Cancer-causing toxics found in deep

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trapdoors through which contaminants have dropped to lower aquifers, experts say.

News of the contamination was contained in a memo dated Friday from David Morell, Santa Clara County's toxics expert, to the county board of supervisors and County Executive Sally Reed.

"The new evidence involves relatively high concentrations of contamination at deep layers in the aquifer system," Morell wrote. "This is the first confirmed finding of such contamination ever in the deep aquifers of Santa Clara Valley."

Morell said he received the news Friday afternoon from the Environmental Protection Agency.

Other tainted wells in the county — such as those discovered near the Fairchild and IBM plants in South San Jose — drew their water from shallower aquifers.

Worries

Engineers and environmentalists worry that the latest findings mean that drinking water supplies throughout the county could be threatened.

"The danger is that if this can happen in Mountain View, it can happen anywhere in the valley," said Ted Smith, executive director of the Silicon Valley Toxics Coalition, a environmentalist group.

Just seven months ago, a briefing paper on an EPA study dismissed water contamination as a serious health threat in the county in part because "a clay confining layer protects public water supplies in much of the valley."

Santa Clara County Supervisor Rod Diridon said the contamination discovery "drastically changes the conclusions of the Integrated Environmental Management Study recently conducted by EPA. . . . If pollution has penetrated into the deep aquifer, we must have some serious concern about our primary drinking water source."

EPA spokesman Terry Wilson said Saturday that he had no information on the contamination.

In his memo, Morell said concentrations of trichloroethylene, an industrial cleaning solvent known to cause liver cancer in mice, have been found as deep as 500 feet.

The highest level of TCE found underground was 280 parts per billion parts of water. The state "action level" for TCE in drinking water is 5 ppb.

The action level is the chemical concentration at which officials would recommend that a water supply stop being used and that an alternative supply be substituted.

Discovered in 1982

Underground chemical leaks at the site near the Bayshore Freeway and Moffett Field were first discovered in 1982 at an Intel Corp. plant.

Since that time, leaks have been detected by four other companies — Fairchild, Raytheon, Siltec and NEC.

Last summer, three of the companies — Fairchild, Raytheon and Intel — agreed to share the costs of monitoring and cleaning the site under EPA supervision, Fairchild spokeswoman Francine Plaza said Saturday.

In his memo, Morell identified Fairchild as the "lead responsible party" at the site that water quality officials have dubbed "the Mountain View Five."

Cleanup delays

The number of companies involved may have contributed to the current problem, according to Larry Kolb, assistant executive officer of the San Francisco Bay Regional Water Quality Control Board.

"There were long delays occurring in the cleanup because the companies could not agree among themselves who should pay for the cleanup," Kolb said. The cleanup, he said, was delayed for at least a year by the bickering.

He said the findings of TCE a traces of three other carcinoge chemicals — dichloroethane, di loroethylene and trichloroetha — in test wells "means that m cleanup should have been do earlier."

Kolb added that the Mount View Five site became the o contamination site out of dozens the Santa Clara Valley to be turn over to the EPA after regio water board officials decided t "the process wasn't happening f enough."

However, Plaza stressed th "there is no current threat Mountain View drinking water."

