County of San Luis Obispo—Department of Public Works
County Service Area 23 - Santa Margarita
2012 Water Quality Report

The County's elected representatives and employees are committed to serve the community with pride to enhance the economic, environmental, and social quality of life in San Luis Obispo County.

SANTA MARGARITA NEWS

SLO County Public Works Department began construction of a multi-phase project in 2009 to improve your water system. The first phase involved waterline upgrades, new fire hydrants and new valves. The second phase installed a new 500,000 gallon water tank.

Public Works utilized $285,000 of USDA grant funds leftover from the first two phases of this project to upgrade pumps, motors, fire hydrants, a well building, and water quality equipment for the Santa Margarita water system. In addition, the funding provided for procurement of a vacuum excavation trailer, a mini-excavator, a dump trailer, and an emergency generator to provide for a more reliable system.

The third and final phase is construction of a physical connection to the State Water Pipeline for Santa Margarita, Atascadero Mutual Water Company, and Garden Farms Community Water District that will provide the availability of State Water during a drought or other water emergency in the communities. The County has received a Proposition 50 grant to completely fund this project. Project construction is anticipated to be complete in 2014.

Wetland Enhancement in the Santa Margarita Area following the Low Impact Development (LID) Project (January, 2010)

YOUR WATER SUPPLY

Your water comes from two groundwater wells located in Santa Margarita, Well #3 and Well #4. The water is cleaned through a natural filtration process as it trickles down through the ground. During this process, water may also pick up minerals or contaminants found in the soil, either natural or man-made. Groundwater is normally very clean and is simply disinfected with chlorine to help minimize the risk from viral and bacterial contamination.

Well #3 is a deep, fractured-rock well. Because the untreated water can sometimes exceed the Secondary Drinking Water Standard for iron (300 ppb), Well #3 water is treated to lower the iron to acceptable levels.

Well #4 is a relatively shallow well that pumps water from the alluvial deposits of Santa Margarita Creek. This well is considered to be under the influence of surface water. In order to meet State standards for viral inactivation, the water must pass through a disinfection loop to increase contact time with the chlorine.

Well #4 is treated with caustic soda for adjustment of pH. Both wells are treated with potassium ortho-phosphate, a corrosion inhibitor, to meet the Federal Lead and Copper Rule. To demonstrate continued compliance, we are required to maintain specific ortho-phosphate and pH levels in the distribution system to help reduce copper levels at the consumer's tap. **Santa Margarita fully complies with the Lead and Copper Rule requirements.**

The wells are routinely monitored for contaminants and the results are reported to the California Department of Public Health. The findings are evaluated relative to the California Drinking Water Primary and Secondary Maximum Contaminant Standards. **All water quality standards were met in 2012.**

A watershed sanitary survey and a source water assessment have been conducted on the Santa Margarita system. The studies are updated by County staff every five years. The last update was completed in March 2011. The studies identify potential sources of contamination or contaminating activities in the watershed and assess their

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TO OUR CUSTOMERS: The County of San Luis Obispo is pleased to present this annual report describing the quality of your drinking water. We sincerely hope this report gives you the information you seek and have a right to know. *Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.*

Water Statistics

Year	Total Production, million gallons	Average Daily Demand, gallons
2011	55.0	151,000
2012	56.3	154,000

These tables list all of the drinking water contaminants that were detected in your water in 2012, unless otherwise noted. The presence of these contaminants in water does not necessarily indicate that the water poses a health risk. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Thus some of our data, may be more than one year old but remains representative. For questions about this data, contact John Beaton, Water Quality Manager, at (805) 781-5111 or email JBeaton@co.slo.ca.us.

