levels at Lowry, I am concerned that he may be right," the EPA's John Haggard confided in a memo to his supervisor, Vera Moritz. "The connection to Dow is also disturbing, since they operated the Flats from the fifties and sixties."

Haggard, who now works for General Electric in upstate New York, thought the EPA should conduct a "general investigation" of the area and appended this cryptic note to his memo: "Some Lowry citizens believe we already have info. in our possession that would implicate a federal facility and believe we are covering up something. While this is certainly not true, if we find a problem much later in the area it certainly will not look good."

Haggard's words were prophetic: The concerns raised by Bill Wilson would surface again and again in ensuing years, and they continue to this day.

In 1991, just three years after the Wilson interview, scientists working for the Lowry Coalition, an alliance of companies that had dumped at the landfill, took numerous samples from wells drilled throughout the site and shipped them off to a New Jersey lab that had done countless analyses for nuclear-weapons facilities during the Cold War. Lab workers ran the groundwater samples through their radiation detection machines and found that they contained plutonium, americium and other radioactive substances.

Although the Lowry Coalition initially was adamant that these compounds had come from Rocky Flats, six months later the coalition would disavow the test results. But a database obtained by *Westword* reveals that virtually none of the so-called "hot wells" were ever retested -- and some were even more radioactive than previously reported.

Confidential court documents reveal that sixteen polluters were concerned enough about potential radioactive contamination at Lowry to purchase "radioactive premiums" from the City of Denver and Waste Management, the private company that began operating the landfill in 1980. The radioactive premium was one of about six different options that were offered, protecting polluters on everything from cost overruns to potential lawsuits that might be brought some day by disgruntled neighbors. All told, the city and Waste Management collected approximately \$38 million in premiums and another \$72 million for cleanup and other expenses.

Only a handful of city officials were privy to these settlement deals, and they say they can't discuss them because they're bound by a confidentiality order issued eight years ago.

For the Environmental Protection Agency, which was struggling to clean up a number of Superfund sites in the region, Lowry seemed to bring nothing but heartaches and headaches. By the time the agency got around to interviewing Wilson, it was already reeling from an excoriating round of attacks



by some of Colorado's most powerful corporate citizens.

In 1986, two years after the landfill had been declared a public health hazard and placed on the National Priorities List, the EPA had released its first \$1.5 million scientific study of the site. The key finding, which sent shock waves through the community, was that millions of gallons of toxic chemicals dumped at the landfill could have moved further and deeper than anyone had suspected. Instead of remaining in the shallow groundwater, as previously believed, contaminated water might have migrated downward through fractures in the underlying bedrock, moving as much as twenty feet in a year, which could result in "a 400-foot downward penetration into the unweathered bedrock in the next twenty years.")

If the EPA's study was correct, the consequences would be devastating. The aquifers that lie beneath Lowry -- the Dawson, the Denver, the Arapahoe and the Laramie-Fox Hills -- supply both irrigation and drinking water to hundreds of thousands of suburban and rural residents. Although the EPA stopped short of saying the contamination had reached drinking-water supplies, Vera Moritz, the project manager, told reporters, "It's getting there."

Letter after letter lambasted the agency's findings. The Adolph Coors Company, which in a few short years would earn the dubious distinction of being the largest dumper at Lowry, castigated the EPA for spending \$1.5 million on an "inadequate and flawed investigation." The City of Denver and Waste Management, owners and operators of the landfill, argued that downward movement was "essentially nil" because of the relatively impervious claystones found throughout the site. And the East Cherry Creek Valley Water and Sanitation District threatened legal action if the EPA dared to drill another well through the plume of contamination and into the Arapahoe Aquifer.

But the most detailed critique came from the Lowry Coalition, whose members included Coors, Shattuck, Syntex, AMAX, Asamera Oil, Conoco, Gates Rubber, Hewlett-Packard, Honeywell, IBM, the City of Lakewood and Metro Wastewater. With the help of its paid consultants, Harding Lawson Associates, the Lowry Coalition marshaled persuasive scientific evidence to rebut all of the EPA's findings. "Totally inadequate," attorney John Faught said of the study.

Two years later, the EPA divided the Lowry Landfill into several areas and ordered that subsequent follow-up studies be done by the polluters themselves. The City of Denver and Waste Management were ordered to investigate the landfill's gases and solids; Denver, along with Metro Wastewater, was also to research the soils, surface water and sediments, and the Lowry Coalition was to perform a definitive study of the shallow and deep groundwater.

