



NASA'S PROPOSED PLAN FOR GROUNDWATER CLEANUP

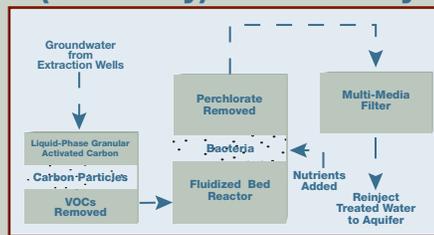
Three existing treatment systems have been operating as interim remedies. NASA completed a Focused Feasibility Study to:

- Evaluate overall effectiveness of the interim remedies
- Determine if additional cleanup measures would be required
- Evaluate the CERCLA-required "no action alternative" as a baseline for comparing other alternatives
- Determine the Preferred Alternative

NASA'S Preferred Alternative

1. Continue to operate three existing NASA-funded groundwater treatment systems:

OU1 (on-facility) Treatment System



How it works

Removing VOCs

Liquid-Phase Granular Activated Carbon (LGAC)

Groundwater is pumped from wells. The water flows through very porous carbon particles that attract VOCs. Collected VOCs are properly disposed. Fresh carbon particles are placed in the tanks and the process continues.

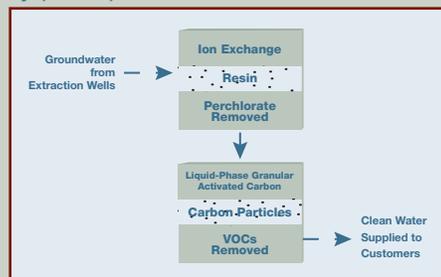
Removing Perchlorate

Fluidized Bed Reactor

"Starter" bacteria (initially gathered from a food production plant) are put in the tank. Added food and nutrients make the bacteria multiply. As water flows past, the bacteria destroy the perchlorate. A final filtering eliminates bacteria from the treated water before reinjection to the aquifer.

OU3 Treatment Systems:

Lincoln Avenue Water Company (LAWC) in Altadena & Monk Hill Treatment System (MHTS) in Pasadena



How it works

Removing Perchlorate

Ion Exchange

Groundwater is pumped from wells. Groundwater runs through tanks filled with tiny plastic beads, or resin. Perchlorate attaches to the resin. About once a year old resin is removed and properly disposed. New resin is placed in tanks.

Removing VOCs

Liquid-Phase Granular Activated Carbon (LGAC)

Water flows through very porous carbon particles that attract VOCs. Every few months the old carbon is replaced with fresh carbon. The spent carbon is properly disposed. Clean treated water is available to customers.

2. Continue to monitor groundwater and system performance.

3. Add institutional controls to restrict access to chemicals in groundwater originating from JPL and thus ensure safe use of groundwater.

NASA's Proposed Plan for the Final Groundwater Remedy is based on a proven approach to cleanup. The systems in place are operating effectively as designed and protect human health and the environment.