

2015 Consumer Confidence Report

Water System Name: Phillips 66 Report Date: June 30, 2016

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 - December 31, 2015, and may include earlier monitoring data.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

Santa Maria Refinery's water met all primary drinking water standards. The tables below list all the constituents that were detected and show how they compare to the State and Federal standards. The Department of Environmental Health requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, are more than one year old. All the results are from the most recent sampling event for each listed constituent.

The samples are collected at the source (well water) and at the distribution points. The distribution water is a blend of reverse osmosis (RO) water and well water. The blended stream goes through the UV filters and activated carbon filters. Tables 1 and 2 show results for samples collected at various distribution points. Tables 3, 4 and 5 show results for samples collected at the source water: well #2, well #4 and well #5. Although the report includes data from the water source in Tables 3, 4 and 5, the potable water that the consumer contacts is from the distribution system.

Phillips 66 is committed to keeping you informed and providing this annual review of the water supply. Employees, visitors, and other water users may communicate concerns and other issues regarding the water system to Kristen Kopp at (805) 343-3241. Any issues regarding changes to the potable water system would involve the facility managers and supervisors and be discussed in facility operations meetings.

If you need copies of this report or have any questions concerning the potable water system, please contact Kristen Kopp at (805) 343-3241 or email at Kristen.M.Kopp@P66.com.

Type of water source(s) in use:

Well Water

Name & location of source(s):

Well #2, #4, and #5 are located within the Santa Maria Refinery. Well #2 is near Tank 553, Well #4 is between "F" Street and Tank 800, and Well #5 is between the Carbon Plant access road and the Maintenance contractor building.

Drinking Water Source Assessment information:

A source water assessment was conducted for Wells 02, 04 and 05 of the Phillips 66 (ConocoPhillips /Phillips 66/Tosco Refining) water system in November 2002. No contaminants have been detected in the water supply, however the source is considered most vulnerable to the following activities:

Chemical/petroleum processing/storage.

A copy of the complete assessment may be viewed at:

County of San Luis Obispo, Environmental Health Services
2156 Sierra Way, San Luis Obispo, CA 93401

You may request a summary of the assessment be sent to you by contacting Environmental Health Services at 805-781-5544.

TERMS USED IN THIS REPORT

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

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

Public Health Goal (PHG): 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.

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

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

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Variations and Exemptions: State Board permission to exceed an MCL or not comply with a treatment technique under certain conditions.

ND: not detectable at testing limit

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

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

ppt: parts per trillion or nanograms per liter (ng/L)

ppq: parts per quadrillion or picogram per liter (pg/L)

pCi/L: picocuries per liter (a measure of radiation)

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, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, that 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*, that 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, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- *Radioactive contaminants*, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Tables 1, 2, 3, 4, and 5 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants (complete if bacteria detected)	Highest No. of Detections	No. of months in violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	(In a mo.) 0	0	More than 1 sample in a month with a detection	0	Naturally present in the environment
Fecal Coliform or <i>E. coli</i>	(In the year) 0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or <i>E. coli</i>	0	Human and animal fecal waste

TABLE 2 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER

Lead and Copper (complete if lead or copper detected in the last sample set)	Sample Date	No. of samples collected	90 th percentile level detected	No. sites exceeding AL	AL	PHG	Typical Source of Contaminant
Lead (ppb)	9/23/15	16	9.15	1	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	9/23/15	16	0.073	0	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	3/2/11	86	67-110	none	none	Salt present in the water and is generally naturally occurring
Hardness (ppm)	3/2/11	497	380-640	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

*Any violation of an MCL or AL is asterisked. Additional information regarding the violation is provided later in this report.

TABLE 4 – DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Nitrate (as nitrogen, N) (ppm)	3/18/15	2.6	0.2 – 5.6	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
Nitrate + Nitrite as Nitrogen (N), mg/l	3/26/14 & 5/14/14	2.720	0.560 - 5.700	10	N/A	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
Gross Alpha Activity (pCi/L)	3/18/15	2.39	<3.0 - 3.58	15	(0)	Erosion of natural deposits
Fluoride (ppm)	3/26/14 & 5/14/14	0.21	0.084 - 0.29	2.0	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Aluminum (ppm)	3/26/14 & 5/14/14	0.050	<0.050 - 0.150	1	0.6	Erosion of natural deposit; residue from some surface water treatment processes
Chromium, Hexavalent (ppb)	3/26/14 & 5/14/14	1.7	1.4 - 2.0	10	0.02	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits

TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Aluminum (ppb)	3/26/14 & 5/14/14	50	<50-150	200	N/A	Erosion of natural deposit; residue from some surface water treatment processes
Color (Units)	3/26/14 & 5/14/14	1.0	1.0	15	N/A	Naturally-occurring organic materials
Manganese (ppb)	3/26/14 & 5/14/14	11	<10 - 34	50	N/A	Leaching from natural deposits
Turbidity (NTU)	3/26/14 & 5/14/14	0.19	<0.10 – 0.38	5	N/A	Soil runoff
Total Dissolved Solids (TDS) (ppm)	3/26/14 & 5/14/14	823	690 - 1000	1000	N/A	Runoff/leaching from natural deposits
Specific Conductance (micromhos)	3/26/14 & 5/14/14	1157	1010 - 1280	1600	N/A	Substances that form ions when in water; seawater influence
Chloride (ppm)	3/26/14 & 5/14/14	88	42 - 180	500	N/A	Runoff/leaching from natural deposits; seawater influence
Sulfate (ppm)	3/26/14 & 5/14/14	353	270 - 490	500	N/A	Runoff/leaching from natural deposits; industrial wastes

TABLE 6 – DETECTION OF UNREGULATED CONTAMINANTS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	Notification Level	Health Effects Language
NONE	---	n/a	---	---	n/a

*Any violation of an MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

Additional General Information on Drinking Water

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 the 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. 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).