For the Lowry Coalition, which had raised such a ruckus over the EPA's initial analysis and was facing millions in liability costs, to now have responsibility for determining the extent of contamination in the groundwater seemed odd, to say the least, and a clear conflict of interest. But according to Gwen Hooten, the EPA's current project manager at the Lowry Landfill site, that provision was written into the law after concerned corporations lobbied Congress. "The law allows them to do that," she says. "Only when they decline does the EPA step in and do the studies."

The Lowry Coalition and the EPA's own technical consultants, CH2M Hill, soon began receiving preliminary laboratory analyses suggesting that Lowry contained not only some of the most dangerous chemicals in the world, but an assortment of radionuclides as well. The radioactive isotopes were everywhere -- in the shallow and deep groundwater, in the waste pits, along the periphery of the landfill, even in the wells that were considered "upgradient," or upstream from the main site. The existence of some of these radionuclides was easy enough to explain; hospitals and universities used numerous relatively short-life isotopes in countless analytical procedures on patients and in research projects. Lowry had routinely accepted such radioactive waste, and the southeastern portion of the



dump had even been reserved for radioactive animal pits. The animals most likely had been used in research experiments conducted by various colleges and universities, possibly even by military installations.

But other radioactive elements present in the landfill were tightly controlled by the federal government and typically associated with nuclear-weapons production or commercial nuclear reactors. Radiochemical analyses performed for both the EPA and the Lowry Coalition indicated the presence of five different isotopes of plutonium, as well as americium-241, a contaminant that is often found in weapons-grade plutonium. Numerous other radionuclides created in nuclear reactions or atomic-bomb detonations, including strontium and cesium, were also detected.

In a memo dated July 19, 1990, a CH2M Hill official recommended that additional safety precautions be taken in the field because of the high levels of tritium and plutonium-241 being detected. Although the company was careful to emphasize that the radiation findings had not been confirmed, it nonetheless advised that a panoply of protective measures be implemented, including baseline and exit urine samples from on-site workers, periodic monitoring at the landfill, the use of dosimeter badges, and a four-hour course in basic radiation-safety techniques that would include a refresher in the operation of portable survey counters.

CH2M Hill, a global engineering and consulting firm, had developed considerable expertise in radioactive waste during its work not just for the EPA, but also for the U.S. Department of Energy and the Department of Defense. In four years, it would form a joint venture with Virginia-based ICF Kaiser; the resulting company, Kaiser-Hill, would successfully bid for one of the largest cleanup contracts ever awarded by the Department of Energy.

The job? Cleaning up Rocky Flats. Between 1995 and 1999, Kaiser-Hill received \$2.9 billion in basic costs, according to the General Accounting Office. If all goes well, by 2006 the company stands to earn another \$4 billion in cleanup costs and anywhere from \$130 million to \$460 million in incentive fees for its work at the former nuclear-weapons plant.

At Lowry, CH2M Hill was finding tritium concentrations as high as 2,200 picocuries and plutonium-241 in amounts ranging up to 150 picocuries. The Lowry Coalition, using its own independent laboratory, was seeing the same kinds of readings for plutonium-241 and encountering tritium levels as high as 4,000 picocuries. These levels greatly exceeded the background radiation that could be expected from fallout as a result of aboveground nuclear detonations in the '50s and '60s.

A worried CH2M Hill official pointed out that background levels for plutonium-241 should have been less than 1 picocurie and tritium concentrations should not have exceeded about 200 picocuries. (A picocurie, which is a trillionth of a curie, is too small to be seen with the naked eye; it represents 2.2 "disintegrations," or energy releases, per second.)

Both tritium and plutonium-241 were present at Rocky Flats. But Rocky Flats and two of its private contractors, Dow Chemical and Rockwell International, have denied sending any radioactive waste to Lowry. Although records maintained by Waste Transport and other haulers show that cutting oils, solvents, paint thinners and other materials from the plant were dumped at Lowry, Rocky Flats officials have steadfastly maintained that these materials were not contaminated. To this day, the source of these radionuclides and dozens of others remains unexplained.

Tritium, a radioactive isotope of hydrogen, is used primarily to boost the yields of both atomic and hydrogen bombs and is frequently housed in removable containers located in the warheads themselves. At Rocky Flats, tritium was occasionally released into the environment when contaminated weapons components were disassembled or plutonium was being reprocessed. Health



physicist Edward Putzier, a longtime Rocky Flats scientist, wrote in a 1982 paper that some glove boxes contained "massive amounts" of tritium.

