



## **Los Lobos Landfill**

### Part 2

The smell was so bad that one neighbor thought that someone might have disposed of a dead body down the sewer. The City water department even came out and had a look around. At my house I noticed a peculiar odor that was like sagebrush burning. I thought someone was burning a weird batch of firewood, or maybe it was garlic spoiling in the agricultural fields to the south. Then the smell became more intense. It could really gag you. We thought it might be coming from the Landfill, but in the fall of 1992 we didn't know anything about the new composting operation.

— David Stewart, founder of Citizens United for Responsible Environmentalism

### **A Great Place to Live**

David and Cheryl Stewart had lived in a suburban neighborhood a couple miles from the Los Lobos Landfill (“Landfill”) since the late-1970's. It was a development of single family detached houses, designed for those in the upper middle class income bracket. David and Cheryl liked being a short drive from the City of Junipero (“City”), and the semi-rural atmosphere of their neighborhood. People now seemed to be moving to the area in droves, however, because of the local economic boom created by the computer industry. David was a software developer and sometimes worked out of his home-office. Cheryl worked as a critical care nurse at a local hospital. During her medical career, which included service with an Air Medivac Unit in Vietnam, she had conducted immune system research related to organ transplantation and AIDS.

Mary Decker prepared this case study, under the editorial guidance of Meg Caldwell, Lecturer of Law, Director of Environmental and Natural Resources Law and Policy Program, Stanford Law School, as a basis for classroom discussion rather than to illustrate either effective or ineffective handling of an environmental matter. Some or all of the characters or events may have been fictionalized for pedagogical purposes. Copyright © 1998 by the Board of Trustees of the Leland Stanford Jr. University. To request permission to use or reproduce case materials, write to Environmental and Natural Resources Law and Policy Program, Stanford Law School, 559 Nathan Abbott Way, Stanford, CA 94305 or visit [www.stanford.edu/group/law/library/casestudies/lawschool.shtml](http://www.stanford.edu/group/law/library/casestudies/lawschool.shtml).

Though the Landfill had been in use since 1929, neither of the Stewarts knew of its existence at the time they first moved to the neighborhood in the 1970's. A heavily wooded steep ridge between their home and the Landfill effectively hid its operations from view. Truck traffic and noise associated with the Landfill was less noticeable at their home because Puerto Vallarta Drive, where they lived, was a quiet side street with access from Oxford Avenue — not Los Lobos Road that was used by the garbage and recycling trucks traveling to and from the Landfill. Sure, they smelled occasional odors from the Landfill, but in the past the odors had not been as bad and hadn't lasted very long.

## **There's a Fungus Among Us — *Aspergillus Fumigatus***

Local residents lodged close to a thousand odor complaints with the City and local air district in the fall of 1992 and the early months of 1993. David and Cheryl were thrilled when the City's Local Enforcement Agency ("LEA") finally issued a Notice and Order ("N&O") halting the composting operation in March 1993. They couldn't help thinking that their efforts to organize local residents had been a significant factor in achieving this victory. They remained interested, however, in finding out what was causing these new and particularly foul odors. For information about yard waste composting, Cheryl contacted a friend at a university on the east coast who specialized in solid waste management.

From Cheryl's investigation, the Stewarts learned that large-scale composting could release high concentrations of an air-borne fungus called *Aspergillus fumigatus*<sup>1</sup>. This fungus had been linked to certain health effects, including respiratory problems with asthma-like symptoms. While a whole lot of information was not available on the subject, *Aspergillus* appeared to pose the most serious health threat to the very young and the very old, and to individuals with impaired immune systems (e.g., individuals with cancer, AIDS, or transplant recipients). But, Cheryl had also learned of a formerly healthy 25 year-old New York man named Harry Dobin who had died in the fall of 1992, reportedly from an *Aspergillus* infection. Dobin worked near a composting facility in Islip, New York. Doctors treated him for various medical complaints for more than a year, but it wasn't until he died and his doctor performed an autopsy that *Aspergillus* was found in tissues throughout his body.