Contaminant (Reporting Units)	Where Sampled	Year Sampled	MCL or [MRDL]	PHG, (MCLG) or [MRDLG]	Range Detected	Average Detected	Potential Source of Contamination
REGULATED CONTAMINANTS WITH PRIMARY MCLs							
MICROBIAL CONTAMINANTS							
Total Coliform Bacteria (Present or Absent)	Distribution	2012	> 1 positive sample per month	(0)	ND—1	Absent	Naturally present in the environment
Heterotrophic Bacteria (CFU/mL)	Distribution	2012	TT = < 500	-----	ND—58	4	Naturally present in the environment
INORGANIC CONTAMINANTS							
Arsenic (ppb)	Source	2012	10	0.004	ND—7.5	4.1	Erosion of natural deposits
Fluoride (ppm)	Source	2011	2.0	1	0.104—0.138	0.121	Erosion of natural deposits
Nitrate as NO_3 (ppm)	Source	2012	45	45	ND - 7.66	2.49	Leaching from fertilizer use, septic tanks and sewage; erosion of natural deposits.
DISINFECTANT RESIDUALS and DISINFECTION BYPRODUCTS							
Chlorine (ppm)	Distribution	2012	[4.0 as Cl_2]	[4 as Cl_2]	0.94 - 2.18	1.24	Drinking water disinfectant added for treatment.
CORROSION CONTROL MONITORING							
Ortho-phosphate (ppm)	Distribution	2012	Optimal Range (average 1.5 to 2.2)	-----	1.14—2.37	1.88	Byproduct of drinking water treatment
pH	Distribution	2012	Optimal Range (average 7.4 to 8.0)	-----	7.45 - 8.00	7.67	Runoff/leaching from natural deposits; seawater influence.
CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD (AESTHETICS)							
Color (CU)	Distribution	2012	15	-----	ND—3	1.1	Naturally occurring organic materials
Chloride (ppm)	Source	2011	500	-----	19.2 - 24.1	21.6	Runoff/leaching from natural deposits
Iron (µg/L)	Source	2012	300	-----	110-410 raw ND—23 treated	10 treated	Erosion of natural deposits
Odor – Threshold (TON)	Distribution	2012	3	-----	1.0 - 2.0	1.4	Naturally occurring organic materials
Specific Conductance (µS/cm)	Delivered	2011	1600	-----	610—702	656	Runoff/leaching from natural deposits
Sulfate (ppm)	Source	2011	500	-----	14.2—69.9	42.0	Runoff/leaching from natural deposits
Total Dissolved Solids (ppm)	Source	2011	1000	-----	320—380	350	Runoff/leaching from natural deposits
Turbidity (NTU)	Distribution	2012	5	-----	0.05—2.0	0.19	Soil runoff
UNREGULATED CONTAMINANTS							
Total Alkalinity as $CaCO_3$ (ppm)	Delivered	2011	NS	-----	250—270	260	Runoff/leaching from natural deposit.
Calcium (ppm)	Delivered	2011	NS	-----	32—52	42	Runoff/leaching from natural deposits
Total Hardness (ppm)	Source	2011	NS	-----	150—310	230	Generally found in ground and surface water
Magnesium (ppm)	Source	2011	NS	-----	18—43	30	Runoff/leaching from natural deposits
Sodium (ppm)	Source	2011	NS	-----	29—79	54	Runoff/leaching from natural deposits

LEAD AND COPPER IN HOMES (2011)						
Contaminant	**MCL**	**PHG**	**Number of Samples Collected**	**90th Percentile Level Detected**	**Number of Sites Found Above the NL**	**Potential Source of Contamination**
Copper (ppb)	NL=1300	300	10	610	0	Internal corrosion of household water plumbing systems
Lead (ppb)	NL = 15	0.2	10	ND	0	

KEY TERMS and ABBREVIATIONS

CU - color units

CFU/mL—number of colony forming units per milliliter of sample

MCL (Maximum Contaminant Level) – The highest level of a contaminant that is allowed in drinking water.

MCLG (Maximum Contaminant Level Goal) - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the United States Environmental Protection Agency.

MRDL (Maximum Residual Disinfectant Level) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal) - The level of a drinking water disinfectant below which there is no known or expected risk to health.

ND (Not Detected) - Contaminant is not detectable at testing limit.

NL (Notification Level) – The concentration of a contaminant that, if exceeded, triggers treatment or other requirement which a water system must follow.

NS (No Standard) - Contaminant for which there is no established MCL.

NTU - Nephelometric Turbidity Unit

PHG (Public Health Goal) – The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

ppb - parts per billion, or micrograms per liter (µg/L)

ppm - parts per million, or milligrams per liter (mg/L)

Primary Drinking Water Standards – MCLs and MRDLs for contaminants that affect health along with their monitoring, reporting, and water treatment requirements.