Nitrate in drinking water at levels above 10 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 10 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.

Infants and children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. It is possible that the lead levels at SMF may be high as a result of the materials used in SMF's plumbing. If you are concerned about elevated levels in your home's water, you may wish to have your water tested and/or flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the USEPA Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/lead>.

The potable water distribution system was sampled at 16 locations on September 23, 2015, and analyzed for Copper and Lead. Individual results and the 90th percentile values were compared to the action level for the respective constituents. The EPA set the action level (AL) for Copper at 1.3 ppm and Lead at 15 ppb. This means water suppliers must ensure that water from the taps used for human consumption do not exceed this level in at least 90 percent of the sites sampled (90th percentile value). All sample results for Copper are below the AL and the 90th percentile value was 0.073 ppm. For Lead, the results ranged from 0.16 to 17 ppb with one of the 16 sample points above the action level. The Carbon Plant Laboratory Sink result was 17 ppb. The 90th percentile value for Lead was below the AL at 9.15 ppb. A copy of the Consumer Notice of Lead Tap Water Monitoring, which was posted October 2015, is included at the end of this report for your convenience.

Compliance with Other Regulations

The State required the Refinery to test the water on a regular basis to ensure its safety. In the previous year, there were no violations of an MCL, MRDL, AL, TT or Monitoring and Reporting requirement. In addition, there were no fecal indicator-positive results for Ground Water Source samples. In summary, we met all sampling, treatment, and reporting requirements.

Consumer Notice of Lead Tap Water Monitoring

Phillips 66 Santa Maria Refinery has a Non-Transient Non-Community water system, system number 4000225. Phillips 66 is responsible for providing you with water at this location and ensuring that the drinking water we provide to you meets state and federal standards. The following table provides lead tap water monitoring results, tap location and sample date.

The 90th percentile value for our water system is below the lead action level of 15 parts per billion. The 90th percentile level is determined by averaging the second and third highest sample results. Therefore, the Refinery's 90th percentile for Lead is $(9.8 + 8.5)/2 = 9.2$ ppb.

Drinking Water Sample for Lead		
Location	Date	Result (ppb)
1. Laboratory Sink	09/23/2015	8.5
2. RIS Women's Bathroom Sink	09/23/2015	4.8
3. Maintenance Lunchroom Sink	09/23/2015	9.8
4. Maintenance Shops Bathroom Sink	09/23/2015	1.7
5. Firehouse Kitchen Sink	09/23/2015	0.41
6. Operations Building (SUCB), Women's Bathroom Sink	09/23/2015	0.36
7. CP Admin Women's Bathroom Sink	09/23/2015	2.1
8. CP Admin Lab Sink	09/23/2015	17
9. CP Control Room Bathroom Sink	09/23/2015	2.6
10. CP Change Room Bathroom Sink	09/23/2015	2.3
11. EWS-WWTP #11	09/23/2015	0.52
12. EWS-S/A #20	09/23/2015	0.74
13. EWS-CT #1	09/23/2015	2.1
14. Brinderson Bathroom Sink	09/23/2015	2.6
15. Utility Control Room-Kitchen Sink	09/23/2015	0.16
16. New Coker Common Bldg. Women's Bathroom	09/23/2015	1.2

What Does This Mean?

Under the authority of the Safe Drinking Water Act, the U.S. Environmental Protection Agency (EPA) set the action level (AL) for lead in drinking water at 15 ppb. This means utilities must ensure that water from the taps used for human consumption do not exceed this level in at least 90 percent of the sites sampled (90th percentile value). The action level is *the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow*. If water from the tap does exceed this limit, then the utility must take certain steps to correct the problem. Because lead may pose serious health risks, the EPA set a Maximum Contaminant Level Goal (MCLG) of zero for lead. The MCLG is *the level of a contaminant in drinking water below which there is no known or expected risk to health*. MCLGs allow for a margin of safety.

What Are The Health Effects of Lead?

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

What Are The Sources of Lead?

The primary sources of lead exposure for most children are deteriorating lead-based paint, lead contaminated dust, and lead contaminated residential soil. Exposure to lead is a significant health concern, especially for young children and infants whose growing bodies tend to absorb more lead than the average adult. Although our facility's lead levels were below the action level, if you are concerned about lead exposure in your home, parents should ask their health care providers about testing children to determine levels of lead in their blood.

What Can I Do To Reduce Exposure to Lead in Drinking Water?

Although the test results were below EPA's action level, you may still want to take steps to further reduce your exposure.

- ▶ Run your water to flush out lead. If water hasn't been used for several hours, run water for 15-30 seconds to flush out interior plumbing or until it becomes cold or reaches a steady temperature before using it for drinking or cooking.
- ▶ Use cold water for cooking and preparing baby formula.
- ▶ Do not boil water to remove lead.

For More Information

Phillips 66 is committed to keeping you informed. If you have questions regarding the water system please contact Kristen Kopp at (805) 343-3241 or contact your direct supervisor.

For more information on reducing lead exposure around your home and the health effects of lead, visit EPA's Web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your health care provider.