

## Decommissioned Well Field May Be Revived, Thanks to Innovative New Treatment Method

Los Angeles Department of Water and Power's (DWP) currently closed Headworks Well Field in the San Fernando area could be back on line by 2002, according to DWP officials who are hailing a new groundwater treatment method developed by Applied Process Technology, Inc. (APT).

The field in the San Fernando Groundwater Basin was taken out of service in the mid-1980s because of contamination by volatile organic compounds (VOCs). Groundwater contamination caused by decades of industrial solvent spills has impacted at least half the wells in the basin.

APT's 1,000-gallon per minute (gpm) Advantage 2000 system was installed December 28, 1998 at one of the DWP wells in the area. The new groundwater treatment system is a continuous on-line advanced oxidation process.

Using a unique combination of ozone and hydrogen peroxide to oxidize and destroy VOCs, the method is significantly different from other VOC treatment processes like aeration or granular activated carbon. The Advantage 2000 process actually destroys VOCs rather than simply transferring them between media.

This initial installation is at Headworks Well No. 29. By 2002, if all goes as anticipated,

DWP expects to be able to restore use of the well field by constructing a groundwater treatment system employing the new methodology. It will be designed for a 13,500-gpm flow, with VOC influent levels between 100 and 150 parts per billion (ppb) and outflow at a safe level of less than 3 ppb.

Among elements of the APT technology being scrutinized at Well No. 29 are VOC destruction capability, byproduct formation (particularly bromide) and reliability. Cost effectiveness and ease of operation will also be evaluated.

Until the new treatment system was developed, the contamination problem had been addressed over the past 15 years through a process of characterizing the nature and extent of the contamination, installing a variety of groundwater treatment systems and developing numerous new approaches to treatment technology.

The Advantage 2000 system will be tested for two to three months. The DWP welcomes inquiries, which should be directed to Richard

Nagel at (213) 367-0906 or by e-mail at [richard.nagel@water.ladwp.com](mailto:richard.nagel@water.ladwp.com).

APT's new process was first tested at a small pilot-scale system (10 gpm) at a San Fernando Basin monitoring well. Results were favorable enough to demonstrate commercial-scale viability of the system.



*APT staff member inspects the operation of DWP's Advantage 2000 system.*

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## **New Agency Protects Groundwater in Six Area Basins**

A new agency has received court approval to implement a negotiated agreement for the protection of six groundwater basins that underlie Claremont, La Verne and Pomona.

The settlement removes the need for a formal court adjudication of the basins, a lengthy, often divisive and expensive process. By reaching a negotiated settlement, the parties avoided the likelihood of a lawsuit and a court-imposed adjudication of the involved basins.

Known informally as the "Six Basins Watermaster", the organization was scheduled for its first board meeting January 27 at the offices of Three Valleys Municipal Water District in Claremont. The organization had not yet officially adopted a name.

The six basins involved are the Upper and Lower Claremont Heights, Canyon, Live Oak, Pomona and Ganesha basins. The settlement received court approval December 18, 1998.

Advantages of the arrangement include the opportunity to use the basins more actively for water storage and extraction than would otherwise be possible. It will also help ensure local resources are used to the best advantage.

Officials believe that the opportunity to coordinate the purchase of imported water with the pumping of groundwater may help reduce wholesale water costs. There may also be water quality benefits from the settlement.

The agreement establishes a watermaster board responsible for implementation of the agreed terms. Pomona Valley Protective Association will conduct the agency's operations, while Three Valleys was selected to handle administrative matters.

Additional parties to the settlement include the cities of Pomona, Claremont, Upland and La Verne, as well as Southern California Water Company, Simpson Paper Company, Pomona College and San Antonio Water Company.

## **Landmark Agreement to Provide Funds for Water Treatment Project**

Local water agencies and businesses will join together in the San Gabriel Valley to fund the nation's first full-scale facility to remove trace levels of perchlorate and N-nitrosodimethylamine (NDMA) from drinking water supplies. NDMA is a by-product of older rocket fuels, and perchlorate is a byproduct of some explosives and solid rocket fuels

The landmark agreement culminates an unprecedented show of cooperation and commitment to resolve groundwater contamination problems. The Baldwin Park Operable Unit Steering Committee will join with the Main San Gabriel Basin Watermaster and the San Gabriel Basin Water Quality Authority to

construct a demonstration treatment plant. The plant will remove the two contaminants from drinking water wells owned by La Puente Valley County Water District.

The steering committee is comprised of businesses working toward cleanup of groundwater contamination in the Baldwin Park - Azusa area.

