

California Regional Water Quality Control Board

Central Coast Region



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Arnold Schwarzenegger
Governor

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<NAME of Private Well Owner/User>
<MAILING ADDRESS>

NOTIFICATION OF ELEVATED NITRATE CONCENTRATIONS IN YOUR WELL (Well ID #: xxxxx)

The Central Coast Regional Water Quality Control Board (Central Coast Water Board) is responsible for preserving and enhancing the quality of California's water resources in the Central Coast Region. As such, the Central Coast Water Board requires responsible parties to investigate and cleanup any discharges of waste to surface water or groundwater in our region. Central Coast Water Board staff routinely updates community members on issues related to any ongoing investigation and cleanup of groundwater, and other issues that may be of particular interest to you.

The Olin Corporation (Olin) discharged perchlorate-containing wastes to soil and groundwater at its former flare manufacturing facility located at 425 Tennant Avenue in Morgan Hill. The perchlorate groundwater plume extends approximately ten miles downgradient of the facility. Since 2001, Olin has investigated and cleaned up perchlorate in soil and groundwater. To monitor the groundwater plume, Olin samples numerous monitoring wells and domestic supply wells throughout the Morgan Hill, San Martin, and Gilroy area (including the domestic supply well that serves your residence). Olin predominantly analyzes groundwater samples for perchlorate but Olin also analyzes some water samples for nitrate concentrations. The Central Coast Water Board **does not** consider Olin responsible for any nitrate releases. The presence of nitrate in groundwater is commonly associated with septic systems, livestock waste, and fertilizer use.

The purpose of this letter is to inform you that your well has elevated concentrations of nitrate. The nitrate information obtained from Olin indicates that your well, located at <Well Address>, contains nitrate concentrations as high as <INSERT NITRATE CONCENTRATION> mg/L.

It is important to the Central Coast Water Board that all private well owners/users are aware of the potential health risks associated with drinking water that contains elevated levels of nitrate. Nitrate is a regulated drinking water contaminant in California, with a maximum contaminant level (MCL) of 45 milligrams per liter (mg/L). MCLs are health protective drinking water standards required to be met by public water systems. MCLs take into account not only a chemical's health risks but also factors such as its detectability, treatability, and costs of treatment.

California Environmental Protection Agency



Recycled Paper

The Central Coast Water Board wanted to inform you that even though you may be aware of the presence of elevated nitrate concentrations in groundwater in your area, you might not be aware that your well contains nitrate concentrations above the primary MCL and of the associated health risks. Additionally, you may be a new tenant or a new property owner and you may not be aware of the nitrate concentration in your well.

Included in this letter is some general nitrate information. The Central Coast Water Board recommends that you take action to ensure that your drinking water is safe to drink and have provided some suggestions below.

GENERAL NITRATE INFORMATION

Background

Nitrate is a naturally occurring compound that forms in the soil when nitrogen and oxygen combine. Nitrate is colorless and odorless. Small amounts of nitrate are normal, but excess amounts can pollute supplies of groundwater. Common sources of nitrogen in the soil are fertilizers, livestock waste, and septic systems. Excess nitrate in the soil is most often found in rural and agricultural areas. Some areas of the Llagas Groundwater Basin in southern Santa Clara County have higher than normal concentrations of nitrate. Nitrate travels easily through the soil carried by rain or irrigation water into groundwater supplies. Wells that tap groundwater may be affected. Shallow wells, wells in sandy soil, or wells that are improperly constructed or maintained are more likely to have nitrate contamination.

Health Effects

For most people, consuming small amounts of nitrate is not harmful. However, nitrate concentrations above 45 mg/L in drinking water may pose a health risk to individuals consuming the water on a daily basis over a lifetime. Nitrate can cause health problems for infants, especially those six months of age and younger. According to the California Department of Public Health, nitrate can interfere with the ability of red blood cells to carry oxygen to tissues of the body. This causes an oxygen deficiency, which results in a dangerous condition called methemoglobinemia, or "blue baby syndrome." The most common symptom of nitrate poisoning is bluish skin coloring, especially around the eyes and mouth. Infants six months of age and younger, and pregnant and nursing women should avoid consumption of water high in nitrate (search "nitrate" on www.cdph.ca.gov for more information).