Plutonium-241, the other radioactive isotope detected at Lowry, is found in both weapons-grade plutonium and the plutonium created in nuclear reactors. It transforms itself in 14.4 years to a more stable isotope, americium-241, by emitting a beta particle, or high-speed electron. Americium then sticks around in the environment for another 433 years. Americium builds up as the plutonium-241 decays; the "older" the plutonium, the more likely it is to contain more americium.

It so happened that the wells at Lowry were also found to be contaminated with americium-241. The americium does not appear to have been restricted to any one particular part of the landfill; rather, it was scattered throughout the waste pits, in the groundwater and along the western and southern boundaries of the site, where patrolman Bill Wilson once saw tankers emptying their loads.

From the moment Rocky Flats opened its doors, americium proved to be a problematic contaminant. It arrived there in one of two ways: in the "feed" plutonium that was shipped under guard to Rocky Flats from the vast production facilities in eastern Washington State or South Carolina, or in the "site returns" -- the aging plutonium pits that were removed from warheads and sent back to Rocky Flats for reprocessing.

By the mid- to late '50s, Rocky Flats found itself with a backlog of "americium-containing sludge," records show. Using what was called a "molten salt extraction," the plant began extracting the americium from the plutonium, then shipping it to Oak Ridge, Tennessee. For a while, the Department of Energy's predecessor, the Atomic Energy Commission, succeeded in selling the americium for use in smoke detectors, but that market dried up by 1980.

In the '60s and '70s, Rocky Flats was shipping anywhere from 760 to 2,000 grams of americium annually to Oak Ridge, according to documents obtained by attorneys for Marcus Church, a neighboring landowner who filed a groundbreaking lawsuit against Rocky Flats. But despite these shipments, at one point the plant found itself with nearly ten kilograms of americium sitting in drums.

Americium-241 emits both gamma rays and alpha particles. Gamma rays can easily penetrate the human body; by contrast, alpha particles cannot penetrate human skin but are extremely hazardous if deposited in the lungs, the lymph nodes or life-giving bone marrow. With those penetrating gamma rays, americium wasn't something that plant officials liked having around.

In a 1968 report, Atomic Energy Commission officials blamed the large amounts of americium-241 and plutonium-241 present at Rocky Flats for a precipitous rise in employee exposures. Instead of cutting back on production schedules, however, supervisors decided to install extra shielding along the assembly lines to protect workers. Ironically, that shielding would contribute to a devastating fire that occurred in 1969.

During this period, Rocky Flats was also receiving a lot of plutonium from the United Kingdom that contained excessive amounts of plutonium-241. This plutonium was used for special fuel rods that the plant was making for the "Zero Power Plutonium Project," or ZPPP, an experimental reactor at Argonne National Laboratory.

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The EPA was deeply suspicious of the early reports alleging large concentrations of radionuclides at the Lowry Landfill. The data tables were often annotated with such remarks as "probably false positive," "probably in error," "question accuracy of these results" and "confirmatory analysis required."



The data was also called into question at staff meetings. "Need to determine what data is real (valid) and 'not real.' If in fact the data is not 'real,' then it appears that there is no problem of radionuclides at this site," a participant at one such gathering wrote in his notes.

The EPA's skepticism is difficult to interpret; the agency already had indications of radioactive contamination at the landfill -- as evidenced by John Haggard's letter and the interview with Bill Wilson. In addition, the EPA and the FBI had conducted a joint investigation into Rocky Flats that culminated in an unprecedented raid at the plant on June 6, 1989. At the very moment the data on Lowry was rolling in, a federal grand jury was examining allegations concerning decades of illegal dumping and other environmental crimes at Rocky Flats.

The EPA's counterparts at the state health department were equally skeptical of the Lowry readings. In October 1991, when the Lowry Coalition delivered to the EPA a thick packet of data describing in detail the kind of radionuclides it had been finding at Lowry, the state's Radiation Control Division faxed the EPA a quick analysis that concluded the data was "inadequate and inconsistent." State health officials argued that the ratios for the various isotopes of plutonium being found at Lowry didn't jibe with the plutonium that Rocky Flats used. But those ratios did not take into account the accumulation of waste products, the variability in the feed plutonium, and special programs such as the ZPPP.

