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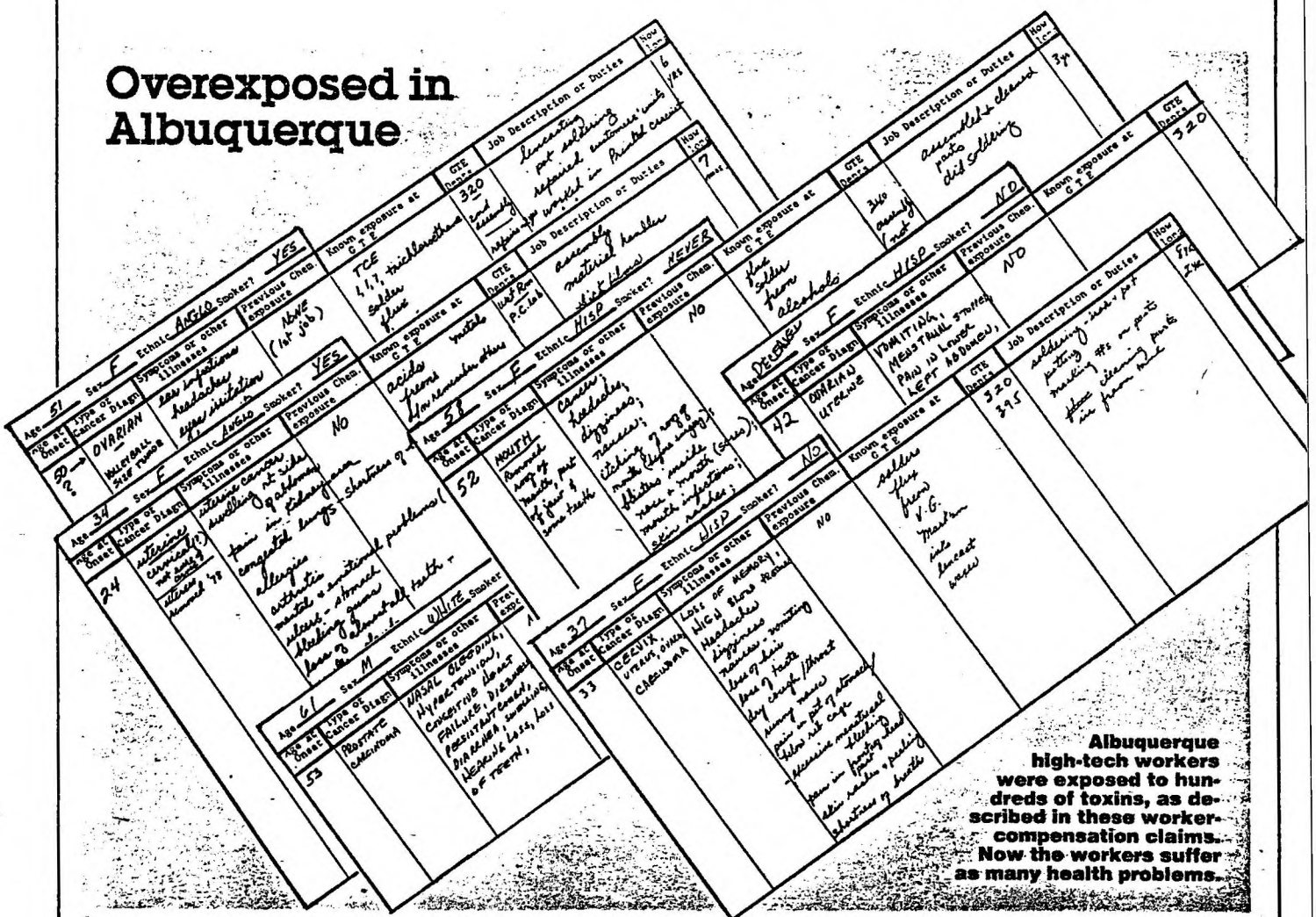
Overexposed in Albuquerque



Albuquerque high-tech workers were exposed to hundreds of toxins, as described in these worker-compensation claims. Now the workers suffer as many health problems.

For six years until May 1984 Yolanda Lozano worked at GTE's Lenkurt plant in Albuquerque, N. Mex., making components for personal computers. She wound and waxed transformers and then cleaned them in a solvent bath. According to health records for worker-compensation claims, Lozano and others in her department were exposed daily to fumes from epoxies, resins, and solvents known to be toxic.

Yolanda Lozano now has malignant melanoma, a deadly form of skin cancer, and she is convinced it comes from her repeated exposure to toxins at work. She and 90 other workers are suing GTE through New Mexico's worker compensation system. They claim that the list of chemicals to which they were exposed caused a list of diseases almost as long.

GTE spokesperson Nancy Colbert says the lawsuits are "without merit. There are no indications that the materials used at the Albuquerque plant produced the health problems of the plaintiffs." A letter stressing the company's position went to every worker at the Lenkurt plant when the number of suits reached 20. GTE has since shut down most of the plant, but attributes this to industry trends.

Almost 2,000 workers—many of whom are Hispanic women—experienced roughly the same conditions as Lozano did. Varying amounts of over 150 different toxic chemicals were used regularly. Because no department of the modern plant had a local exhaust system, the fumes from these chemicals could recirculate throughout the building. According to Lozano and the claimants' lawyer, Josephine Rohr, many workers were directly exposed to toxins such as polychlorinated biphenyls (PCBs), benzene, and tricloroethylene (TCE), yet GTE issued no respiratory masks or protective clothing.

