

National Aeronautics and
Space Administration

Cleaning Up Groundwater Beyond JPL

A NASA-funded water treatment plant is removing volatile organic compounds (VOCs) and perchlorate from Lincoln Avenue Water Company (LAWC) wells in Altadena. NASA is proposing a similar system for City of Pasadena wells.



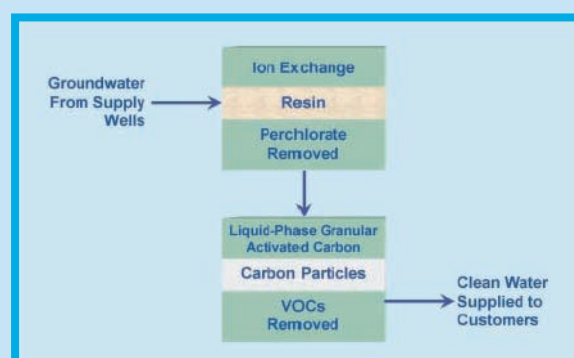
The LAWC water treatment facility is located near the corner of Harriet Street and North Olive Avenue in Altadena.



On July 28, 2004, NASA's Deputy Administrator Frederick Gregory (left) and LAWC General Manager Bob Hayward (right) launched an Ion Exchange system in Altadena to remove perchlorate from drinking water. A VOC removal system has been operating there since the early 1990s.



The LAWC Ion Exchange treatment system.



Ion Exchange Advantages

Being used effectively at several locations in California

Approved by the State for removing perchlorate from drinking water

Technology was successfully pilot-tested at JPL

Offers flexibility to meet seasonal water demand

How it Works:

Removing Perchlorate

Ion Exchange (IX)

- ▶ Groundwater is pumped from LAWC wells at up to 2,000 gallons per minute.
- ▶ 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 supplied to customers.