

Silicon Valley's Fear Over Tainted Water

By Bill Soiffer

Lillian Ross began compiling her list of birth tragedies shortly after the Great Oaks Water Co. in San Jose admitted that a water well serving 16,000 area customers was heavily contaminated with the chemical 1-1-1-trichloroethane (TCA).

First, the full-term baby of a woman three doors down was born dead. Six months later, neighbors who lived a block away had a girl born with a congenital heart defect that required surgery when she was 13 days old. A woman who lived across the street and two houses up then gave birth to a boy with congenital kidney disease who survived only seven hours.

Then Ross' daughter, Juliana, now age 2, was born with heart defects. Juliana had corrective surgery at the age of two months and will need open heart surgery when she is older.

Over a three-year span, Ross' list of birth tragedies — most within a two-block radius of her home in the Los Paseos section of San Jose — had grown to 10.

"I couldn't believe we were having so many problems," she said. "The joke was going around that we were living on an old toxic waste dump."

On December 4, a Fairchild Camera and Instrument Corp. silicon chip manufacturing plant, located two blocks from Ross' home, said that chemical wastes stored in a leaking underground tank on its property had polluted the well.

The cluster of birth defects has now grown into a multi-million-dollar lawsuit against Fairchild and the water company, with 266 plaintiffs, including 117 children. The residents charge that 13 deaths and a multitude of medical problems — including birth defects, cancer, skin disorders and blood diseases —



Photos by Vincent Maggiora

LORRAINE ROSS AND HER DAUGHTER, JULIANA
The child, now 2, was born with multiple heart defects

resulted from exposure to the hazardous chemicals that seeped from Fairchild's leaking underground tank to the Great Oaks water well

2000 feet away.

An investigation of the birth defects has been initiated by the

state Department of Health Services. "Yes, there is a cluster of birth defects there," said Dr. Richard Jackson, a state epidemiologist. "At this point we cannot draw any cause and effect conclusions and say it is due to the water."

The most startling discovery since the Fairchild leak has been a survey of Silicon Valley firms that store their chemical wastes underground. Of 49 companies that have responded to the survey by the Regional Water Quality Control Board, 73 percent report that their underground storage tanks are leaking. A total of 57 leaks have been discovered.

"We did not expect the numbers to be that high," said Harold Singer, chief of the water board's toxics division. "It indicates to us that the problem of leaking underground tanks that could contaminate drinking water is obviously widespread."

Fred Dierker, executive director of regional water board, terms the threat of industrial chemicals polluting Silicon Valley drinking water an "urgent problem," but complains he doesn't have enough staff for investigation.

"Our inability to assign staff to these new cases could result in the movement of pollutants from the

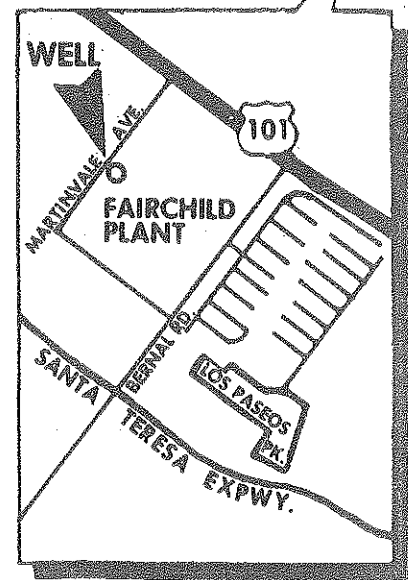
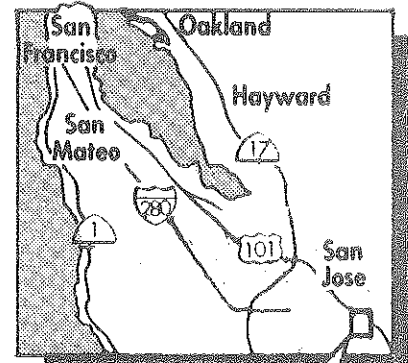
shallow ground water to the deeper aquifers which are extensively used for municipal supplies," he warned in a letter to state officials in Sacramento.

Since the Fairchild leak, two other Great Oaks wells, a drinking well for 400 residents of a San Jose mobile home park and the wells of two private homes have closed — all tainted with solvents commonly used by Silicon Valley firms.

