

## Is Silicon Valley's Water Safe To Drink?

### Chemicals In Our Water Supply Create Uncertainty In Their Wake

*Officials Debate Who Will Foot The Cleanup Bill And How Pure The Drinking Water Should Be*

by Michael Di Marco

The fastest growing industry in Santa Clara Valley may not be superchips or personal computers, but drinking water.

Machines vend drinking water outside convenience stores while grocery stores display zisle-long bottled-water sections. In the past two years, scores of drinking-water vendors have opened businesses throughout the valley.

As most people know by now, much of Santa Clara County's drinking water supply lying in deep pockets underground is being poisoned by chemicals that have spilled or leaked from storage vats.

Nearly half of the people in the county depend in part on underground supplies for their drinking water. Today, many of the deep-water supplies — called aquifers — are already tainted by more than 100 different chemicals.

By Environmental Protection Agency standards for "permissible exposure" to certain chemicals, about 6 percent of the valley's groundwater is contaminated. If contamination is defined as any amount of toxics in the water, the percentage is much higher.

The growing doubts about the safety of tap water in so-called Silicon Valley offer an ironic twist of fate for the electronics industry. Valley leaders, who once boasted of the industry, renamed the valley in its honor and touted its smokeless, effluentless and "clean" technology, are now forced into the role of an antagonist that must monitor and, at times — prosecute — for spills and leaks.

'Valley of the Heart's Delight'

Santa Clara Valley gets its name from Franciscan padres who founded Mission Santa Clara in 1777. Before their arrival, Ohlone Indian communities lived comfortably off the valley's lush vegetation and abundant wildlife for centuries.

In less than 100 years, a new wave of settlers divided up the land into cattle ranches. A railroad line through the valley was completed in 1870, opening up the ranchers' economic reach to once-distant city markets. The rail system — along with the valley's rich alluvial soil — were incentives to open the area to farming.

What was the first crop to cover the valley floor. Soon, other crops were cultivated. The ranchers and farmers were quick to recognize the valley's soil as among the richest in the world. It still holds that distinction today.

By the beginning of the 20th century, the valley had been transformed into one of the country's major fruit-producing regions. The sight of its floor covered with blossoms every spring, its trees flourishing with prunes, cherries, apricots and other fruit, earned

on the block. After all, said the leaders, electronics was a "clean" industry — no smokestacks, no nasty by-products. By 1962, the number of workers in county farming or agriculture had dropped to 9 percent.

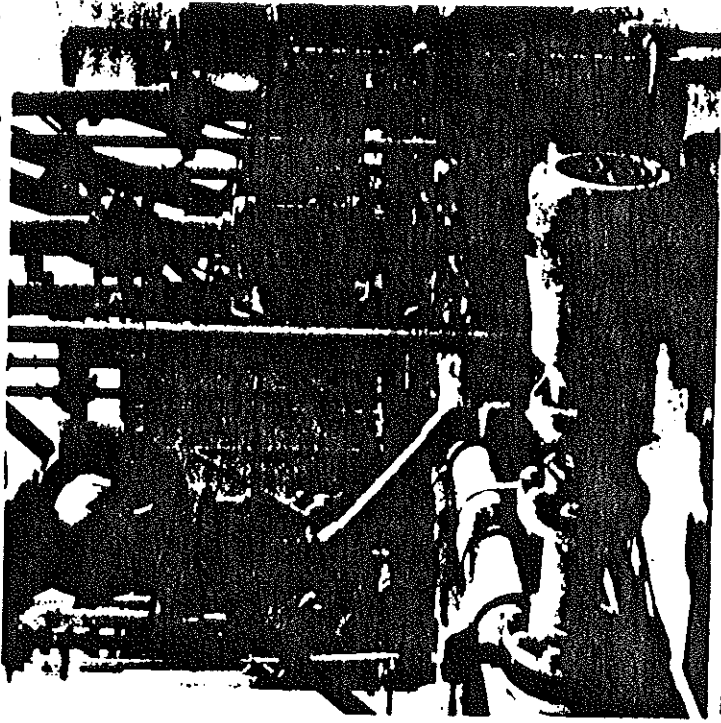
In 1954, about 71 percent of the total acreage in Santa Clara County was devoted to farm use. By 1974, farms accounted for less than half (48 percent) of the county's land.

Since 1951, electric and electronics equipment manufacturing has emerged as the area's largest industrial employer — increasing from 3,400 workers in '51 to 102,000 workers in 1982.

Today, 200,000 of the county's 1.4 million inhabitants work in high-tech — still the single-largest employer in the area.

The Fairchild leak

Less than 10 years ago, there was



Water is pumped from underneath AMD for on-site cleaning.

little fear for the quality of the valley's tap water — half of which comes from wells. As late as 1982, 120 wells checked by the Santa Clara Valley Water District showed no signs of contamination. But trouble was brewing.

In 1980, IBM reported a leak of trichloroethane (TCA), a suspected carcinogen, from one of its underground storage tanks in South San Jose. At the time, said Roger James, executive director of the bay region's Water Quality Control Board, "We didn't realize the significance of that incident until over a year later."

Then, in December 1981, Fairchild Camera and Instrument Corp.

reported that it was missing a significant amount of TCA. A week later, large amounts of toxic solvent showed up in a Great Oaks Water Company well 2,000 feet away.

The leaking underground storage tank had gone unchecked for one-and-a-half years. Water in the well, one of 12 serving 16,500 households, contained 5,600 parts per billion TCA. That was 28 times the "maximum recommended contaminant level" set by the EPA.

Recently, Fairchild settled with 500 citizens who sued the company, charging that the leaks caused birth defects and cancer. One of the agreements of the out-of-court settlement is to not discuss how much money changed hands or to assign blame.

"The Fairchild leak generated many important issues, none more important than the connection between contaminated water and a neighborhood plagued with birth and health problems," wrote Lorraine Ross in April, 1985. Ross, whose daughter, Juliana, was born in April 1981, with a serious heart defect, became a spokesperson for the Los Pasos neighborhood whose wells were affected by the Fairchild leak.

A study released by the state Department of Health Services confirmed that there were babies born with heart defects in the Los Padres neighborhood during the time of the leak at a higher rate than other similar neighborhoods. However, it stated that health officials could not directly tie the toxic leak with the infants' health problems.

There are about 400 electronics companies in Sunnyvale and more than 300 in Santa Clara. According to the California Regional Water Quality Control Board, 10 companies in San Jose, 30 in Santa Clara and 32 in Sunnyvale are responsible for (or suspected of) leaks that have contaminated groundwater.

In the past five years, over 60 private and public wells have been closed because of chemical contamination, most of the closures from solvents leaking from underground storage tanks at high-tech companies. The tanks were put there partly to reduce fire hazards and partly to hide the industrial aspects of the electronics industry and make it appear more like pure research.

Now, there are at least 1,000 businesses storing hazardous chemicals in Santa Clara, at least 1,300 in San Jose and more yet in Sunnyvale, Capertown, Mountain View and Palo Alto.

In several of the public wells closed because of contamination, the tap water contained 5 to 15 parts per billion TCA.

Not all leaks are from the high-tech industry. The state has found