The good news is that methemoglobinemia is easy for doctors to treat and babies can make a full recovery. In addition, as babies grow, their bodies develop the ability to counteract the effects of excess nitrate. Thus, health risks are reduced for children older than six months of age and adults. For more information on the risks of nitrate consumption, consult your doctor.

Well Testing

In general, private well owners are responsible for testing their wells and ensuring that their well water is safe to drink. Residents of the Llagas Groundwater Basin area of



southern Santa Clara County may be able to have their water tested for free by the Santa Clara Valley Water District (Water District). Please contact the Water District directly to obtain more information concerning the Water District's well testing program.

Recommended Solutions

Immediate Solution - If the level of nitrate in your water is high, an immediate solution is to use an alternative source of water for drinking, cooking, and mixing baby formula. Don't boil the water. Boiling the water before drinking it **does not** remove nitrate. In fact, it causes some of the water to evaporate, which increases the nitrate concentration.

Long-term Solution - For a long-term solution, you can treat the water to remove the nitrate. Treatment technologies that remove nitrate include reverse osmosis, anion-exchange, and distillation. Each type of system has advantages and disadvantages, and no single system will correct all water quality problems. Water treatment system vendors are listed in the yellow pages under "Water Filtration & Purification Equipment." Treatment systems are also available at some department stores for the do-it-yourself installers. When you purchase a system, be clear about the type of system that you need, and ask for a guarantee that the system will remove nitrate contamination.

WHO CAN PROVIDE ASSISTANCE?

The Water District and the Santa Clara County Department of Environmental Health (Environmental Health) are supporting the Central Coast Water Board's notification efforts by helping to provide guidance and addressing questions from the community about the presence of nitrates in private domestic supply wells.

The Water District recommends that if your private well contains nitrate or any other substance above a primary MCL, you may want to consider further testing or installing a treatment system. The Water District's "Guide for the Private Well Owner" contains information on water quality sampling and treatment, along with other important information to help you protect your water supply. This document is available on the Water District's website by searching "well guide" or you can request a copy from the Water District. Nitrate information is also available on the Water District's website at: http://www.valleywater.org/Water/Water_Quality/Protecting_your_water/Nitrate_in_groundwater.shtm

Environmental Health also maintains a website www.ehinfo.org that focuses on small water systems (e.g., individual, shared, and state small) to educate the public on the maintenance and water quality issues of their water system. Information concerning small water systems is available by clicking in the search box above the Environmental Health's website and typing in "Drinking Water Systems". The website includes links to the Water District and California Department of Public Health websites to troubleshoot water quality problems and correct with certified water treatment devices.



The Central Coast Water Board encourages you to use the Water District and Environmental Health as informational sources to address your concerns related to elevated concentrations of nitrate in your private well.

Please direct any health-related questions concerning the presence of nitrates in your private well to the Department of Environmental Health by contacting Suzanne Muzzio at (408) 918-3411 or via e-mail at: Suzanne.muzzio@deh.sccgov.org. Please direct any questions concerning the testing of your water supply or options for water treatment to the Water District by contacting Thomas Mohr at (408) 265-2607 ext. 2051 or via e-mail at: tmohr@valleywater.org.

If you have any other questions concerning this letter, please contact Hector Hernandez at (805) 542 - 4641 or via e-mail at Hhernandez@waterboards.ca.gov.

Sincerely,



Roger Briggs
Executive Officer

S:\Site Cleanup Program\Regulated Sites\Santa Clara Co\OLIN Corp\Water Board\Groundwater Cleanup\2009\Final_Nitrate Notification Letter-April_2009.DOC