An IBM computer disc drive plant on Cottle Road, about two miles north of Fairchild's plant, has admitted it is a "possible source" for contaminating those wells. Last November the firm discovered a leak in an underground pipe carrying TCA and freon. An IBM spokesman said 250 test wells have been drilled to determine the extent of the groundwater contamination.

"We were all very naive," said Ross, a mother of four who led the public outcry for stricter controls on storing hazardous chemicals underground. "We thought we were living with a clean industry. We were all just flabbergasted to find out what chemicals the Silicon Valley firms use, how much they use and how few precautions they take."

As a result, a controversial law to regulate underground storage



Maps show site of first leak

tanks containing hazardous materials — the most comprehensive of its kind in the nation — has been proposed among Santa Clara County's municipalities.

The model ordinance approved
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San Jose Suit Over Leaks From Tanks

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by Santa Clara's Intergovernmental Council, an advisory group of representatives from the county's 15 municipalities, would require:

• All storage tanks with hazardous materials to be monitored for leaks and for new tanks to be built with double-containment walls.

• Public disclosure of the type and amount of materials stored, except for trade secrets.

Sunnyvale and Santa Clara have already adopted the ordinance. A similar law was introduced in the state Legislature last month by Assemblyman Byron Sher, D-Palo Alto.

"We are concerned because half of the state's water supplies comes from underground wells," said Kip Lipper, a legislative aide to Sher.

Opponents, including industry groups and major oil companies, claim the cost of compliance would be enormous for gasoline service stations, farmers and small businessmen.

"It's overkill to a large degree and would literally drive some service station owners out of business," said Ed Boswell, assistant executive director of the 1300-member California Service Station Owners Association.

Boswell believes the cost for service station owners to install new tanks would double and reach as much as \$150,000. "Gasoline is already severely regulated and monitored," he said. "The cost will go right to the consumer. They are asking for some of the highest gas prices in the country and the demise of a large number of service stations."

Marc Gourevitch, a research associate with Citizens for a Better Environment, an environmental group urging state officials to devote more attention to drinking water contamination, responds, "Gasoline, which contains cancer-causing and birth-defect-causing chemicals, is every bit as hazardous as many of the industrial chemicals that these regulations are trying to keep out of our drinking water.

"Over 100,000 Californians have already been served water tainted with toxic chemicals. The financial cost of leak proof tanks is negligible in comparison with the human cost of chronic disease that may result if they are not installed."

Meanwhile, Fairchild has spent more than \$12 million on 80 monitoring wells and 12 extraction wells to clean up its leak. It also decided in March to close down a large portion of its San Jose plant for economic reasons not related to the water contamination, eliminating 442 jobs.

John Salazar, a Fairchild spokesman, said the firm adamantly denies responsibility for the deaths and illnesses. "We don't believe there is a scientific basis to show a connection between the well contamination and when these maladies occurred."

Los Paseos residents still don't know how much TCA contaminated their drinking water, when it began, or what is a safe TCA concentration level.

Ross said that residents were first told that TCA, a de-greasing agent commonly used to clean silicon chips, was a fairly innocuous substance found in their drinking water. However, recent studies of TCA by the National Toxicology Program, a federal agency that tests substances for toxic effects, show that it causes cancer in one strain of laboratory mice.

Officials have made rough estimates that as much as 60,000 gallons of TCA and other industrial solvents may have leaked from Fairchild's 6000-gallon fiberglass tank during an 18-month period. Initial samples from the contaminated well showed TCA concentrations as high as 8000 ppb (parts per billion).

