

Old JPL pollutants force closure of wells

By JOHN FLECK
Staff Writer

PASADENA — Cancer-causing chemicals have forced Pasadena's water department to close two more of its 12 wells, bringing to four the number that have been shut down since 1985 because of pollutants drifting south underground from the Jet Propulsion Laboratory.

By forcing the city to buy more water from the Metropolitan Water District to replace the lost groundwater, the closures will cost Pasadena water users an additional \$324,000 this year, because MWD water

is substantially more expensive than the city's well water.

The closures come as the city is getting more bad news — two years of tests of a new high-tech process to remove the pollutants using ultraviolet light have not succeeded, according to a report now being prepared for the city by Pasadena-based James M. Montgomery Consulting Engineers Inc.

"It hasn't really panned out," said Bill Bangham, head of the city's water depart-

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ment.

The report concludes that the ultra-violet cleanup technique might work, but would consume so much electricity that it would cost too much, according to Montgomery engineer Marco Aieta.

"Without a lot more work, the process is not right for Pasadena," Aieta said.

The troubles with the city's Northwest Pasadena wells can "most likely" be traced to JPL, according to a 1986 Montgomery study of the problem.

JPL officials say that during the 1940s and '50s, the lab used cesspools and dumping pits to get rid of its wastes, which included the type of cancer-causing solvents now showing up in Pasadena's wells.

Lab officials say they stopped the dumping entirely by 1962, but by that time, it apparently was too late. The solvents sank into the ground and slowly began inching their way south into the aquifer that provides Pasadena with at least a third of its water every year. (The rest comes from the MWD, which brings water from Northern California and the Colorado River.)

The solvents were detected in city water in January 1980, and in 1985 and 1986, two city wells had to be shut down because the levels surpassed state standards.

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control until this February, when levels of the solvent TCE — trichloroethylene — rose above state-mandated levels at a city well on Windsor Avenue next to one of the city's reservoirs, and the well had to be shut down.

The second well to be shut down this year, located farther north along Windsor Avenue, was turned off in April after the state sharply reduced the allowable level for carbon tetrachloride, another cancer-causing solvent, pushing the well above safe levels.

With only two wells shut down, the city was able to pump enough water out of the ground with its 10 other wells to make up for the loss, but the additional two contaminated wells have forced the city to buy an additional 587 million gallons of water from the Metropolitan Water District this year, according to Susan Nielsen, the water

department engineer who is supervising the city's cleanup efforts.

The cleanup test run by Montgomery Engineers over the past two years proved effective at removing the solvents TCE and PCE — perchloroethylene — from the water, but failed to get the carbon tetrachloride out.

Because of that, the city is planning to ask for proposals from companies that offer more conventional cleanup techniques. The most common technique is called "air stripping." That involves pumping the water out of the ground and pumping air through it to remove the pollutants. But because of strict air pollution control laws in Southern California, that air must then be cleaned up, which in turn drives up the cost of cleaning up the water.

According to Montgomery's initial estimates, building such a plant could cost between \$2.3 million and \$4 million, with another \$478,500 to \$865,900 a year in operating costs — between 20 cents and 35 cents for every 1,000 gallons of water treated, or between \$32 and \$57 for enough water to serve a typical household.

JPL, located just outside of Pasadena in the city of La Canada Flintridge, and the American Water Works Association helped pay for the \$165,000 study, and the city is still negotiating with JPL over who will pay the cost of the actual cleanup facility.