The skepticism continued even after a health department employee, Angus Campbell, found a witness who corroborated Wilson's allegations. Harley Brewster, another highway patrolman who'd cruised the old bombing range, told Campbell that tanker trucks would pull up to "any convenient low spot" and dump their loads. "Sometimes they would cover it with trash and other times they wouldn't," Campbell reported. Brewster "further stated that he couldn't recall any specific instances of dumping, but restated that there was indiscriminate dumping out there regularly."

Despite continued skepticism from the state health department and the EPA, the Lowry Coalition refused to alter its findings or conclusions. On December 13, 1991, the coalition sent a letter containing its official findings to EPA headquarters. This letter, which would be discovered five years later by activist and college instructor Adrienne Anderson, concluded that Rocky Flats was the "only plausible source" of the large quantities of plutonium and americium that had been found in the landfill.

The coalition ruled out other potential polluters based on the concentrations of radionuclides found in the landfill; the levels were too low to have come from a commercial nuclear power source and too high to have come from worldwide fallout -- a theory that is still popular with the EPA.

Attached to the letter were data tables developed by the coalition's consultants, Harding Lawson Associates, showing the results of more than 135 samples that had been taken from wells located throughout the site from roughly 1988 to 1991. Some of the wells contained plutonium or americium in amounts that were anywhere from 10 to 10,000 times the average background levels. The Lowry Coalition speculated that the radionuclides were the result of dumping activities conducted at or adjacent to the site prior to 1965, when it became an official landfill, as well as routine disposals that took place between 1967 and 1980.

As proof of the pre-1965 dumping activities, the coalition relied on the testimony of former patrolman Wilson and aerial maps taken in 1950 and 1956. Those maps, which showed what the terrain looked like long before the City of Denver took over the property that contained the landfill, indicated man-made disturbances at the south boundary of the site and to the west of Unnamed Creek, the intermittent stream that runs through the middle of the property.

A 1963 aerial map showed something else at the southeastern corner of the landfill that has never been explained: a long, oval-shaped lagoon surrounded by a fence and an access road. A 1965 map reveals



several dirt roads leading west from this facility to liquid-filled trenches at the landfill. On a recent map produced by the United States Geological Survey, a box has been drawn around the lagoon and labeled "Exception Area."

The EPA's Hooten says she doesn't know what the facility is. Hydrologist Cecil Slaughter, a member of the USGS team recently hired by the EPA to do an independent analysis of radionuclides at Lowry, says he doesn't know what the area represents. And Dennis Bollmann, the city's environmental scientist based at Lowry, can't clear up the mystery, either.

It's Bollmann's understanding that the federal government built a road into the area prior to 1965 and used it for some kind of project. "I don't know what the purpose was," he says. When scientists drilled several holes in the area, he adds, they found only routine municipal garbage.

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On December 16, 1991, three days after the Lowry Coalition delivered its letter to the EPA, a meeting was held in the agency's labyrinthine offices in downtown Denver.

Twenty-five people were present. On one side of the table were six EPA officials; on the other were four representatives from Coors, four from Shattuck, two from Syntex Chemicals and two from AMAX, as well as representatives from Sundstrand, Conoco, Gates Rubber, Hewlett-Packard and the City of Lakewood. The EPA files are silent about what transpired officially at the meeting, but Hooten remembers that the coalition's findings created quite a stir. "This particular report spurred a lot of issues for us, and our records are just peppered with our comments," she says.

The Lowry Coalition and other polluters had kept a close watch on the "waste-in" lists that the EPA was constantly updating and revising, documenting who'd dumped what at Lowry. At that moment, the EPA was in the process of cashing out the small polluters in what were called "de minimis" settlements. To be eligible for these settlements, the polluters had to meet several criteria: First, they could not have dumped more than 300,000 gallons at Lowry; second, the waste could be no more toxic or hazardous than other materials; and finally, the companies had to have been honest about what was dumped at the landfill. Although Rocky Flats and its civilian contractors had been less than forthcoming with the EPA, the nuclear-weapons plant nevertheless was being considered for a de minimis settlement. As Hooten explains it, "We were on our way to identifying and finalizing our waste-in lists, and this report was in part motivated by these parties not wanting us to settle with DOE or Rockwell."

The EPA did back off -- temporarily -- from entering into any settlement with Rocky Flats. But the agency was still not convinced that the coalition's data was any good. "We told them they needed to go back and reanalyze the samples," says Hooten.