The 2,500-gallon per minute project will use the ionic separation (ISEP) process to remove perchlorate and an ultraviolet light system to eliminate NDMA. Ionic separation is based on standard ion exchange technology and was developed by Advanced Separation Technologies, Inc., a subsidiary of Calgon. The process was shown to be effective and efficient during pilot-scale testing.

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Association of Ground Water Agencies

A smaller, pilot plant will also be constructed at the same site to test a biological treatment method for perchlorate removal.

Demonstrations of both treatment technologies will provide a comparison between the two methods. Total cost of the combined project is estimated at between \$6 and \$7 million. The water agencies will fund \$1 million and the businesses will fund about \$3.5 million. The remaining costs of the project will be paid through a federal grant.

## Ground Water Association Reelects Officers

William R. (Bill) Mills Jr., general manager of Orange County Water District headquartered in Fountain Valley, was reelected to a year-long term as chairman of the Association of Ground Water Agencies (AGWA) at the organization's December 21, 1998 regular meeting.

Ron Palmer, general manager of Raymond Basin Management District in La Cañada, was reelected vice chairman.

Carol Williams, executive officer of the Main San Gabriel Basin Watermaster in Azusa, was elected to another term as secretary and CFO.

AGWA is a southern California organization formed in 1994 to promote interagency solutions that enhance the effective management of groundwater resources. Some 12 regional agencies hold membership, with 11 other agencies and interested commercial firms listed as affiliates.

## Statewide Audience Learns of AGWA Concerns at December Conference

AGWA Chairman Bill Mills hammered home key points of the organization's concerns at the Association of California Water Agencies' (ACWA) fall conference in Palm Springs on December 1, 1998.

Mills was one of several distinguished speakers at a day-long workshop called "Conjunctive Use and Water Transfers: Who Pays, Who Plays?" The event was co-sponsored by AGWA and the Groundwater Resources Association of California. It was the kickoff event of the semi-annual conference of water leaders from throughout the state.

About 200 guests at the conference attended the workshop.

The wide-ranging discussion of issues crucial to groundwater users explored the current status as well as possible future approaches to both water quality and quantity.

AGWA's Mills spoke on the politics and feasibility of conjunctive use and water transfers, and whether these methods might improve water supply reliability. Other speakers included representatives from agriculture, environmental interests, the State of California and water agencies.

State Assemblymember Mike Machado was the workshop's keynote speaker. Machado chairs the Water, Parks and Wildlife Committee. He addressed water transfers and how the legislature is expected to approach the subject in 1999.

Douglas P. Wheeler, outgoing Secretary of the California Resources Agency, opened the workshop with an overview of the Wilson administration's perspective on conjunctive use and water transfers. However, the approach is

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likely to be significantly different in the Gray Davis administration, and water leaders will need to watch the executive branch's activities closely during the first few months to determine where policy issues are heading.

The workshop also featured presentations on options for financing water resources infrastructure and on CalFed's role in making conjunctive use and water transfers a reality.

## Groundwater Management Alternatives

[Second in a series on the successful development and implementation of an AB 3030 groundwater management plan]

In California, water agencies and local producers have several alternatives available to them for the protection of groundwater basins.

Litigation is a lengthy, expensive process which does not create any "new" water nor alleviate future economic impacts. Another approach is creation of a groundwater management agency, but that creates yet another layer of bureaucracy.

In contrast, the AB 3030 approach allows existing water agencies and private users to cooperatively develop and implement their own groundwater management plan. This approach can protect the historic production levels of private groundwater users, while allowing public agencies to use their facilities and to have access to supplemental supplies to recharge suitable basins for public use.

Over-drafted basins can be protected from uncontrolled pumping—without impacting historic private production—or recharged using supplemental water from public agencies. Private producers in over-drafted basins who need to increase pumping beyond historic production levels can choose to participate in a replenishment program and would share the same benefits as public agencies.

Eastern Municipal Water District (EMWD) took the lead in developing its West San Jacinto Groundwater Management Plan because of four considerations. First, the groundwater subbasins in the management area are unregulated and couldn't be protected from over-pumping or from use by outsiders except through litigation.

Second, EMWD has access to inexpensive supplemental water supplies (reclaimed water and lower-cost, off-season MWD water) to replenish local groundwater basins. These supplemental supplies cannot be fully utilized without an effective management plan in place.

Also, EMWD already had in place much of the infrastructure required to best manage local water resources.

Finally, if EMWD and local groundwater producers had failed to develop a management plan, state regulatory agencies would probably have done so, resulting in a loss of local control.

EMWD, like other water purveyors, was not happy to be in a position where it could be accused of social engineering. However, the District believed it was obligated to address the issues of water supply reliability and rising costs in an effort to best serve the long-term needs of its constituents.