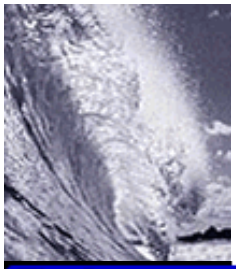

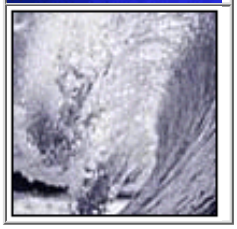

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Air apparent

Rocketdyne vapor poses toxic threat to Ahmanson property

by Michael Collins

When the poisonous rocket fuel oxidizer perchlorate was recently discovered in Well No. 1 adjacent to Ahmanson Ranch, the news made national headlines and a cover story in the Reporter. Perchlorate from that well, intended for irrigation at Ahmanson, tested positive at a level of 28 parts per billion (ppb), 14 times over what California currently considers safe for drinking water. The toxin disrupts thyroid function and may impact fetuses and newborns, causing behavioral changes, delayed development and diminished learning capability.

The proposed Ahmanson Ranch housing development near Oak Park—which would include 3,050 luxury homes, two golf courses and 400,000 square feet of commercial space on 2,783 acres of virgin wilderness—planned to use 660,000 gallons of water from Well No. 1 for irrigation. That scheme was nixed by the Ventura County Board of Supervisors Dec. 19, when it voted 4-1 in favor of the environmental impact report for the project, with the provisos that Well No. 1 be destroyed and that no groundwater be used for irrigation unless it was cleaned of the perchlorate.

Critics of the Washington Mutual bank-owned development have maintained that 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—has 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 its byproducts released into the environment from the unconfined building. Another reactor melted in 1964, that one involving 80 percent of the core fusing.

But what really concerns environmentalists are new revelations on the solvent trichloroethylene (TCE). This toxin is “a nonflammable, colorless liquid with a somewhat sweet odor and a sweet, burning taste,” according to a document supplied the Reporter by the public health association Physicians for Social Responsibility (PSR). In December, the Environmental Protection Agency (EPA) revealed that the agency now believes “TCE is five 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 development.

From 1954 to 1983, Rocketdyne performed 21,509 rocket engine tests. Some 77 percent of those were conducted 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; the solvent 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 to migrate from under the SSFL site. One plume is moving toward 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 and liver and kidney damage and may impair fetal development in pregnant women. Drinking greater doses may cause liver damage, nausea, impaired heart function, unconsciousness or death. Breathing small amounts may cause dizziness, lung irritation, headaches, difficulty in concentration and poor coordination. Inhaling large amounts of TCE may cause unconsciousness, impaired heart function and death.

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 staff member, 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 19.2 parts per billion, nearly 10 times the allowable limit for drinking water.

"If VOCs and perchlorate are discharged into groundwater simultaneously," the source wrote, "the perchlorate will show up at a monitoring point—such as the wells at Ahmanson Ranch—first."

"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 committee to oversee 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," Hirsch said, "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 reconcile another fact: TCE volatilizes and may reach prospective residents via groundwater through an indoor vapor intrusion pathway. The EPA revealed these data at a San Francisco seminar on Dec. 3 and 4, when it released a document titled 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 .017 micrograms per cubic meter of air last Oct. 1 in response to growing awareness of the solvent's toxicity ("micrograms per cubic meter" is essentially the same as "parts per billion").

"There are 1,000,000 cubic centimeters, or 1,000 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 five 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 SSFL workgroup held Dec. 11 in Simi Valley, the DTSC

presented information reflecting that one site on the lab property registered a reading of 6,649 ppb of VOCs emanating in vapor from the soil. The Reporter repeatedly requested a breakdown of the degree to which that reading involved TCE, but the DTSC did not provide that 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 6,649 ppb reading was from TCE and TCE’s preliminary remediation goal is .000017 ppb, then it’s reading over 195 million times over the PRG. It’s mind-blowing.”

Of America’s 1,449 EPA Superfund detoxification sites—those already cleaned up and those being either cleaned up or scheduled for cleanup—one-third to one-half contain TCE contamination and now may come under additional scrunity. Additionally, the agency has revealed that buildings erected over shallow groundwater could be subject to interior collection of the poisonous vapor, as it has in several sites around the country, including 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,” Hirsch said, “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. Since it’s now under SSFL, the company should test its buildings, and past and present workers for contamination by TCE. If it’s 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.”

Michael Collins’ e-mail address is mcreporter@earthlink.net.

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