Teledyne Isotopes, the New Jersey laboratory that analyzed those Lowry samples, had a solid reputation and had passed with flying colors a quality-control review done by the EPA for an unrelated project. Still, Lowry was a chemical stew containing hundreds of different elements, and calculating how much plutonium or americium was present in a speck of material no bigger than a pinhead could be difficult.

Given what was at stake, if there were questions about Teledyne's work, the logical step would have been to return to Lowry, draw fresh water from the purportedly hot wells and analyze the samples again. But instead, the data was simply *reanalyzed* to determine whether the coalition's initial results truly represented conditions at Lowry.

"Remember, we had been studying this site since 1985," Hooten says in defending the EPA's decision. "So there was a lot of pressure for us to decide what we were going to do."



The dispute over radionuclides at Lowry put CH2M Hill in a peculiar position. The consulting firm had a number of contracts with the DOE and Rocky Flats. If it were to corroborate the reports of high radioactivity levels at Lowry, then it ran the risk of alienating one of its own clients -- a client that would throw a multibillion-dollar contract its way in a few short years. In a letter dated February 27, 1992, CH2M Hill's site manager, Gary Hermann, admitted the firm had a "real or at least publicly perceived conflict of interest" and recommended that the EPA get another consultant on the radionuclide issues:

"The specific project issue is the determination of whether or not radionuclide waste materials generated at Rocky Flats were disposed of at Lowry Landfill. If certain man-made radionuclides are determined to exist at above-background levels at Lowry Landfill, this could implicate DOE as a potentially responsible party. The Lowry Coalition has, in their remedial investigations, indicated that site data implicates DOE as a source of hazardous waste disposed of at Lowry Landfill. As the project tasks proceed, CH2M Hill may be asked by the EPA to become directly involved in determining the occurrence and nature of specific radionuclides and thereby determine the source of the radionuclides...The specific conflict of interest stems from our general firm credibility if we are working for both EPA and DOE on nuclear mechanics issues having a potential connection between Lowry Landfill and Rocky Flats. For example, if CH2M Hill was to determine that the Rocky Flats plant is not a source of radionuclide contamination, then it could be claimed by the public and other PRPs [potentially responsible parties] that we made this determination to keep from jeopardizing our consulting business with DOE."

Adrienne Anderson, who discovered this memo in the EPA's voluminous public-records collection, points out that the regulatory agency continued to use CH2M Hill despite the fact that only three weeks later, the General Accounting Office, the congressional watchdog agency, issued a blistering critique of the indirect costs that the firm had charged the federal government. According to the GAO report, in 1990 CH2M Hill received \$68 million in revenues from contracts with the EPA, the Department of Energy and the Department of Defense. Some of the more outrageous tabs sent to Uncle Sam: \$7,700 for alcoholic beverages; \$4,100 for tickets to Denver Nuggets, Seattle Mariners and Seattle Seahawks games; \$167,900 for employee parties and picnics, including costs for invitations, photographers, a musical band and a dance instructor.

The EPA didn't feel that CH2M Hill had a conflict, because the firm had nothing to do with determining the DOE's financial liability at the landfill, Hooten says. That task fell to another contractor, Science Applications International Corporation. "CH2M Hill was only involved in the oversight of the remedial investigations; in other words, looking at the data collected by the PRPs," she points out. "Since Hill was not a direct decision-maker as to who would have liability at the site, it was not considered a conflict of interest for them to work for the Department of Energy."

In any case, the conflict issue soon became moot. In May 1992, five months after the Lowry Coalition delivered its bombshell findings to the EPA, Harding Lawson Associates, the coalition's technical experts, delivered a second report to the EPA retracting virtually all of the first report.

Tough quality-control standards had been applied to the data, and positive findings were tossed out if they were associated with high counting errors, or if they could not be replicated or they conflicted with other results. Concluded the revised Harding Lawson report: "There was no case in which the presence of transuranics was positively confirmed."

A few weeks later, Teledyne Isotopes, the laboratory that had conducted the radiochemical analyses, sent a letter to the coalition's technical advisors, warning that all of its americium analyses should be considered suspect because of equipment problems and other analytical difficulties. Teledyne officials were acutely aware of the enormous ramifications of their findings. "In our meeting on May 29, 1992,



you indicated that the presence or absence of Am-241 in Harding Lawson samples has vast implications concerning the approach and cost of remediation efforts," three laboratory scientists wrote. "Because of this, we recommend that sites which have been characterized as positive for Am-241 be re-analyzed by the new method."

