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## TASTE ON TAP : In Search of the Best Water That Orange County Can Offer

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Where's the best-tasting water in Orange County?

In Costa Mesa, where tap water is treated with ozone and chlorine to offset complaints it smells and looks funny? Or Fountain Valley, where well water and imported water are mixed and treated with fluoride? Or the El Toro Water District, where chloride and ammonia are used as disinfectants?

Ugh.

Whether water is delicious or disgusting may simply depend on what you're used to. Good taste depends on the individual taster. For purists, however, the best taste is no taste.

State and federal safeguards ensure your water's safety, but no official taste test exists, said Frank Hamamura, district engineer for the public water supply branch of the state Department of Health Services.

"Taste is not a required analysis," Hamamura says.

Therefore, in a search of the perfect glass of water, The Times Orange County Edition asked the Metropolitan Water District's Flavor Profile Panel to taste-test county drinking water. The panel, which includes district chemists and other laboratory personnel trained somewhat like wine-tasters to detect flavors and aromas, trouble-shoots problems in their and other agencies' waters.

Of the county's 41 water retail agencies, 12 were chosen for the test, based on Hamamura's recommendations that they are representative in their sources, treatment, number of customers and private or public ownership. For good measure, one of the few remaining small mutual companies--where the customers themselves are the owners--was included.

The tests were conducted under laboratory conditions. The water was protected from contamination and brought to room temperature in a specially ventilated room. The taste experts--principal chemist Sylvia Barrett, chemist Russell Chinn, chemist Ching-yuan Kuo, assistant microbiologist Nancy Lieu and lab technologist Peggy Moylan--gathered, sipped and swallowed.

Their task: Detect flavors and aromas.

Their winner: The Eastside Mutual Water District, serving all of its 300 Midway City customers from a solitary well.

For the most part, the panelists had few comments about Eastside--a high compliment when the absence of taste is the ultimate standard. However, even ranking as the best, the water had a musty flavor and a slight dryness, meaning it was not as refreshing as some other samples, panelists said. They also noted barely perceptible aromas, described as chlorine, musty and chalky. At the other end of the spectrum, panelists judged the Capistrano Valley Water District of San Juan Capistrano as the worst tasting water. It had the most intense and noticeable flavors and aromas. The water registered a slight to moderate dryness and had slight earthy, chalky flavors. Some panelists also noted chlorine and salty flavors, a chlorine odor and a moldy aroma of slight to moderate intensity. One panelist even detected a solventlike aroma.

As for the rest of the candidates:

"Nobody would complain" about this Fullerton sample, Barrett said, raising a glass of water drawn that same morning from Fullerton City Hall's employee lounge. "I don't think anybody would complain about the Los Alamitos water, either."

Water from Los Alamitos, which is served by the Southern California Water Co., ranked fourth in the test, while Fullerton's municipal water came in second.

The Moulton Niguel Water District, serving Mission Viejo, rated seventh. Panelists found a slight to moderate dry flavor and a slight earthy flavor. They also found a perceptible chalky flavor.

"Sensitive people might complain about this water for the earthy" flavor, Moylan said.

All the water tested met government health and aesthetic standards, panelists said. Overall, they found no water to be severely objectionable, although they said consumers may have some complaints about some samples.

Eastside Water Assn. Director Joseph McCracken was glad to hear about his agency's No. 1 assessment but said he was not surprised.

When contacted before the test, McCracken had been confident of good results: "We have excellent water. We pump our own water from a depth that has none of the things that give some of the bigger purveyors problems."

McCracken--one of five members of the association's board of directors who share "pump house duty" to check the equipment--said his group "will be changing the piping system" in the next few years, so the water "should only get better." In the bottom-ranked Capistrano Valley district, quality-control technician Ray Vaughan said the agency has few complaints about odor or taste.

Three complaints of odor have been logged since Jan. 3, but it was determined that those customers had smelled their sewer systems through their bathroom sinks, not their drinking water, Vaughan said. Two complaints of taste and nine of off-color water were noted in the same period.

Some Capistrano Valley customers do prefer bottled water, Vaughan said, but he stressed that the water is safe to drink and its acceptability is a matter of aesthetics.

All taste-test samples were taken from public faucets in public buildings wherever possible. The locations were chosen to best portray the district's distinct water qualities. For example, Mesa Consolidated Water District in Costa Mesa is one of the rare agencies treating some water with ozone to offset color and odor problems. The Mesa sample was drawn from a faucet where the water is treated with ozone.

The procedure for collecting the water was outlined by Metropolitan Water District. Times staffers drew one-liter samples. Cool tap water was allowed to run for two minutes, then turned back to a steady flow before filling a glass container to the top to avoid as much contamination from the air as possible.

The bottle was capped immediately, labeled to note the time, date and location of the sample, then stored upright in an ice chest. All samples were delivered the same day to the Metropolitan Water District's water-quality lab in La Verne for the the tests.

#### TASTE TEST SUBJECTS

The following agencies were selected for the taste test:

Capistrano Valley Water District--Serves about 27,000 consumers in the San Juan Capistrano area with ground water and imported MWD water. It has one well marginally affected by dissolved minerals such as calcium, magnesium and sodium so it blends that water with imported, treated water.

Eastside Water Assn.--Owned and operated by about 300 homeowners in Midway City. Its only employees are a part-time secretary for billing and lawn maintenance people who take care of the pump house grass area. It has an emergency connection with neighboring utilities for backup purposes and once had a high level of nitrates in well water.

City of Fountain Valley--Serves about 56,000. It adds fluoride and chlorine to its well water. The test sample was drawn from an area served by wells rather than imported water.

City of Fullerton--Serves 110,000 with well water, which usually requires no disinfectants. Some organic contaminants are present, so the agency blends it with higher quality well water to dilute the supply to acceptable health standards.

Irvine Ranch Water District--Serves about 40,000 in Irvine and surrounding areas with usually untreated well water and imported water that may occasionally be treated with chlorine. Some wells marginally affected by color problems require blending with better quality water.

City of La Palma--Primarily uses well water to serve 17,000 consumers and may treat the water to lower iron and manganese levels.

Mesa Consolidated Water District in Costa Mesa--Serves 90,000 with imported and well water. May use ozone and chlorine for color and odor problems.

Moulton Niguel Water District in the Laguna Niguel-Laguna Hills area--Serves about 82,000 with treated surface water from the MWD.

Santa Margarita Water District--Serves 47,000 with treated MWD surface water.

South Coast Water District--Serves 16,000 with treated MWD water in Dana Point and other areas south of Laguna Beach.

Southern California Water Co. serving Los Alamitos--Serves 29,000 with a mix of imported and well water. Some of its well water is treated by chlorination.

The Trabuco Canyon Water District (formerly the Santa Ana Mountains County Water District)--Treats its own surface water, adding chemicals to enhance the filtration process, then filtering the water for fine particles and disinfecting it with chlorine. Water from Colorado River is transported to this area from Lake Mathews via an enclosed pipeline. It serves about 2,500.