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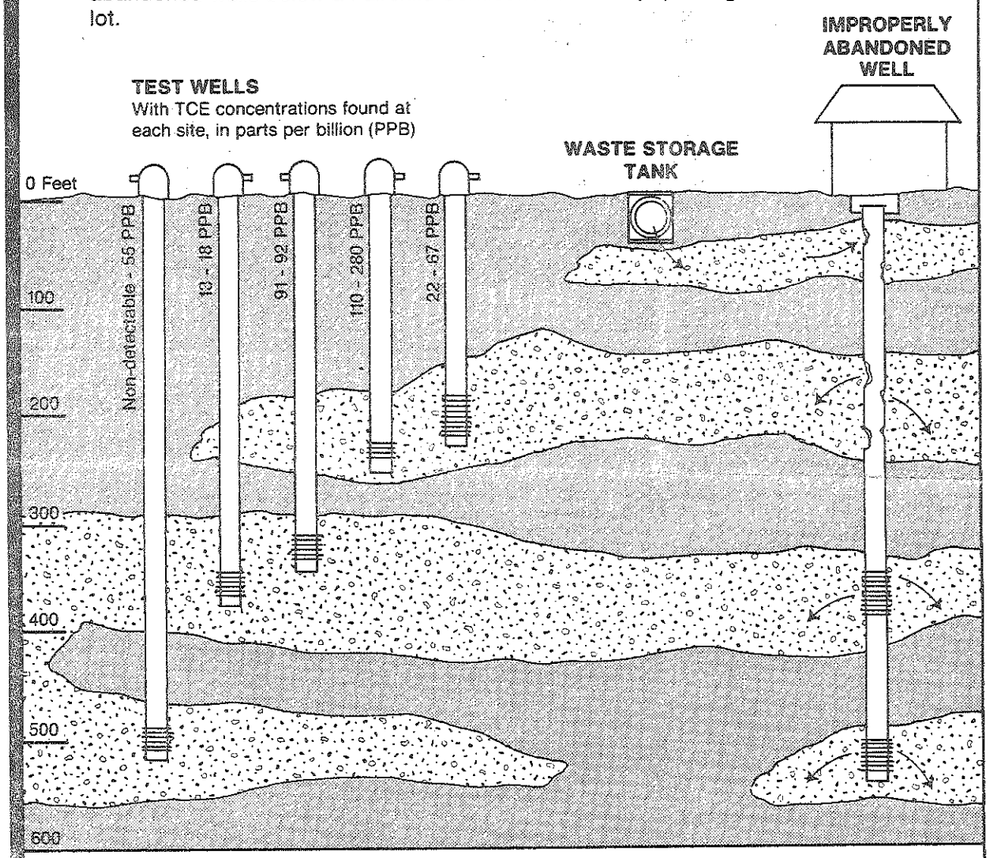
A more extensive county s

How the chemicals may have spread

Chemicals leaking from storage tanks buried just below the surface may have hit lower drinking water aquifers by spreading through abandoned agricultural wells. Chemicals can enter the abandoned wells through corroded casings, then drop to lower drinking water aquifers. In Mountain View, experts suspect that TCE may have seeped into lower aquifers through three abandoned wells below a Fairchild Semiconductor Corp. parking lot.



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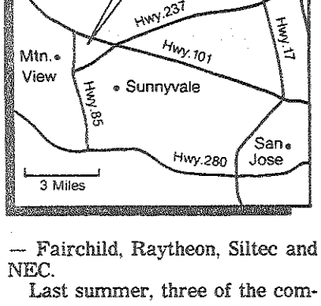

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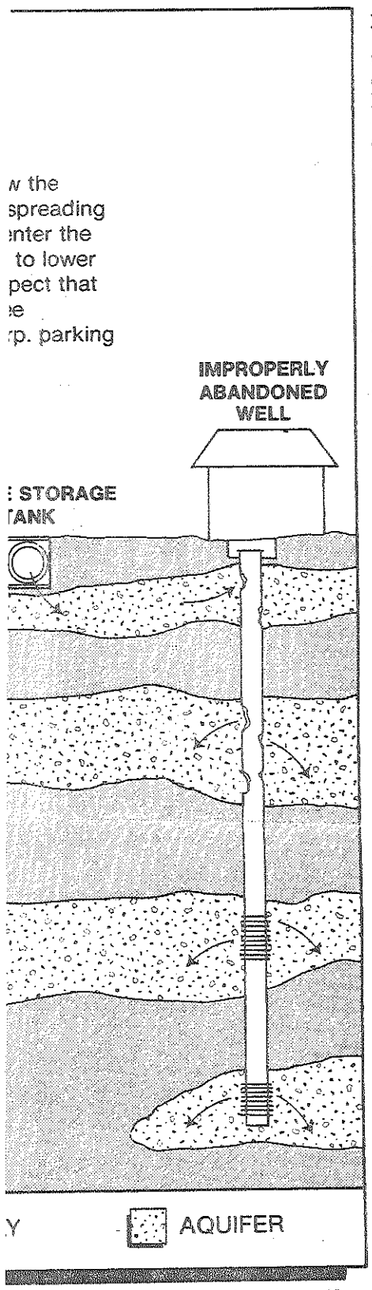