Jeffrey M. Guenther, one of the scientists who signed the letter, declined to comment for this story. Brian LaFlamme, the geochemist who authored the Harding Lawson report and still works in Denver, also refused to comment.

The revised report was a stunning reversal. For regulators and polluters, it eliminated a hugely expensive scenario of figuring out how to clean up a site that might contain both hazardous chemicals and radionuclides. That combination would have raised cleanup costs by millions, says Hugh Kaufman, a longtime EPA official.

Teledyne's suggestion that the wells be resampled went unheeded. With the exception of one well, not a single well that had shown high levels of plutonium or americium was retested.

As for Rocky Flats, it was granted the de minimis settlement after all and paid just \$314,587 toward the cleanup of Lowry Landfill.

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While the dispute over radionuclides simmered, the City of Denver was moving aggressively on another front to make sure it wouldn't be left with 50 percent or more of the tab for cleaning up Lowry.

Estimates for the cleanup fluctuated wildly, with some figures running as high as \$4.5 billion. "We were looking at big dollars," remembers Shaun Sullivan, an assistant city attorney involved in the litigation.

In July 1990, city officials held a "Lowry Retreat" to address the technical issues, the political implications and the "enormous potential liability" that the landfill represented. According to one document, Lowry was "an issue, which, although quieter, was on the scale of the new airport politically and economically." Many of the companies that had dumped at the landfill were already lobbying their congressional representatives for changes in the Superfund law; city officials wondered if it would be to their advantage to join one of the "political Superfund groups."

"As Lowry and Superfund is every bit as much a political problem as it is technical or legal, we need to strengthen this arm of the effort," one retreat document states. "It appears that the decision between a \$100 million or an \$850 million remedy may be as much reliant on political influences as technical."

Denver officials stayed in touch with members of Colorado's delegation. Mayor Wellington Webb requested a meeting with Carol Browner, then head of the EPA, in the spring of 1993 to discuss issues relating to Lowry. Webb met with William Yellowtail, administrator of the EPA's Region VIII, in 1994 as well, to talk about the agency's pending Record of Decision on the Lowry Landfill cleanup.

Denver also undertook a number of measures to contain the contamination. In the early 1980s, soon after Waste Management took over day-to-day operations, the city had erected a barrier wall and a pumping system on the northern end of the landfill to keep a plume of contaminated groundwater from moving off-site. The polluted liquids were pumped into a treatment plant, where some of the volatile organic chemicals were removed; the cleansed water was then injected back into the ground.

In the years that followed, the city and Waste Management would also dispose of six million tires, restore an acre of wetlands, construct a bentonite slurry wall seventy feet deep on three sides of the landfill, install a cap over the landfill, put in place an extraction system to remove gases, and build a



new water treatment plant.

In 1991, Denver filed suit against Waste Management and 39 of the landfill's largest polluters in an effort to recover some of the cleanup costs. Waste Management subsequently realigned itself with the city, and together they went after the polluters. This case, which became known as "Lowry I," triggered an avalanche of additional claims and cross-claims. More than 140 lawyers were involved; nearly 100 depositions were taken; thousands of discovery requests were filed. The document database soon grew to millions of pages.

By May 1993, a week before the case was to go to trial in U.S. District Court, Denver and Waste Management had reached settlements with nearly forty parties. A second lawsuit, dubbed Lowry II, was soon filed against fifteen additional polluters. This case, too, was resolved out of court in 1994.

Along the way, numerous other companies also settled Lowry claims outside of the courtroom. By the end of October 1994, Denver and Waste Management had entered into settlements with approximately 166 entities. They included large corporations, small businesses, hospitals, universities, school districts and suburbs. The money obtained from the settlements was placed in two trusts collectively known as the Lowry Environmental Protection/Cleanup Trust. The manager for these trusts is Bankers Trust, which was selected through a competitive process overseen jointly by Denver and Waste Management. The trusts were arranged this way because Waste Management didn't want the trust funds placed within the city structure, according to Denver records. But as a result, information about the trust funds was also placed outside the city structure.

Public monies were used to fund both the Lowry litigation effort and the cleanup, yet Denver residents know virtually nothing about the settlements, because all related documents were sealed by then-federal judge Sherman Finesilver.

