

FAIRCHILD SEMICONDUCTOR:

"IT'S THE WATER"

An Essay
Presented to
the California Pioneers
of Santa Clara County

by

Heather Menegaux
1638 Fairlawn Ave.
San Jose, California 95125
408-448-2759

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TABLE OF CONTENTS

Introduction	1
Prologue	3
Happy New Year	4
Promises, Promises	6
The Big Picture	8
Hitting the Fan	10
The Ugly Swan	11
The Unlucky Ones	16
Conclusion: "An Ounce of Prevention"	18
Footnotes	20
Bibliography.	22
School and Advisor	24

INTRODUCTION

The day before Christmas vacation of last year is a bleak one in my memory: somewhere between passing out candy canes and showing my class "The Grinch That Stole Christmas," my teacher gave us an early present in the form of a term paper on toxic pollution. I can remember groaning, knowing I'd have to sacrifice my only opportunity to watch "I Love Lucy" reruns to a dusty tomb of a library and colorless, fossilized statistics. Forget about my two front teeth- all I wanted for Christmas was a subject I could just add water to and it would flourish into a fine specimen of a term paper. At least we were given a choice between two topics- Fairchild Semiconductor and the Union Carbide disaster in India. Because it was "the road less traveled by," I chose Fairchild as my poison, figuring that at least it had been an event which occurred locally and I could identify with the people involved more easily than I could the "characters" in the other option.

Somewhere along the way, I became involved. Maybe it was when my mother took me out to Bernal Road to see the lonely, lifeless building hugged protectively by a cruel wire fence. Maybe it was when I discovered that my best friend's father, who had been a Fairchild employee during the early eighties, hint that he'd always suspected something not quite right was going on. Maybe it was when I saw the glazed look in the eye of a family member because I'd been passionately babbling about the same topic which used to seem so distasteful for over an hour. I don't think the exact second when I became involved is important, but the fact that I became involved was.

As I struggled to get my facts straight, I began to empathize with the people I was researching. I know just how frustrated county researchers felt when their statistics didn't quite match up. I shared the helplessness experienced by the parents of children directly harmed by toxic waste when my original rough draft was accidentally drenched with Coca-Cola. I know how dillegently the lawyers involved fought when my mom caught me loudly disputing controversial issues- when I was the only one in the room. And, at last, it was finished. I was grinning so hard that I misspelled my name on the cover sheet.

Well, I didn't get what I'd wished for- an instant term paper I could just add water to. But sometimes adding a little blood, sweat and tears makes for a better recipe.

Heather Menegaux
April 13, 1990

PROLOGUE

"Fairchild Starts San Jose Plant"

San Jose Mercury News, June 1, 1975, p. 1

Mercury News Staff Writer

A South San Jose site has been chosen for a 265,000 square foot electronics plant operated by Fairchild Camera and Instrument Company, also known as Fairchild Semiconductor. Fairchild is expanding from other Bay Area locations in Mountain View and San Rafael to a patch of former farmland on Bernal and San Ignacio roads.

Construction plans for the facility include a two-story, windowless, pre-stressed concrete building. Areas for offices, warehouses, shipping, receiving, and engineering will surround the 150,000 foot space reserved for production of multi-purpose linear integrated circuits. Within the first year of business, employment positions are expected to increase from five hundred to one thousand in number.

HAPPY NEW YEAR

When a chemical leak at Fairchild Camera and Instruments Corporation was first reported in early December of 1981, the public was mildly curious but not concerned. Christmas shopping and battling for a parking space at the local mall were uppermost in the thoughts of South Bay residents, not birth defects and corporate lawsuits.

Customers of the Great Oaks Water Company began their new year with a disconcerting statement made by company president Betty Roeder. Because she "didn't want to announce anything until they knew what the problem was," Great Oaks failed to notify the public that Well No. 13, which had served about 16,500 South San Jose residents, had been shut down after chemical contamination had been detected on December fifth.¹ Roeder added that, although the company was uncertain for how long a period of time this condition had existed, "we are confident that there was no water that was dangerous to our customers."² Test results showed that no other wells operated by Great Oaks had been contaminated.