David and Cheryl were greatly alarmed by this new information. The odors from the Landfill were bad enough, but now they believed the composting operation could pose a greater threat to their health. The Stewarts learned that malodor was only a symptom of poor composting operations, and was not directly related to release of air-borne *Aspergillus*. Therefore, the decrease in odors from the composting operation after the LEA issued the N&O did nothing to allay their fears. Alarmingly, Cheryl began to have sinus problems for the first time in her life during the summer of 1992, roughly the same time the composting operation began. By the spring of 1993, Cheryl's sinus condition had worsened to the point that her doctors recommended surgery, an extremely painful procedure. After learning of Harry Dobin's death, David worried that Cheryl would be susceptible to attack by *Aspergillus*

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<sup>1</sup> *Aspergilli* are aerobic spore-forming fungi that are ubiquitous in the environment. The *fumigatus* species of *Aspergilli* is uniquely suited for growth in humans. The small size of the *Aspergillus fumigatus* spores -- 2.0 to 3.5 micrometers on average -- allows them to gain access to alveolar space in the lungs.

while she recuperated at their home after the sinus surgery. The Stewarts purchased a special air filter for their home in an attempt to decrease their exposure to the fungus as much as possible. They drove some distance from their home in order to exercise outdoors. When at home, they stayed inside and kept the doors and windows tightly closed. Outdoor activities, like a backyard barbeque, were out of the question.

After the N&O was issued, neighbors continued to report occasional bad odors. Though the City had halted the composting operation, the huge stockpiles of yard waste were still there. After studying the situation, the City decided in April that the stockpiled yard waste could be disposed of by bulldozing the piles into the Landfill and covering the rotting yard waste with clean fill. David quickly arranged to meet with the County Health Officer, Dr. Steven Corbin, to express his concerns about this plan, and to share the information on *Aspergillus* that he and Cheryl had gathered. David was particularly concerned that pushing or cutting the stockpiles would release high concentrations of *Aspergillus* fungus into the ambient air. While the predominant wind direction was from the northwest and away from their home, on occasion the wind did blow from the southwest, carrying odors and whatever else from the landfill directly into nearby residential neighborhoods, including theirs. David wanted to find out from the County Health Department whether anyone had considered the health risks associated with the City's stockpile disposal plan.

Soon after his meeting with Dr. Corbin, the City distributed thousands of flyers in the neighborhood. The flyer, distributed on a Friday in April of 1993, notified residents that the stockpiles would be disposed of during a two-day period starting the following Monday morning. The flyer warned that residents may want to keep their windows closed and stay indoors during this period, and that residents with health problems may want to contact their doctors for advice. The Stewarts were horrified at the short notice and the general lack of information about potential health effects the government had provided to the public. They decided to leave the area with their two daughters, while the stockpiles were being moved. When they returned home, neighbors reported that horrible odors occurred during the two days that workers buried the stockpiled yard waste in the Landfill.

## **Citizens United for Responsible Environmentalism**

David learned at the next meeting of the City Council's Environment Committee,<sup>2</sup> that the City's Office of Environmental Management and the LEA had authorized Los Lobos Landfill to resume limited yard waste *processing*<sup>3</sup> operations in May 1993. No *composting* of yard waste would be allowed until outstanding composting permit issues were resolved with the LEA and the California Integrated Waste Management Board ("Waste Board"). With the news that composting might be allowed to resume at the Landfill in the future, David decided

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<sup>2</sup> The City Council had a standing \_Environment Committee\_ that consisted of three Council Members and the director of the City's Public Works Department. The Environment Committee began to meet weekly to discuss the health and odor issues raised by the Los Lobos Landfill composting operation. The Committee kept the City Council informed of the matter through monthly written reports.

<sup>3</sup> Processing consists of grinding and chopping yard waste into uniform sized pieces, without the biological decomposition required to produce finished compost products.

that a more formal, organized community effort was needed to stop the composting operation once and for all. He decided to organize a neighborhood opposition group called “Citizens United for Responsible Environmentalism,” or CURE. In a flurry of activity, David and Cheryl began meeting with neighbors, even attending PTA meetings to promote CURE and public awareness of the nearby composting operation. Several local television news stations did news reports on the situation that included interviews with David. An example of a postcard flyer the Stewarts used to keep their neighbors informed and interested is shown below.