According to Steven Coon, an assistant city attorney who worked on the deal, Webb and Denver City Council members were briefed on the settlements and trust arrangements, but he's not sure if they saw the actual agreements. "All we can tell you is a number of people -- judges and magistrates -- reviewed the agreements and came to the conclusion that they were a good deal for the city," Coon says.

Waste Management insisted on a confidentiality agreement because it was concerned that the "protections" offered to the settling parties through optional premiums would be demanded at other sites if they became known. As Robert Driscoll, one of the company's attorneys, explained at a February 8, 1995 hearing: "These are protections that my client, Waste Management, would not have given in this case or in the underlying litigation, in the Coors litigation, had it thought that the documents would become part of the public domain, simply because they could serve as a possible benchmark for protection demanded from my client at other sites..."

Federal judge Jim Carrigan, who presided over that hearing, was not easily persuaded. "This is a public court, and the public has a right to know what's going on here," he said. He agreed to keep the settlements sealed, but left open the possibility that they might someday be unsealed if someone were to file a motion making a "strong showing" that it was in the public interest. (An earlier request by the *Denver Post* to examine the settlement agreements had been denied.)

Although the terms of the settlement are still sealed, *Westword* found a four-page spreadsheet in court files stored at the Federal Records Center that outlines deals with 166 businesses or governmental agencies that had dumped at Lowry. Using this document, as well as a companion set of interrogatories that had apparently been misfiled, it's possible to piece together a rough outline of the settlements.



Sullivan and Coon, the two assistant city attorneys most familiar with the settlements and the resulting trust funds, refused to discuss the documents, citing the judge's confidentiality order. "Whatever information you have, you have," Coons says. "But we're still bound by the court order."

Here's how the settlements were structured:

The polluters were divided into categories based upon how much they'd dumped at Lowry. There were the small, or de minimis, settlers; the mid-tier settlers and the high-tier settlers. Each was then assessed a basic cleanup cost that was subsequently reduced by 20 percent to account for the amount owed by Denver and Waste Management.

The de minimis settlers made up the largest group by far. More than 120 polluters fell into this category, including Sears Roebuck, US West, Honeywell, the *Denver Post* and the *Rocky Mountain News*.

The mid-tier settlers included such companies as Eastman Kodak, IBM, Coors Ceramics, Hewlett-Packard, Safeway and the cities of Lakewood, Littleton and Glendale. These settlers have "reopener" clauses in their agreements that could be triggered if the actual cost of the Lowry cleanup winds up larger than the original estimate.

The high-tier polluters -- Adolph Coors, Syntex Chemicals, Shattuck and Conoco -- have pay-as-you-go arrangements in their settlement deals. The payments owed by these large companies were based on actual costs incurred at Lowry over five-year periods. These costs include both day-to-day operations and monies spent on large capital projects, such as the new water-treatment plant, the slurry wall and the gas extraction system.

In addition to these basic settlement costs, the companies were given the opportunity to purchase a variety of premiums protecting them from future uncertainties at Lowry that could range from cost overruns to lawsuits brought by neighbors to a potential radioactive component of the cleanup. Even fines levied by the EPA are apparently covered. "The greater the assumed obligation premium a settlor was willing to pay, the more potential future obligations of the settlor plaintiffs were willing to assume," explained Judge Finesilver in one ruling.

Sixteen companies chose to purchase the radioactive premium, for a total of \$1.72 million. Among them were Safeway, Ball Corporation, Coors Ceramics, Eastman Kodak, Hewlett-Packard, IBM and the cities of Lakewood, Littleton, Englewood and Glendale.

Sometimes the premiums paid by the polluters surpassed the actual money put toward the cleanup remedy. Sundstrand Corporation, for example, paid roughly \$661,005 in remediation costs; another \$1,582,194 for a cost overrun/risk premium; \$640,600 for a combo premium called "natural resource damage/toxic tort/assumed obligation"; \$331,300 for the radioactive premium; and \$800,000 for what was known as an "orphan share."

Nearly all of the settlers got stuck with an orphan share, which represents the amount of money owed by bankrupt or financially insolvent companies whose liabilities had to be divvied up among everybody else.