The State Department of Health Services and the Regional Water Quality Control Board were summoned to evaluate the contents of Well No. 13. Trichloroethylene, an industrial cleaning solvent that had been leaking undetected from an underground storage tank belonging to Fairchild, was determined to be the cause of contamination. Also known as methyl chloroform, trichloroethylene is capable of damaging the liver, cardiovascular and central nervous systems when taken in large doses. Minor side effects include lack of coordination, eye irritation, and

dizziness. Ironically, it is commonly substituted for a suspected cancer-causing agent called trichloroethylene, which was also found in the well along with small amounts of acetone, isopropyl alcohol, and xylene.

The State Department of Health Services recorded the levels of concentrated trichloroethylene as measuring between 1.7 parts per million to 8.8 parts per million.³ Despite an excess of the state's recommended limit in drinking water- .3 parts per million-⁴ by as much as twenty-nine times,⁵ sanitary engineer Cliff Bowen did not consider it "a major threat to public health."⁶

Even though the well was only 2,000 feet away from the leaking 5,000 gallon storage tank,⁷ its water had been contaminated for a relatively short space of time, according to Regional Water Quality Control spokesman James Levine. He added that Fairchild could be fined ten thousand dollars for every day that the leak had been present, but as of yet no charges had been filed.

Fairchild spokesman John Salazar said that the company was planning to pay for the cleanup, and had already begun an effort to purify the contaminated water before releasing it into the sewer system. According to him, Fairchild was also currently exploring systems which would allow similar underground storage tanks to be monitored, and that "there is no question that the water was affected, but these standards were based on lifetime exposure."⁸

The emphasis made by every company involved was that no harm had come to the public.

PROMISES, PROMISES

Lorraine Ross, a mother of three who lived in the South San Jose neighborhood previously supplied by Well No. 13, began to link the Fairchild chemical contamination to an increase of birth defects in the area. She had recently counted two miscarriages, one stillborn birth, and four cases of severe birth defects, and joy in her newborn daughter's health turned to anguish when Juliana nearly died from an undetected heart malfunction. Ross' letter to the president of the Great Oaks Water Company asked intelligent and discerning questions that would not settle for less than accurate answers. Why had hazardous chemicals been stored less than two thousand feet from a well serving a residential housing tract? If drinking water had been contaminated for only a short span of time, as indicated in the Regional Water Quality Control Board's report, then why had birth defects drastically increased as early as 1980?

On Wednesday, February 12, a meeting at Oak Grove High School gave over three hundred parents an opportunity to voice their concerns. Among the authorities present were Mayor Janet Gray Hayes, councilmember Jerry Esruth, Fairchild spokesman John Salazar, and officials from both the local and state health departments.

Great Oaks Water Company's president, Betty Roeder, again justified the decision not to alert her customers of the December fifth well closing at the time when it occurred. Even if the public had been informed, there would have been no available facts about levels of contamination or possible health hazards. Public Health Director Bernice Giansiracusa added that there

were no known instances of serious medical conditions caused by trichloroethylene, and Fairchild spokesman Salazar assured listeners that the solvents responsible for the contamination had been transported to steel tanks encased in concrete to reduce likelihood of another leak.

Mayor Hayes quoted from a letter written by Governor Brown: "Information currently available... would not lead the department (of health) to expect any problems from the TCE contamination." ⁹ According to Brown, legal actions against Fairchild were being considered by the State Health Department, but charges would not be filed until further investigation was completed.

Statistics and bureaucratic rigmarole had failed to placate concerned parents. Preliminary census tract data had been discussed at a Feb. 10 community meeting where the possible connection between birth defects and toxic waste was raised. County chief of records and statistics, Louise Detwiller, had stated that for the entire county in the year 1981, the birth defect rate was 6.4 instances out of one thousand births. ¹⁰ In the census tract which included the Los Paseos neighborhood, the 1981 birth defect incidence was 15.2 out of every one thousand births. ¹¹ However, associate county planner Bruce Tanner had pointed out that instead of the two thousand households in an average census tract, the Los Paseos tract was estimated at 6,474 households, ¹² a fact which made Los Paseos data seem distorted in comparison with other statistics. Giansiracusa had cautioned against making judgements with only partial information, reassuring that "the gross data doesn't indicate anything unusual or alarming." ¹³

Disturbed and dissatisfied, Los Paseos residents resolved to officially voice concerns at a March 16 city council meeting. 7

THE BIG PICTURE

San Jose was not the only victim of negligent Big Business. In mid- February of 1982, a private well across the street from Fairchild's Mountain View facility was discovered to contain dangerous levels of trichloroethylene (TCE). Because of the high number of semiconductor plants in the area, it was impossible to establish a definite relationship between Fairchild and the contaminated well.