<b>HELP CURE KEEP IN TOUCH WITH YOU RETURN THIS CARD *TODAY*</b>	
<b>YES!</b>	<b>SPEAK TO THE PLANNING COMMISSION AND THE CITY COUNCIL TO PRESENT HEALTH CONCERNS AND OPPOSE OPEN-AIR COMPOSTING AT THE LANDFILL.</b>
YES!	ADD MY NAME TO YOUR AUTO-DIALER SO I CAN BE NOTIFIED QUICKLY ABOUT IMPORTANT EVENTS.
	MY PHONE NUMBER FOR MESSAGES: (    ) _____
<b>YES!</b>	<b>KEEP ME ON YOUR MAILING LIST.</b>
NAME	_____
ADDRESS/ZIP	_____
<b>IF YOU WANT TO BE A CURE VOLUNTEER, CHECK HERE:</b>	
P.S. To remove your name from our list or phone dialer, just call the CURE Hotline 1-800-555-1212. Be sure to leave the name, address, and phone number you want removed.	

## **CURE’s Symptom Survey**

In May 1993, Cheryl was convalescing at home after undergoing two painful sinus operations. After the surgeries, Cheryl’s symptoms initially appeared to improve, but then worsened. Her doctor, a Board Certified Allergist, was concerned about Cheryl and other patients living in the vicinity of the composting facility whom he was treating for sinus problems and allergic symptoms. Cheryl’s physician wrote to Dr. Corbin at the County Health Department about his concerns.<sup>4</sup> After speaking with Cheryl’s doctor, Dr. Corbin met with CURE representatives. At the meeting, David presented a questionnaire that CURE had developed to informally gather information from local residents regarding health complaints and new onset of disease since the composting had started.

By August 1993, many residents had submitted completed questionnaires. David reported to Dr. Corbin that:

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<sup>4</sup> In July 1993, the City’s LEA officially requested that the County Health Department examine the *Aspergillus* health issues that had been raised regarding the composting operation at the Landfill.

70 percent of the people we contacted had symptoms that they never had before [the composting began]. We came up with these tremendous numbers of people who were sick. Asthma -- everybody in the family.

CURE's symptom survey revealed that a local private school had terminated some classes because of foul odors associated with the composting operation, and for the first time in memory, no student at the school had a perfect attendance record. The self-reported health information provided on the questionnaires included the following:

- complaints of respiratory ailments,
- complaints of skin ailments,
- complaints of new onset asthma,
- increased rate of absence from work and school,
- increased rate of illness, and
- complaints of pet health problems.

Dr. Corbin relayed the CURE survey information to the California Environmental Protection Agency (“Cal EPA”) for review. Concerned that the City’s Environment Committee would not address the CURE survey or include the survey results in its monthly written report to the City Council, David invited local television stations to attend the next meeting of the Environment Committee. At the meeting, David presented CURE’s survey results to the press himself, and announced that Cal EPA’s Department of Health Services (“Health Services”) had agreed to investigate the complaints.

After reviewing CURE’s informal symptom survey, Cal EPA’s Health Services reported that they did not believe a health threat from *Aspergillus* existed. According to the agency, the fungus *Aspergillus* existed virtually everywhere. Soon thereafter, the California Integrated Waste Management Board<sup>5</sup> issued Technical Bulletin No. 1, entitled *Aspergillus, Aspergillosis, and Composting Operations in California*. The Technical Bulletin concluded that:

*Aspergillus fumigatus* spores are very common in our everyday environment in North America. Disease or illness by *aspergillus fumigatus* is a negligible or low-level risk for healthy people. People’s everyday activities (e.g., gardening, potting plants, mowing lawns, walking through leaf piles or raking leaves), their sanitation and hygiene practices (e.g., home cleaning, maintenance of air ventilation and air conditioning systems), and their occupational exposures (e.g., construction workers undertaking digging and earth-moving), account for the great majority of exposures to this fungus. The vast majority of ordinary exposures result in no asthma or other diseases. Certain groups of people, particularly people who are

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<sup>5</sup> The State Waste Board, like Health Services, falls under the organizational umbrella of the State environmental agency, Cal EPA.

asthmatic or suffer from certain other serious diseases, immunosuppressed people, or patients taking high doses of corticosteroids, are probably at an elevated risk of developing illness after exposure to large concentrations of spores.