Most of the ninety-one plaintiffs were healthy before working at GTE-Lenkurt. Now about thirty of them suffer from skin, uterine, ovarian, cervical, colon, breast, brain, and thyroid cancers. The rest complain of other serious problems, including dizziness, bronchitis, infections unresponsive to antibiotics, and deteriorating bones and cartilage. Two cases of an unknown illness resembling multiple sclerosis have been reported as well. Three claimants with cancer have died since the suits were filed. Rohr says that fourteen more of Lozano's co-workers have also died of cancer.

"My doctor was the one

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who started me thinking," Lozano says, "because he said it is very rare for a Hispanic to ever get this type of cancer. He asked me right away whether I spent a lot of time in the sun. I said there's no way I could have because I was normally going into the plant at a quarter of six in the morning and not leaving until my 12-hour shift was up."

Rohr began the legal battle with little local support, and she has faced opposition even from the local chapter of the International Brotherhood of Electrical Workers, which represents the Lenkurt employees. The union overlooked health and safety issues, choosing to fight against layoffs instead. But despite these efforts, GTE has gradually moved most departments from the Lenkurt plant across the border to Juarez, Mexico. Only about 150 workers remain at the Lenkurt plant.

Lozano and Rohr have received assistance from the National Network for a New High-Tech Agenda. Made up of high-tech workers, health and safety specialists, and environmentalists, the group is known informally as the Integrated Circuit. One of its main priorities is the health of high-tech workers.

Integrated Circuit member Nancy Lessin, director of the Massachusetts Coalition for Occupational Safety and Health, has followed the Albuquerque case closely. She notes that doctors, toxicologists, and epidemiologists are showing a growing interest in environmentally induced damage to the immune system. These researchers think they see a pattern in the symptoms of workers exposed to a broad spectrum of chemicals, especially in large doses. "It is an unusual constellation of symptoms," Lessin says, "but one we are coming to recognize."

The immune system, an extremely intricate biological system, protects the body against disease by identifying potentially harmful alien materials and releasing antibodies to fight them. Albert Levin, a physician at the University of California at San Francisco, emphasizes the ability of large amounts or large numbers of chemicals to break down the immune system. He has coined the term CAIDS—Chemically Acquired Immune Deficiency Syndrome—to describe the variety of symptoms that can result. However, he cautions strongly against comparing CAIDS to AIDS, in which the immune breakdown is rapid and far more extensive.

David Ozonoff, an epidemiologist at Boston University, agrees that researchers are seeing "definite effects on the immune system from chemical exposure." He feels that those effects are just beginning to be understood, but he can see why defendants such as GTE fear evidence that working conditions could cause them: immune deficiency might explain "a whole range of diseases."

The focus on the immune system marks a significant change in research on toxic effects. Until recently, researchers have tried to link specific symptoms to individual chemicals. Many of the symptoms like the ones exhibited in Albuquerque "were previously seen by the medical community to be psychosomatic, or what we call ideopathic [of no known cause]," says Levin. He notes the "growing recognition that a lot of the cancer we ar seeing is related to immune system breakdown."

So far, it is unclear whethe courts and state worker com pensation systems will accep any of the theories that con nect different diseases wit employee exposure to chem icals. After almost two years the cases brought by Lozan and her co-workers have ye to come to trial.

Levin believes that the pub lic will benefit from the suit regardless of the outcome "My goal is to make the pub lic recognize the dangers o the indiscriminate use of toxi chemicals. I think the toxi torts arena works faster an more effectively than virtuall any other in this respect, cer tainly faster and more effec tively than publishin findings in a scientific jour nal."—*Seth Shulman*

Lancashire Laundry Day

On the site of an abandoned gasworks in Blackburn, Lancashire, in the British Midlands, biotechnology is being used for the first time to decontaminate spoiled land. The two-year project began this past December. It could be the largest such cleanup operation ever undertaken in Europe or the United States, says a representative of Bio-Technica Ltd, the company hired by the Blackburn Borough Council to do the job.

The Greenbank Gasworks closed in the 1970s, when natural gas from offshore fields in the North Sea replaced "town gas" manufactured from coal. The site was left contaminated, primarily with phenols, coal tars, and cyanide.

The idea that microbes could munch through heaps of waste like an army of Pacmen appeals to those who must deal with the excreta of industry. The usual practice of shifting the material from one site to another simply buys time. At Greenbank, BioTechnica employs natural microorganisms from the site itself to completely eliminate the problem.

The technique being used at Blackburn does not rely on genetic engineering to create new organisms. Rather, it focuses on stimulating existing microbes—with improved climates and nutrients—to vigorously attack waste material and contaminants. The first step is isolating microorganisms that have, on a limited scale, already begun the degradation process. According to John Rees, BioTechnica' environmental program di rector, such microbes have t exist. "It would be a ver strange site that did not hav natural microbes."

However, says Rees, the exist in insufficient quantitie and conditions for them ar usually "unsatisfactory." Therefore, once the active mi crobes are isolated, they ar bred in 150-liter fermenters Then layers of the microbe go into specially designe mounds built by a team fro Miller Buckley Projects, civil-engineering firm that i undertaking the decontami nation with BioTechnica. T provide a better climate fo the microbes, tents enclosin the mounds raise the temper ature a few degrees. A wa tered-down mixture of th microbes and soil will b sprayed on the rest of the site

The bacteria digest the con taminants in the mound, ex creting water and carbo

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