Towards the end of that month, Fairchild officials released that new ground-water contamination- caused by TCE leaks as at the San Jose location- had been discovered at Fairchild's Palo Alto and Santa Clara facilities. In Marin County, similar problems were found at Fairchild's San Rafael plant and were rumored to be the source of a private well contamination in Healdsburg. However, only the South San Jose chemical leak had been proved to be the cause of contaminated drinking water.

According to state and local officials, the solvent leak was one link in a long chain of chemical mishaps experienced by the San Jose facility throughout its six-year history. "Musical chairs," repeated renovations and internal changes unaccompanied by the proper paperwork, were frequently observed by Fairchild employees. ¹⁴ Officials acting on an anonymous tip had found an acid leak where tainted water was being discharged into the water- waste system, and a former Fairchild worker had complained of a large hydrofluoric acid leak spilling unattended into the ground for at least twenty- four hours in 1980.

Fairchild's spokesman, John Salazar, said that the Palo Alto plant had the lowest levels of TCE: "just above five parts per

billion." ¹⁵ At the Santa Clara facility, the concentration levels ranged from ten to fifty parts per million, or two to ten thousand times the legal maximum amount. ¹⁶ Salazar added even though the groundwater had been contaminated at other Fairchild locations, the only solvent storage tank with a leak had been the one at the San Jose site. ¹⁷

Meanwhile, Los Paseos residents appeared at the March sixteenth San Jose City Council meeting to present their fears with force and power. Carrying signs saying "Fairchild or My Child?", they continued to demand an exploration of the contaminated drinking water and the cluster of birth defects in their neighborhood. ¹⁸

Earlier that same day, the County Health Department ordered hundreds of small public wells, serving at least 100,000 people, to be tested for chemical contamination. Wells operated by the county had been examined two weeks before, in accordance with Mayor Hayes' request, but not until over four months after the Well No. 13 incident were public drinking wells tested. Public Health Director Bernice Giansiracusa recommended that private wells located within a half-mile radius of a semiconductor site should also be tested for contamination, as the discovery at Fairchild had produced a wave of investigation in the computer industry. Nine other semiconductor corporations in Santa Clara County alone, including Intel, IBM, and two separate Hewlett-Packard sites, were also found to have chemical leaks.

HITTING THE FAN

From late 1982 to July of 1986, Fairchild was involved in bitter legal disputes and courtroom drama reminding the public of the television show Perry Mason. Sued by angry residents, Great Oaks Water Company, and the makers of the offending storage tank, Fairchild was drowning in an economic whirlpool which was nearly as debilitating as the chemical which began the whole business.

Matheson Doherty Co., the makers of the solvent-storage tank in which Fairchild had contained toxic chemicals, was represented by attorneys Thomas C. Glaspy and Charles R. Reed. In September of 1982, at their request, a Santa Clara County Superior Court judge refrained Fairchild from removing contaminated soil from the solvent tank, allowing other involved parties an opportunity to perform tests on it. Witnesses for Matheson Doherty alleged that Fairchild "dumped and/or spilled massive quantities of chemicals on the soil" ¹⁹, and that this "dumping", not a faulty storage tank, was to blame for the contaminated drinking water.

In December 1982, the Great Oaks Water Company announced a \$25 million dollar lawsuit against Fairchild for polluting unlucky Well No. 13. According to Great Oaks, Fairchild was "guilty of malice, fraud and oppression" ²⁰ because they had known of their leaking storage tank before December 1981 but had neglected to tell the water company. Fairchild was also accused of "intentionally suppress(ing) information regarding toxic spills from government authorities, plaintiffs and the public in general." ²¹ Fairchild supposedly had used power and influence to intimidate employees into remaining silent.