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"There were long delays occurring in the cleanup because the companies could not agree among themselves who should pay for the cleanup," Kolb said. The cleanup, he said, was delayed for at least a year by the bickering.

He said the findings of TCE and traces of three other carcinogenic chemicals — dichloroethane, dichloroethylene and trichloroethane — in test wells "means that more cleanup should have been done earlier."

Kolb added that the Mountain View Five site became the only contamination site out of dozens in the Santa Clara Valley to be turned over to the EPA after regional water board officials decided that "the process wasn't happening fast enough."

However, Plaza stressed that "there is no current threat to Mountain View drinking water."

Tom Frutchey, Mountain View maintenance director, said the closest public drinking well — less than a mile from the Fairchild site — has been shut down since early March for routine maintenance.

At that time, tests of the well showed no contamination, he said. Mountain View's four other public wells are much farther from the contamination site, he said.

More test wells

Plaza said Fairchild plans to drill two more clusters of monitoring wells between Mountain View's closest drinking water well and the test well that showed the contamination.

"We found it; we reported it; we have a solution in progress," Plaza said.

Although county officials question whether the cleanup should have been started sooner, Plaza said, "that's conjecture. We're acting responsibly in investigating and fixing the situation."

Despite's Fairchild's efforts, Kolb and Iwamura agreed that the latest findings could increase the chances that pollution will reach drinking water wells.

County officials say they plan to act quickly to measure the threat posed by the deep contamination.

County Executive Reed said officials must determine "how quickly the contamination is moving, in what direction, and in what concentration."

Susanne Wilson, chairwoman of the board of supervisors, said a new county program to test unregulated private wells will be redirected to emphasize the area around the Fairchild site.

"One thing I think we'll need is more vigorous monitoring of private wells in the area," she said.

Wilson also said the board will discuss the contamination at its regularly scheduled meeting Tuesday.

In February, the county released results of the first round of private-well tests, which showed that five wells in Mountain View were contaminated with organic chemicals. Two of those wells exceeded state action levels for TCE — the same chemical now contaminating the deeper aquifer under the Fairchild site.

A more extensive county study of about 1,200 private wells is under way, Wilson said.

County officials estimate that 5,000 private wells throughout the county provide drinking water for about 90,000 people.

Meanwhile, Morell on Friday afternoon asked officials in the county health department to locate and count public and private wells in the area and to determine when they were last tested.

"We have no reason to believe that this new contamination of the ground water has reached any drinking water wells," he wrote in his memo to the board, "but we want to assure that this is so."

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How toxics affect people

Dichloroethane: DCA is a cleaning solvent that can cause damage to the liver and kidneys as well as central nervous system depression. It also can cause skin irritation and drowsiness. DCA has been shown to cause cancer in at least one series of animal tests.

Dichloroethylene: DCE is a cleaning solvent that can cause damage to the respiratory system. It also can irritate eyes and cause central nervous system depression. DCE has been shown to cause cancer in at least one series of animal tests.

Trichloroethylene: TCE is a degreasing solvent that can affect the central nervous system, the respiratory system and the cardiovascular system. Acute and chronic exposure at very high doses has resulted in liver toxicity and possible kidney damage. The National Cancer Institute concluded that TCE is a liver carcinogen in mice.

Trichloroethane: TCA is a degreasing solvent that can cause damage to the central nervous system, the liver and the cardiovascular system if taken in large doses. It also can cause loss of coordination, eye irritation and dizziness. In a draft report, the National Toxicology Program found that TCA is a liver carcinogen in mice but not in rats.