

Bay Area's worst pollution

Mess from the past continues to plague Silicon Valley water

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SANTA CLARA — Day and night in Silicon Valley, chugging pumps at dozens of electronic companies suck up billions of gallons of ground water, searching for solvents spilled decades ago.

Just to keep the chemicals from spreading, in the past dozen years, seven major firms pumped up, filtered and dumped 40 billion to 80 billion gallons, enough to supply 600,000 to 1.2 million people for a year.

It is the Bay Area's worst groundwater pollution problem, and a debate still rages over how best to contain it.

Nearly two decades ago, IBM Corp. shocked the nation by revealing that a buried tank in south San Jose had leaked a host of chemicals once commonly used in microchip manufacturing into a vast toxic plume.

Today, chemicals with names like trichloroethylene, or TCE, and 1,1,1-trichloroethane, or TCA, and Freon-113 contaminate some ground water from Palo Alto and Mountain View to San Jose.

Chip manufacturers have long since replaced most nondegradable solvents with environmentally friendly soap and water and citrus juices to clean chips. Waste tanks now contain double walls and monitoring systems. But the mess of the past still plagues Silicon Valley.

300 companies find leaks

Leaked solvents, although never directly linked to health problems in the South Bay, have caused the shutdown of 69 public and private wells, many used for drinking. Experts estimate contamination of about 2 to 3 percent of the Santa Clara Valley water basin.

The loss of clean ground water has forced several South Bay water companies to import more from San Francisco-owned Hetch Hetchy Reservoir and state and federal water projects.

In the South Bay, most of the pollution lies in the upper aquifers generally not used for drinking water because they're shallow and low-yielding, said Stephen Hill, an environmental specialist at the regional water board.

But Hill cautioned, "We can't rule out needing the water in the future."

In all, nearly 300 companies in the South Bay have found solvents leaking from tanks, waste ponds or past dump sites, according to the San Francisco Bay Regional Water Quality Control

Board.

In San Mateo and Santa Clara counties, 28 electronic companies are still trying — by pumping — to reduce the runaway solvents to meet standards of the federal Superfund law, which deals with the nation's worst toxic sites.

IBM has the biggest and first of the plumes. In South San Jose the underground plume stretches more than three miles and has forced the closing of eight private wells and 17 public wells, which had once served 100,000 San Jose residents.

The company pumps and cleans about 500 million gallons a year at a cost of \$24 million. Some goes for irrigation, some sinks back in the aquifer and some is discharged to the Bay. No one wants to drink it.

Other major cleanups continue at dozens of sites, including Teledyne and Spectra Physics, which tainted 34 private wells.

But now, some major companies like Intel Corp., the largest chip maker in the world, are saying enough is enough. And the state of California agrees.

To pump or not to pump

Igniting a debate, the State Water Resources Control Board adopted a new policy Oct. 2 allowing companies to simply monitor — instead of actively clean up — persistent groundwater pollution at some sites where people don't drink the water.

Environmentalists are disappointed, saying the state has set a dangerous precedent by giving companies permission to leave behind spoiled water that future generations may need.

Intel argues that pumping tainted ground water and treating it with carbon filters offers diminishing returns.

"Whether we pump or don't pump, the concentrations (of toxic chemicals) gradually go down" in the ground water, said Terry McManus, Intel corporate environmental affairs manager.

Further, Intel and others are asking the U.S. Environmental Protection Agency to remove some of their toxic waste sites from the National Priorities List of the Superfund program — the tabulation of the nation's worst environmental disasters.

But Northern California environmentalists are not sitting still for this. They want the high-tech companies to clean up their mess.

Ted Smith, executive director of the Silicon Valley Toxics Coalition, founded in San Jose in the 1980s to monitor the electronics industry and the agencies that regulate it, sees the end to active cleanup as "a very dangerous precedent."

"They're the biggest and wealthiest semiconductor firms in the world, and they ought to be setting examples of establishing the very best cleanups. They shouldn't be trying to walk away from the responsibilities," Smith said.

"We know it's very sophisticated. And we know it takes time. But the companies should find technology that can clean up plumes... to levels that won't create health problems."