All in all, Denver and Waste Management collected nearly \$110 million from the 166 entities. Included in this total was approximately \$53 million for the basic remediation costs, another \$38 million in premiums and approximately \$18 million in orphan shares. The Adolph Coors Company was the largest settlor, anteing up \$14,824,928 for remediation costs, \$4,100,512 for the cost overrun/risk premium, and another \$4,731,360 orphan share. Other large contributors:



- Syntex Chemicals: \$14,826,324 in basic costs; \$3,706,581 orphan share.
- S.W. Shattuck Chemical Co.: \$8,765,081 in basic costs; \$2,191,270 orphan share.
- Conoco: \$4,323,185 in basic costs; \$1,080,796 orphan share.
- AMAX Extractive Research and Development: \$2,354,544 remediation costs; \$588,636 orphan share.

These large settlors also have varying "reopener percentages" in their contracts that require them to kick in more money if costs exceed certain targeted estimates.

Denver, Waste Management and/or the Lowry trust get to pocket the premiums until the event the premium covers is triggered. Explained Finesilver in another ruling: "By offering to assume or absorb certain risks in return for the premiums, plaintiffs are effectively acting like an insurance company. They are performing a task that an outside insurance company could just as well do, and the fact that it is plaintiffs who are doing the insuring does not somehow tie the premiums to environmental cleanup costs. Indeed, it would be unjust to require plaintiffs to put the premiums -- the consideration for plaintiffs' assumption of risk -- toward cleanup, only to have plaintiffs later spend a like sum in meeting the obligations it assumed in return for the premiums. Simply put, plaintiffs are entitled to the premiums because plaintiffs have agreed to assume risks."

It's not clear exactly how the City of Denver and Waste Management divided either the premiums or the ensuing liability; a master settlement document on file in the city attorney's office apparently spells out these issues. One document indicates that Waste Management indemnified the mid-tier settlors against potential toxic tort and natural-resource damage claims and kept those premiums. It's also possible that the trust itself is the legal entity that is indemnifying other polluters against future claims.

Coon will only say that the "city did not indemnify the parties."

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Exactly how much money is in the Lowry trust has been a closely guarded secret for nearly seven years. Between 1992 and 2000, approximately \$60 million was expended on actual remediation efforts and monitoring programs, with nearly \$3.6 million going toward the trust management alone, one budget document shows. The expenditures are expected to dramatically decline in future years, now that all of the construction projects designed to contain the contaminants are in place. Offsetting these costs are potential gains made by the trust funds in the stock market.

"I don't know how much is in the trust, and couldn't even tell you if I did know," says Theresa Donahue, who directs the city's Department of Environmental Health and was closely involved with the Lowry cleanup effort.

The trust operates much like any large corporation -- hiring staff, buying and selling property, and undertaking multimillion-dollar construction projects. But unlike large city contracts, which are signed by the mayor and approved by city council, the trust's financial activities are overseen only by two co-trustees: Cheryl Cohen, the city's manager of revenue, and Steven Richtel of Waste Management.

Cohen, citing the confidential nature of the trust's activities, referred all questions to assistant city attorneys Coon and Sullivan. But beyond appointing one of the trustees, Coon says, the city has no input into the trust. "The trust is really a private entity," he adds.



Donahue says the trust funds are audited every year by a private firm to make sure everything is being done in a fiscally sound manner. "This is not a city trust," she points out. "It's not public funds."

But the city certainly keeps an eye on those funds. In fact, with the bulk of the cleanup behind them, Denver and Waste Management even began thinking about distributing management fees to themselves from the trust. It's not known whether this plan ever went into effect, but records suggest that such fees could total millions. The actual amount would be based on several factors, including how much the funds have earned in the stock market and how much money was saved during the cleanup.

While this idea was circulating among a handful of city officials, Coon warned them to be careful with the information: "Please note that the Lowry Trusts are independent entities from the City and view this information to be confidential, commercial data, in addition to the need for confidentiality due to the potential for future litigation over these very issues. EPA has also indicated a desire to find ways to tailor the amounts spent at the Lowry site to the amounts held in the trusts (which is not an appropriate consideration.)"

The EPA isn't the only entity with an interest in the trust's balance. If Denver and Waste Management paid themselves management fees, it would reduce the total amount available for cleanup -- and if the cleanup cost increased over the original estimate, more money might have to be collected.

Coon declined to discuss any management-fee plans. "Anything regarding the financial operation of the trust is confidential," he says.

**Next week:** *How waste from the Lowry Landfill turned into fertilizer for Colorado farms.*

**More Westword coverage of the Lowry Landfill Superfund Site**