Secondary Drinking Water Standards – MCLs for contaminants to protect the taste, odor, or appearance of the drinking water.

TON - Threshold Odor Number

TT (Treatment Technique) – A required process intended to reduce the level of a contaminant in drinking water.

µS/cm— microSiemens per centimeter (1 S = 1 ohm^{-1}) A measure of electrical conductance.

USEPA - United States Environmental Protection Agency

DRINKING WATER AND HEALTH RISKS

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. **The presence of contaminants does not necessarily indicate that water poses a health risk**. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDs or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

The water delivered to Santa Margarita customers meets the Federal and State drinking water requirements and overall can be considered very good water. The following are a few parameters that may be of interest to you.

Iron - Well #3 is a deep well that when **untreated**, can sometimes exceed the Secondary Drinking Water Standard for iron (300 ppb). In 2012, the **untreated** water iron levels ranged from 110 to 410 ppb with an average of 160 ppb. Elevated iron levels can cause discoloration of clothing, water faucets, and toilets. For this reason, Well #3 has iron removal equipment installed at the well site. **After treatment**, iron in the water ranged from ND to 23 ppb, averaging 10 ppb. Water from Well #3 is always treated before it is delivered to the consumer.

Arsenic - Water from Well #3 contains low levels of arsenic, which are further reduced by the iron removal treatment. **Well #3 meets the federal and state standard for arsenic**. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Nitrate - Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider. Nitrate levels may change quickly in response to rainfall or agricultural activity.

Lead and Copper - If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water typically comes from materials and components associated with service lines and home plumbing. The County of San Luis Obispo is responsible for providing high quality drinking water, but cannot control the variety of materials used in household plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-425-4791) or at http://www.epa.gov/safewater/lead.

COMMUNITY PARTICIPATION

The Santa Margarita CSA 23 Advisory Committee meets the first Thursday of every month at 7:00 pm in the Community Hall on the corner of I and Murphy Streets. The public is welcome to attend.

The San Luis Obispo County Board of Supervisors meets every Tuesday (except the 5th Tuesday in a month) at 8:30am in the board chambers located in the new County Government Center, 1055 Monterey Street, San Luis Obispo. The Board holds budget hearings during the month of June. Interested persons should check the Board's agendas for specific dates. Agendas for all Board of Supervisors meetings are posted in some County libraries, the County Government Center, and on the Board of Supervisors internet web site at www.slocounty.ca.gov.

impact on the water system. The studies included a review of water system information, input from operations staff, findings from field surveys, and recommendations for future surveys. No significant changes in the watershed were noted in the last update. The wells continue to be most vulnerable to the following activities for which no associated contaminant has been detected in the water supply: one gasoline station.

A copy of the assessment is available at the County of San Luis Obispo, Department of Public Works, County Government Center, Room 207, San Luis Obispo, CA 93408. You may also request a summary of the assessment be sent to you by contacting Kurt Souza, CDPH Regional Engineer, at 805-566-1326 or John Beaton, Water Quality Manager, at 805-781-5111.

Water Conservation Tips for Consumers

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature.

- Take short showers – a 5 minutes shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair, or shaving, and save up to 500 gallons a month.
- Use a water-efficient showerhead. They are inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.

Make it a family effort to reduce next month's water bill! Visit www.epa.gov/watersense for more information.

PUBLIC WORKS
SAN LUIS OBISPO COUNTY

Our mission: Provide public facilities and services that ensure health and safety and enhance quality of life for the community.

Internet

USEPA Office of Ground Water and Drinking Water
www.epa.gov/safewater/
California Department of Public Health
www.cdph.ca.gov/programs/Pages/DDWEM.aspx
San Luis Obispo County Public Works Department
www.slocountywater.org

Telephone

John Beaton, SLO County Water Quality Manager, 805-781-5111.

Mailing Address

County of San Luis Obispo
Department of Public Works
County Government Center, Room 207
San Luis Obispo, CA 93408

We're on the Web! www.slocountywater.org/ccr/margarita.pdf

SOURCES OF DRINKING WATER

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- *Radioactive contaminants* which can be naturally occurring or be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the United States Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH) prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that provide the same protection for public health.