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AIR APPARENT

Deadly Rocketdyne vapor threatens Ventura and Los Angeles Counties

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When the poisonous rocket fuel oxidizer perchlorate was recently discovered in a Well #1 adjacent to Ahmanson Ranch intended for use in irrigating the proposed massive project, the news made national headlines and a cover story in the *Reporter*. Perchlorate tested positive at a level of 28 parts per billion (ppb), 14 times over what California currently considers safe for drinking water. Perchlorate disrupts the thyroid function and may impact the fetus and newborn causing changes in behavior, delayed development and diminished learning capability.

The Ahmanson Ranch development -- 3,050 luxury homes, two golf courses and 400,000 square feet of commercial space on 2,783 acres of now virgin wilderness -- planned to use 660,000 of Well #1's water for irrigation. That scheme was nixed by the Ventura County Board of Supervisors December 19th when they voted 4-1 in favor of the environmental impact report for the project with the proviso that Well #1 be destroyed and no groundwater be used for irrigation unless it was cleaned of the perchlorate.

Critics of Washington Mutual-owned development have maintained that the perchlorate is emanating from the adjacent Rocketdyne Santa Susana Field Laboratory (SSFL). That 2,668-acre complex, site of rocket test stands, concrete bunkers and experimental nuclear reactors had had its share of radioactive and chemical mishaps and spills since it opened in the late 1940s. In 1959, one reactor had a partial meltdown with one third of the core melting and released into the environment from the unconfined building. Another reactor melted in 1964 with 80% of the core fusing.

But what really concerns environmentalists of late are new revelations concerning the solvent trichloroethylene (TCE), "a nonflammable, colorless liquid with a somewhat sweet odor and a sweet, burning taste," according to a document supplied to the *Reporter* by the public health association Physicians for Social Responsibility (PSR).

Shockingly, in December the Environmental Protection Agency (EPA) revealed that the agency now believes that "TCE is 5 to 65 times more toxic than previously thought when inhaled," according to the PSR document. And according to information provided to the *Reporter* by a California-EPA Department of Toxic Substances Control environmental geoscientist, who requested anonymity for this article, that could spell very bad news for Rocketdyne, the field lab's adjacent neighbors and the proposed Ahmanson Ranch housing development.

Rocketdyne performed 21,509 rocket engine tests from 1954 to 1983. 77% of those firings were for the Department of Defense to test engines for such nuke-tipped rockets as the Navajo, Atlas and Jupiter missiles. In the process, during the '50s and '60s, the company slopped 1.73 million gallons of the solvent onto the ground which was then sluiced into open-air ponds. Approximately 500,000 gallons of the goo has sunk into the substrata and groundwater underneath the facility and has begun migrate off from under the SSFL site. One plume is moving towards Canoga Park in Los Angeles County. In 1997, Rocketdyne settled out of court with the Brandeis-Bardin Institute, in eastern Simi Valley, over charges the company had polluted the institute's groundwater and devalued its property. "Rocketdyne data reveals that its closest extraction well to the (Ahmanson Ranch) development is over 480 times the toxic level of the government's standard for trichloroethylene," Mary Weisbrock of the environmental group Save Open Spaces told the *Reporter*.

Drinking small amounts of TCE for long periods may cause impaired immune system function, liver and kidney damage and impair fetal development in pregnant women. Larger drinking doses may cause liver damage, nausea, impaired heart function, unconsciousness or death. Breathing small amounts may cause dizziness, lung irritation, headaches, difficulty concentrating and poor coordination. Inhaling large amounts of TCE may cause unconsciousness, impaired heart function and death.

It's EPA revelations concerning TCE in the air that has put the scare in environmentalists. According to the document supplied to the *Reporter* by the DTSC staffer, TCE, a volatile organic compound (VOC) does not move as quickly through groundwater as does perchlorate. Perchlorate moves quite rapidly and has been found in 18 wells in the Simi Valley with one well reading 19.2ppb, nearly ten times the allowable limit for drinking water. "If VOCs and perchlorate are discharged into groundwater simultaneously, the perchlorate will show up at a monitoring point – such as the wells at Ahmanson Ranch – first," wrote the DTSC environmental geoscientist.

"The perchlorate is the 'canary in the coal mine,' said Daniel Hirsch, president of the environmental watchdog group Committee to Bridge the Gap and a member of the EPA's oversight committee overseeing Rocketdyne's \$258 million cleanup. Hirsch's group was the first to discover the information regarding SSFL's 1959 partial meltdown and has been the bane of Rocketdyne ever since. "If the perchlorate is coming from Rocketdyne, then VOCs including TCE are sure to follow along with a witch's brew of poisonous radionuclides. The implications are potentially enormous not just for Simi and San Fernando residents but for folks buying homes at Ahmanson Ranch in the future."

The fact that the Ahmanson Ranch development won't be able to use perchlorate-tainted water to irrigate the massive project doesn't make the fact that TCE volatilizes and may reach neighboring residents from groundwater

massive project doesn't solve the fact that TCE volatilizes and may reach prospective residents from groundwater through an indoor vapor intrusion pathway. The EPA revealed this shocking data at a seminar in San Francisco December 3-4 when it released a document entitled "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Pathway from Groundwater and Soils (Subsurface Vapor Intrusion)." According to the U.S. EPA Region 9 preliminary remediation goals (PRG) in ambient air were tightened up to .017micrograms per cubic meter of air last October 1 in response to growing awareness of the solvent's toxicity. Micrograms per cubic meter is essentially the same as 'parts per billion,' just expressed in different scientific jargon. "There are 1,000,000 cubic centimeters or 1000 liters in a cubic meter," wrote the DTSC scientist. "(So) if my calculations are correct, the ambient air PRG is the equivalent of .000017 micrograms per liter of air. This is 5 orders of magnitude smaller than the groundwater pathway." In other words, TCE in the air is five times more dangerous at the same level of contamination than it is in the water.

At the EPA's quarterly SSSFL Workgroup held Dec. 11 in Simi Valley, the DTSC presented information that at one site on the lab property, they registered an astounding reading of 6,649ppb of VOCs emanating in vapor from the soil. The *Reporter* repeatedly requested a breakdown of how much of that reading was from TCE but the DTSC did not provide that exact figure before press time. "We certainly know that the majority of the VOCs reading came from TCE vapors," Jonathan Parfrey, executive director of the L.A.-based chapter of PSR, told the Reporter. "If you only assume that half of that 6,649ppb reading was from TCE, and TCE's preliminary remediation goal is .000017ppb, then it's reading over 195 million times over the PRG. It's mind-blowing!"

Of America's 1,449 EPA Superfund cleanup sites -- those being cleaned up, are being cleaned up or are to be -- one-third to one-half suffer from TCE contamination. Plus, the agency has revealed that buildings built over shallow groundwater have the potential to have the poisonous vapor collect inside the structures as it has in several sites around the country including inside homes in the Northern California city of Mountain View.

"While Rocketdyne has maintained over the years that it was cleaning up the groundwater of TCE and other VOCs, they have actually reduced its capability by so much that it will take 50,000 years to clean up the TCE at the 10 gallon per year rate of removal of the solvent," said Hirsch. "Since it's now under SSFL, the company should test its buildings and if its migrating offsite, then those structures should be tested as well. As for those prospective mansions at Ahmanson Ranch, it may not be a question of if the TCE will vaporize up into them, it may just be a question of when."



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