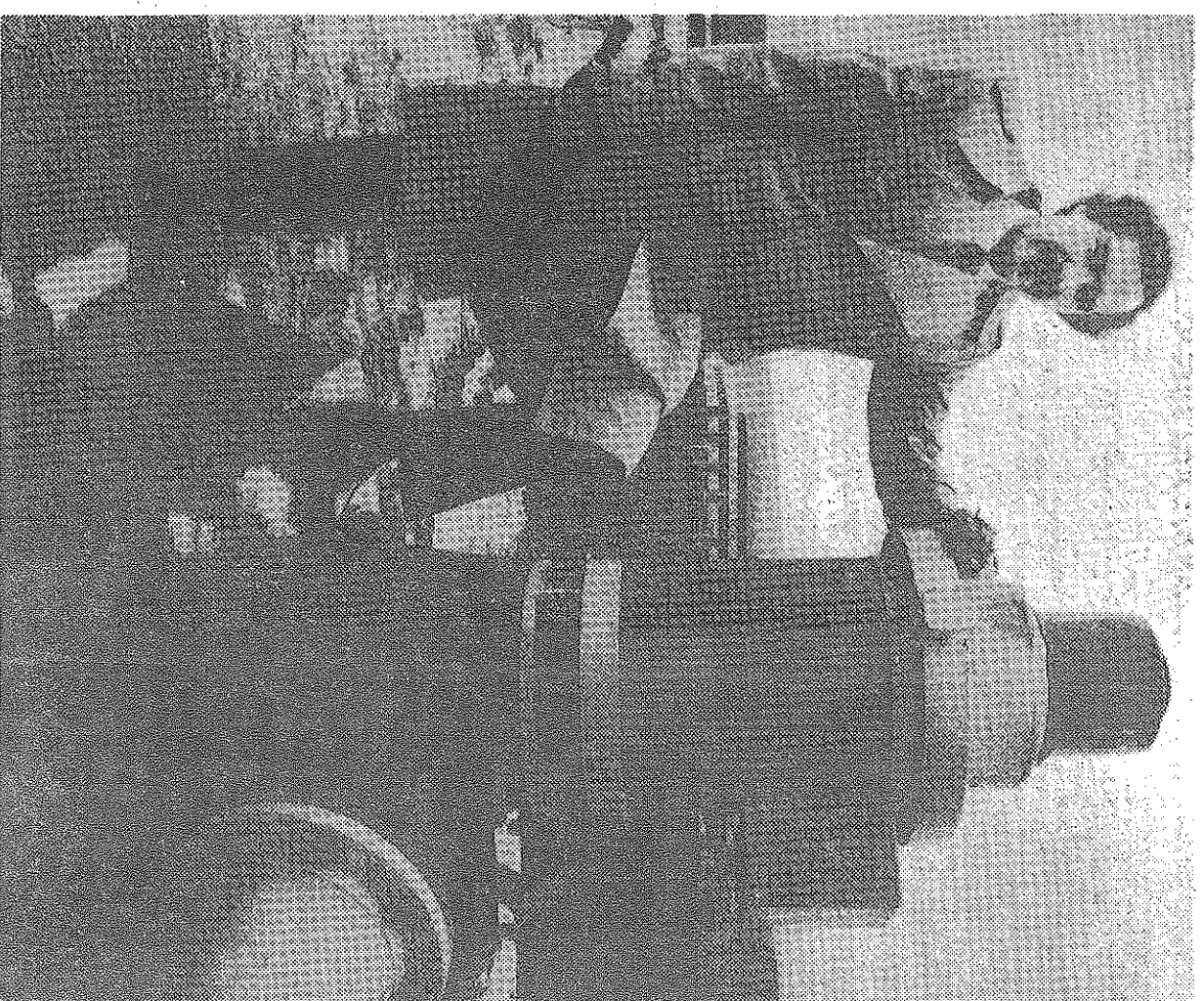
John Gaston, chief of the sanitary engineering branch of the state Health Services Department, said TCA limits were first set at about 500 ppb. Since TCA has been shown to be a possible carcinogen, Santa Clara County officials have been using a TCA limit of only 5 ppb.

"Initially the degree of health risk was considered minimal," said Steve Brooks, a county health officer. "Now we prefer to err on the side of safety."

Residents complain most bitterly that the water company never informed them of the contamination. They learned about it through stories in the local paper.

"We felt real angry about the lack of information given to the public," said Ross, who has since moved south to Gilroy. "We were labeled hysterical housewives and we resented that. We didn't draw any definite conclusions. But this is the only thing that made us any different from any other neighborhood in the world."

Because of the pending litigation, Great Oaks Water Co. President Betty Roeder would not comment on why her customers were not told about the contaminated well. Four of her company's 13 wells have been closed since the Fairchild case — one because Roeder



Salazar and one of the pumps used to extract contaminated groundwater

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"We are striving for non-detectable amounts of contamination," she said. "But I don't think we (the company) will survive. The legal fees are so expensive. Our name is mud."

Roeder says that many of her customers have been contaminated by fear and now send vile notes when paying their monthly bills.

"Many families have moved out because of the water contamination," said Ross. "Others now drink bottled water or use water purifiers."