Findings of Toxin Leakage in Silicon Valley Hurt Chip Makers' Reputation for Safety

By MICHAEL W. MILLER
Staff Reporter of THE WALL STREET JOURNAL

MOUNTAIN VIEW, Calif.—Silicon Valley's electronics factories, once thought to be almost antiseptically safe, turn out to have a messy underside: toxic chemicals used in some high-tech manufacturing processes are seeping out of storage tanks and into local water supplies.

For a business usually considered clean and free of health hazards—especially in comparison with heavy industry—the recent revelations are both surprising and disillusioning. About 70 cases of toxic leaks from electronics factories have come to light in the past two years, and some two dozen electronics companies have already spent about $70 million in clean-up and prevention costs. Although only a few of the leaks have reached Silicon Valley drinking water so far, other leaks that have already been detected may threaten water supplies in the future.

In June, dangerous amounts of a computer chip degreasing agent were discovered in non-public tap-water wells here. Health officials told 125 residents to stop using their water; they have since joined the city water system.

This month the San Francisco regional EPA office proposed putting 13 to 20 Silicon Valley sites on the agency's "superfund" list of the country's worst hazardous waste sites. This would entitle these areas to new cleanup funds.

Many residents of the Silicon Valley used to think computer companies were ideal neighbors. "They don't make drums of oil, they make calculators," says Dwight Hoenig, a state toxic substance control officer. "And calculators don't get into your drinking water." Now some local residents feel they were misled. "When the brilliant engineers . . . joined to give us a bright, rich and healthy industry, they failed to inform us they were putting the smokestacks underground," Sunnyvale resident Mario Sassano wrote recently to a local newspaper.

The problem of chemical leaks from electronics factories first came to light in 1981, when Fairchild Camera and Instrument Corp. discovered leaks at its San Jose plant. More than 400 area residents filed suit against Fairchild, claiming that chemicals in their water had caused brain damage, birth defects, cancer and other injuries. The suit hasn't come to trial yet. A Fairchild spokeswoman says the company doesn't see "a clear link" between the leaks and the illnesses.

The residents suing Fairchild aren't the only people in the community who consider themselves victims of toxic leaks. The Great Oaks Water Co. in San Jose shut down three wells because of contamination from a number of sources. Great Oaks has also become a co-defendant in the suits against Fairchild.

"I used to be so proud of the good water that we serve," says Betty Roeder, who took over the private company from her late husband 12 years ago. "Now anywhere I go, I mention Great Oaks Water and people are immediately reminded of the contamination."

Contamination from underground storage tanks, where companies keep used chemicals until they can be transported to dumps, has received much less media and government attention than pollution from toxic dumps and spills. But environmental officials predict that as the search for tank leaks continues, and the technology for detecting contaminants underground becomes more sophisticated, the underground storage issue will become widespread, affecting many more industries.

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Meanwhile, the companies and government agencies trying to control the leaks face several frustrating uncertainties. A company generally has to track a leak's underground path by drilling dozens of test wells, a time-consuming and expensive procedure. International Business Machines Corp., for example, has drilled more than 300 wells in the past two years, at a cost of about $2,500 each, to determine the extent of contamination from its San Jose plant.

Also complicating the clean-up is the lack of information about the chemicals and their effects. Although government research has linked the principal contaminant of Mountain View water, a solvent called TCE, to liver cancer in laboratory mice, it's still unclear whether the compound is carcinogenic in humans. Most electronics companies stopped using TCE in the 1970s because it was thought to be too toxic.

In California, as in most of the country, TCE is unregulated. The Environmental Protection Agency began its process of regulating the chemical four years ago, and it expects to issue a maximum level by the end of 1985. That level is expected to be five to 50 parts per billion; in the contaminated Mountain View wells, TCE turned up at levels as high as 2,800 parts per billion.

Peter Jones is one of the Mountain View residents who had to stop using his tap water. "My feeling is we're probably guinea pigs for the next generation," says Mr. Jones. "I hope it helps them out." Mr. Jones, who says he and his family have developed respiratory infections, dizziness and irregular heart rhythms, has joined a suit filed in June against Teledyne Semiconductor, which the plaintiffs blame for contaminating Mountain View water. (The suit has not come to trial yet.) Teledyne paid for bottled water for the residents and it also paid for new water connections to residents with contaminated wells, but the company insists that other firms may be responsible for the leaks.

The leaks have also strained the once-harmonious relationship between Silicon Valley industry and local government. The main battle is over clean-up. Some company officials don't think they can legally go beyond their plant's boundaries to clean up chemicals that have migrated.

"You can't go knocking on Mrs. Smith's door and say 'Hey, we're going to drill a hole,' " says a spokesman for a semiconductor company. "That's the government's job."

While industry and government try to take charge of the cleanup, steps have been taken to forestall future crises. In February the EPA began a two-year, $950,000 program to study environmental health hazards in Silicon Valley, with a special emphasis on coordinating industry and government.

In addition, two new state laws, which have been in effect since January, require companies to register every underground tank and to install double walls and monitoring systems in most new tanks. The state also added $2.5 million to the state water board's 1984-85 budget for controlling underground tank leaks.

"They're spending megabucks, and they're going to spend more megabucks," says Mr. Hoenig, the state health department official. "All you've got to do is lose track of a couple of thousand gallons and you're spending millions of dollars."

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