In addition, Great Oaks alleged that the contamination had forced company president Betty Roeder to endure "humiliation, mental anguish and severe emotional distress and harassment, insults and abuse." 22

Out of the original 266 residents suing Fairchild, Great Oaks Water Company and Matheson Doherty Co., 117 of them were children suffering from medical disabilities which were the suspected results of ingestion of the contaminated drinking water during the mothers' pregnancies. Lawyer John G. Tyndall, representing the Los Paseos plaintiffs, described such health conditions as ranging from congenital heart defects in infants and toddlers to thyroid, kidney, and Hodgkin's disease in adults and older people. The Los Paseos suit was based on mental and physical anguish, as well as the long-time risk of cancer the contamination had left them with.

Legal tactics in the case were aggressive and often indirect. Tyndall presented an internal Fairchild memo as evidence that the leak had begun a year earlier than corporate officials admitted. Dated January 22, 1982, the memo was from Gary Sutton, an assistant controller, to his supervisor Ray Grammer. Sutton had written: "In order to determine when the leak began and how much has leaked, we have reconciled chemical purchases and chemical waste disposal. Results show 1,914 gallons in 1979 that cannot be accounted for which indicates the leak probably started in that year." 23 Fairchild spokesman John Salazar argued that Sutton's conclusion had been "erroneous." 24

The prosecution also cited testimony secured from a former Fairchild maintenance worker, Daniel Boggs. Boggs stated under penalty of perjury that supervisors had told him to ignore the

leak. A common joke among employees was that the solvent waste removers visited Fairchild less and less frequently.²⁵

Because of "excessive pretrial publicity,"²⁶ Fairchild officials requested a change of venue, a rare occurrence in a civil suit. Accompanying their petition was a collection of newspaper clippings an inch thick and a quote from Charles Seraphin, KCBS news director, commenting that the Fairchild fiasco was "a news story of significant public interest to which KCBS devoted significant coverage."²⁷ Fairchild was denied their request.

In July of 1986, tired but not admitting guilt, Fairchild arrived at an out-of-court settlement with 530 Los Paseos plaintiffs, the terms of which were not revealed to the public.²⁸ The cash settlement was considered a bittersweet victory, since the emotional ordeal of living with those medically impaired was never-ending. Lorraine Ross, whose letter had prompted exploration of the Los Paseos cluster of birth defects, said that her daughter Juliana had already undergone two heart operations and probably needed one more.

"And who knows? She's only 5½, and she's got a long way to go." ²⁹

Another resident, Susan Puppo, was relieved that the legal ordeal was finally over, yet she foresaw future difficulties because of the amount of the settlement.

"I can see it's going to create a lot of problems with our family, personal problems. In the environment we live in, people are going to be very envious." ³⁰

The only plaintiffs without worries and concerns were the

children whose birth defects had brought the spotlight- and the searchlight- on Fairchild Semiconductor back in 1982. When interviewed by Mercury News reporter Mitchel Benson, six-year-old Brian Puppo confided that his share of the settlement, in trust until his eighteenth birthday, would be spent on a black Corvette " 'cause I like 'em." 31

THE UGLY SWAN

The past string of scandals had left Fairchild unsteady and uncertain. Once the "grandfather of the local chip industry," ³² credited with the invention of integrated circuits, Fairchild had become an ugly swan with little likelihood of regressing into a successful duckling.

In 1986, Fairchild lost \$93 million out of \$488 million total sales, and in September of 1987 accumulated losses for that year were estimated at \$70 million. When a foreign competitor, Fujitsu Ltd., offered to purchase 80% of Fairchild Semiconductor in October 1986, their bid was rejected because the United States government did not want a "military supplier in Japanese hands." ³³ Eventually a buyer was found in National Semiconductor, whose acquisition would allow them to become "a formidable competitor on the level of Texas Instruments." ³⁴ National had intended to purchase only part of Fairchild, but enticed by the allure of a "bargain basement price," ³⁵ - a mere \$122 million - they bought all Fairchild locations except for the ill-reputed South San Jose facility.

When a 179,000 square foot shopping center was proposed by Koll, Co., to be built on the San Jose Fairchild site, local residents had mixed reactions. They relished the idea of the building's demolition, but resented the traffic a shopping center would bring to the area. The San Jose City Council would have to change Fairchild's zoning from industrial to commercial, and this combined with other legal technicalities prevented the shopping center from being built. Embraced by a high cyclone fence, as if barbed wire could protect it

from further misfortune, Fairchild's lonely shell can still be seen today.