In September 1993, Dr. Corbin of the County Health Department told reporters that *Aspergillus* spores are found almost everywhere:

It's in your house, your back yard and probably in your old sneakers .

. . .

Composting does create a lot of fungus, but . . . the question is, does composting add to a health risk? Frankly, there aren't any studies that can answer that question.

Later in 1993, Dr. Corbin suffered a serious stroke and Dr. Mark Fenster replaced him as the new County Health Officer. Under Dr. Fenster's direction, the County Health Department began urging that the County convene a blue ribbon panel of experts to review existing scientific literature on the potential health effects from green yard waste composting, and *Aspergillus*.

While state and local governmental agencies considered how to address the public health issues that had been raised, CURE continued to monitor odor and health complaints. David was not sure what operations the Landfill was conducting at this time. According to City officials, only green yard waste processing was currently allowed. But the Stewarts now believed that even yard waste processing could emit dangerously high concentrations of *Aspergillus*. Frustrated with the government's response to what they perceived as a continuing serious health threat, in September 1993 the Stewarts filed an administrative claim against the City, alleging that the City had negligently allowed composting activities to take place, and that as a result, David, Cheryl, their children, and their family pet had been colonized by airborne fungi from the Los Lobos composting facility. The Stewarts sought reimbursement for their medical costs, lost earnings, and pain and suffering. They also sought to permanently enjoin the yard waste composting and processing operation at the Landfill. This administrative claim<sup>6</sup> was the first step in filing a lawsuit against the City.<sup>7</sup>

## **CURE's MAST Cell Blood Tests**

In December 1993, CURE organized the blood testing of hundreds of local residents. CURE planned to use the MAST IgG blood test results to gauge the local population's

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<sup>6</sup> California Government Code §910 et seq. requires that claims against the government be presented to the governmental agency being sued before the claim is filed in court. This provision allows local and state governmental agencies to investigate and settle claims, if appropriate, without incurring litigation expenses.

<sup>7</sup> From May 1994 through February 1995, over 400 individual plaintiffs filed suit against the Landfill and the City. These actions included claims based on nuisance, trespass, inverse condemnation, negligence, battery, and fraud.

exposure to *Aspergillus fumigatus*. The presence of immunoglobulin (“IgG”) antibodies in the bloodstream indicates exposure to an antigen, e.g., *Aspergillus*, at some time in the past.

To inform and encourage local residents to participate in the blood testing, CURE distributed flyers in the neighborhood. The flyers listed possible symptoms of *Aspergillus* exposure, including: persistent headaches, allergies, depression, dizziness, muscle cramps and extreme fatigue. The flyers warned that “left untreated, severe symptoms may develop over three to five years” and that “once colonized, *Aspergillus* can be pernicious. A blood test will reveal if medical attention is needed.”

The flyers were effective. Over 200 people showed up on a Saturday morning at a local school to have their blood drawn by volunteer doctors and nurses. CURE persuaded a laboratory to conduct the MAST cell analysis for free and obtained Red Cross blood samples for use as a control group. According to CURE, the blood test results revealed that more than twice as many people living near the Landfill had high levels of antibodies to *Aspergillus* in their blood, when compared to the Red Cross control samples.

