
1996 CPEO Military List Archive

From: **zweifel@nexus.chapman.edu**
Date: **03 Jan 1996 04:13:58**
Reply: **cpeo-military**
Subject: **Addendum to serious well contamination at MCAS, El Toro, Ca.**

From: Don Zweifel <zweifel@nexus.chapman.edu>
Subject: Addendum to serious well contamination at MCAS, El Toro, Ca.

To David Keith and all interested parties:

Regarding Trichloroethylene or TCE, the MCL is actually 5 micrograms/l or 5 ppb rather than 5 milligrams/liter or 5 ppm.

TCE is considered a priority pollutant by the USEPA and is moderately volatile and biodegradable. Its solubility is 1100 mg/l which is moderately high. The biochemical decay coefficient is moderate in comparison to most other priority pollutants. The risk to human health (is calculated as times 10 to the minus six) for water and fish ingestion at 2.7 ppm and fish ingestion only, at 80.7 ppm. The EPA has determined that it is a carcinogen.

Its toxicity characteristics for contaminated soil at a maximum allowable concentration is 0.5 mg/l or 0.5 ppm (source: USEPA, Federal Register 29 March, 1990).

Solute (solution) transport or its ability to hydraulic through the layers of permeable and semi-permeable soils in the shallow and principle aquifers has to do with its solubility also, and is of grave concern regarding our Orange County groundwater basin's water quality.

The problem is basically that too much time has elapsed, enabling this contaminate to vertically percolate and horizontally migrate miles from the original point source on the base. We now have over 325,000 acre-feet of gndwater polluted with this carcinogen. And we're still squabbling over who is going to pick up the lion's share of the tab because there's a fly in the ointment, the added factor of a serious TDS contamination.

The Orange County Water District has developed a plan to build a desalter plant to cope with the TDSs. The Dept. of the Navy (DON) doesn't want to foot this added cost because none of their contractors have been able to satisfactorly prove that the Navy contributed to it. They say that it was a pre-existing condition. Who was the potentially responsible party (PRP)? Perhaps we'll never know.

But again we come back to the factor of time, i.e., rapid remediation. We dither over whether or not to pump n' treat exclusively, or to go with what the Clean Water Act statutory law states regarding utilizing the most affordable and best available technology (BAT). Everyone should realize
that pump n' treat is one of the most costly methods of remediation. This technology in a stand alone mode without augmentation from innovative technology, e.g., in-situ air-sparging, might violate the original intent of
the law.

An outstanding case in point is the Savannah River remediation project. They successfully utilized air-sparging in conjunction with the "tried and true" pump n' treat process.

Pump n'treat is not the best available technology, but certainly is the best conventional technology (BCT), however we're not interested in inefficient methods because time is not on our side. It will take over 20 years to partially clean up the TCE at El Toro utilizing BCT exclusively, and in the meantime a significant portion of our principle aquifer is undrinkable.

Perhaps there's someone out there that might have a better solution to our problem. Ce vous plait.

Don Zweifel
S/committee chair, OU-1 Groundwater,
MCAS, El Toro. Ca. RAB

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