THE UNLUCKY ONES

When a child asks its mother if she had wanted a girl or a boy, the mother usually replies, "I just wanted you to be healthy."

The saddest consequence of Fairchild's toxic tragedy were those parents- and children- who were the unlucky ones.

Ted Smith, chairman of the Silicon Valley Toxics Coalition, said that people "have been threatened with firing if they leaked anything" about the three- year study on the Los Paseos birth defect cluster conducted by the Santa Clara County Health Department. ³⁶ One portion of the study explored the rate of birth defects and miscarriages, and the other section covered cardiac defects in infants.

The objectives of the cardiac defects study were: to conclude if cardiac defects occurred at a higher-than-average rate in the Los Paseos neighborhood; to determine whether an excess of cases in the area could be explained by maternal risk factors, such as family tendency towards heart defects; and to decide if environmental factors, namely contaminated drinking water, had any effects upon the pregnancies of women who had been served by Well No. 13. Removing such hereditary tendencies as Down's syndrome and heart conditions, and taking into account such factors as the mother's age and alcohol consumption, the evaluators were faced with startling results. Compared to a control group, the Los Paseos neighborhood had eighteen more miscarriages, eight more cases of birth defects, and forty-six more stillborn births. ³⁷ Heart malfunctions were at a rate of 2.2 percent in the control area and 6.9 percent in Los Paseos. ³⁸

Objectives of the pregnancy outcome survey were: to see if

there was an excess of abnormal pregnancies in the Los Paseos region; to discover if maternal factors could explain the excess; and to see if contaminated water had been behind the cluster of birth defects. Researchers learned that Los Paseos had a 21.5% average of spontaneous abortions compared to 11% experienced by the control group. The percent of congenital malformations for the Los Paseos group was 9.0 compared to the control group's 2.3 percent. 39

While the study confirmed that maternal risks were not the cause for the cluster of birth defects, tainted well water could not be definitely pinpointed as the reason. Even if Fairchild's errors had been directly to blame, they could not make those unfortunate enough to care for the victims any better equipped to handle their very personal tragedies. As Lorraine Ross said of her daughter Juliana, "She's only 5 $\frac{1}{2}$, and she has a long way to go." 40

CONCLUSION: "AN OUNCE OF PREVENTION"

On September 8, 1987, Fairchild ran a full-page ad in the San Jose Mercury News, saying that "99% of the industrial chemicals in the soil and groundwater had been removed." ⁴¹ If Fairchild had not been so negligent in their dealings with toxic solvents, perhaps they would not have had to launch a \$25 million dollar effort to repair the damaged environment.

Fairchild spokesman John Salazar assured anxious Los Paseos parents that the leaking solvent-storage tanks had been encased in concrete to prevent further chemical contamination, but if the tanks had been examined for leaks more frequently, the water contamination would have been much less concentrated. However, Fairchild's blunder does not excuse the fact that both the City of San Jose and Great Oaks Water Co. permitted a well which served the public to be located 2,000 feet from a potentially dangerous chemical.

In the case of the Mountain View contamination, Fairchild proposed building an underground slurry wall to control toxic pumping and excavation of the city's tainted wells. The problem was considered to be fairly simple until contamination of a deep aquifer, which had been filled with water from an old agricultural well, was discovered. If city officials had seen fit to remove the link between the old well and the presently-operating aquifer, perhaps the toxic clean-up would not be estimated to last for five hundred years. ⁴²

Ted Smith, executive director of the Silicon Valley Toxics Coalition, sneered at what he called "a high-powered ad campaign to make people forget and convince them it's just part of ancient

history." ⁴³ Fairchild's effort to inform the public about the status of the clean-up was not meant to be self-rewarding. In fact, Fairchild was among nine other semiconductor plants which were found to have chemical leaks, and just happened to become the scapegoat because of negligence on the part of the city and Great Oaks Water Co. If, as Smith contends, Fairchild had wanted the public to underestimate the pertinence of the toxic contamination, it is hardly likely that a full-page ad in the city paper would make them forget. Like every other company involved with the toxic tragedy, Fairchild Semiconductor suffered only from their lack of prudence and farsightedness, not from guilty compunctions.

Notes

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43. Same as #41.

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Heather Menegaux

Abraham Lincoln High School

Robert Zaffran, Advisor