The County’s Blue Ribbon Panel of Experts

Also in December 1993, the County Health Department created a blue ribbon panel of experts called the *Aspergillus Medical Advisory Panel*, to evaluate existing scientific literature on potential health effects from green yard waste composting facilities. The panel members included local, State, and Federal health officials, a specialist in immunology and rheumatology from a leading local university, and Cheryl’s own doctor, an allergy specialist. The County charged the panel with:

- (1) determining the expected risk of aspergillosis<sup>8</sup> if composting was reinstated at the Landfill, and
- (2) developing recommendations to ensure the safety of the community if composting was resumed.

CURE viewed the panel with suspicion, speculating that its real purpose was to pave the way for the government’s issuance of a composting permit to the Landfill.

After two days of panel discussions in closed session, the County’s blue ribbon panel presented its conclusions in an April 1994 report entitled *Final Report of the Aspergillosis and Composting Medical Advisory Panel*. The report stated that *Aspergillus fumigatus* was a ubiquitous substance in the environment and that no risk to human health existed from background exposure levels. The report recommended that the County hire a consultant to identify normal background *Aspergillus* levels. The report concluded that composting facilities could be operated safely using good management practices, including air monitoring.

The panel’s conclusions, however, were not unanimous. Cheryl’s doctor, a panelist, objected to the findings on the ground that testimony on CURE’s symptom survey and MAST

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<sup>8</sup> *Aspergillosis* is defined as the presence of *Aspergillus* in the tissues or on a mucous surface of man and animals, and the symptoms this produces.

cell blood test results had been ignored. The County Health Department had rejected CURE's MAST cell IgG test for antibodies to *Aspergillus* on the ground the test procedure was experimental and not approved for clinical diagnoses by the FDA. CURE also rejected the panel's final recommendations, citing the panel's failure to address local resident's specific health complaints.

Despite these criticisms, the Court forwarded the panel's recommendation to the City Council for approval. Sixty to seventy CURE supporters attended the 2:00 p.m. City Council meeting at which the panel's recommendations were considered. CURE members wore green ribbons pinned to their shirt fronts. From where David sat, it looked like a sea of green ribbons. Three local television stations sent film and reporting crews. The City Council, however, did not take up the specific agenda item until 5:00 p.m., well after reporting crews had left to meet their news deadlines. The Vice Mayor presiding over the meeting recommended that the report be accepted. Interested persons were allowed a minute or two to address the Council. Though the meeting had run late, more than twenty people stayed to address the Council. Not one person spoke in favor of adopting the panel's recommendations. Both David and Cheryl spoke against the panel's report. Cheryl read from a letter written by the father of Harry Dobin, the young man from New York who died in 1992 from a massive *Aspergillus* infection. Despite these and other objections, the City Council voted to adopt the panel's recommendations.

Release of the County's blue ribbon panel report on *Aspergillus* coincided with the release of another study on composting conducted by the New York State Department of Health Services. The New York agency conducted a symptom survey and bioaerosol monitoring near composting sites in New York, in cooperation with a local CURE chapter. The results from the New York study were inconclusive, however, and the authors recommended additional study. The report did include new monitoring data that showed four times the ambient concentrations of *Aspergillus* 2,000 feet from a composting facility. In comparison, previous bioaerosol monitoring conducted by the Composting Council, an industry organization, had shown that *Aspergillus* spore concentrations reached background levels within 500 feet from large-scale composting facilities. CURE had criticized the Composting Council's earlier data, arguing it came in part from studies conducted at enclosed composting facilities to test leak detection equipment, and was therefore not relevant to open-air windrow composting operations.

## **Conclusion**

To the Stewarts, the City Council's acceptance of the blue ribbon panel's report signaled that a compost facility at the Landfill was inevitable. A few months later, they put their home up for sale after deciding to leave the area.

### **Case Study Exhibits**

- Exhibit A: Selected Municipal Code Sections
- Exhibit B: Selected County Code Provisions
- Exhibit C: City zoning maps for the Landfill
- Exhibit D: Selected State Code Provisions
- Exhibit E: Yard Waste Agreement (excerpted)
- Exhibit F: Dobin correspondence and autopsy report
- Exhibit G: *Aspergillus* spore concentration data
- Exhibit H: Executive Summary of the Medical Advisory Panel