GROVER BEACH 2011 WATER QUALITY REPORT

The City of Grover Beach is pleased to present this annual Water Quality Report to our water system customers. This eport is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State and Federal water quality standards. 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 beber. Tradúzcalo ó hable con alguien que lo entienda bien.

For more information call Rusty Garing at 489-1321, or call the Community Development Department at 473-4520.

Sources Of Water

Grover Beach receives water from three sources. During 2011, the City received 921 acre-feet from Lopez Lake, 664 acre-feet from the deep Careaga formation well, and 203 acre-feet from the shallow Paso Robles formation wells. Each of these sources have unique characteristics.

Lopez Lake, located ten miles east of Arroyo Grande, is a surface water source treated by filtration and disinfected with chloramines before being delivered to Grover Beach. The water from Lopez Lake is also blended with water purchased from the California Central Coast Water Authority (CCWA). he CCWA obtains water from northern California near Mount Shasta and from the Sacramento River Delta area.

The City also produces groundwater from wells located in the City park at South 16th Street and Mentone Avenue. Wells 1, 2 & 3 draw water from the shallow Paso Robles formation and meet all water quality standards *except* for nitrate concentration. After treatment at the Nitrate Removal Water Treatment Plant, or blending with Lopez Lake water, this water also meets the nitrate requirement for drinking water. Well No. 4 draws water from the deeper Careaga formation. This water meets all State and Federal standards and is chlorinated before it is pumped directly into the City's water mains.

Drinking water source assessments were completed for the City's groundwater wells in March 2001. Except for nitrate, no contaminants have been detected above the allowed limit. The wells, however, are considered most vulnerable to the following activities <u>for which no associated contaminants have been detected</u>: Sewer collection systems, historical waste dumps, photo processing/printing and home manufacturing. Copies of the assessments are available for review at the Grover Beach City Hall, 154 South 8th Street.

Water Quality

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, eservoirs, 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.

Last year we conducted more than 1,600 tests for over 80 drinking water contaminants. We detected only 36 contaminants/constituents, and found only nitrate in the untreated shallow well at levels higher than the standards allow. No water exceeding the nitrate standard of 45 ppm entered the City drinking water system. After going through treatment, or blending with other sources, our water meets the State and Federal requirement for nitrate.

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).

Grover Beach, like the other cities on the Lopez system, uses chloramines for disinfection to insure that water is free of potentially harmful bacteria. Chloramines are a combination of chlorine and ammonia that have the benefit of being a more durable disinfectant than chlorine and of producing lower levels of trihalomenthanes (THM's) in the City water system. Without the use of chloramines, City water could potentially exceed the Maximum Contaminant Level for THM's.

Chloraminated water is no different than chlorinated water for all normal uses we have for water. However, there are two groups of people who need to take special care with chloraminated water: **kidney dialysis patients** and **fish owners**. Chloramines must be removed from water used in the kidney dialysis process. There are two ways to accomplish this: by adding ascorbic acid or by using granular activated carbon treatment. Medical centers that perform dialysis are responsible for purifying the water that enters dialysis machines and all medical facilities in the area have been notified of the use of chloramines in City water. Home dialysis service companies can also usually make the needed modifications, but you should check with your physician if you think this may affect you.

Chloramines must also be removed from water that is used in fish tanks or ponds. Chloramines are toxic to fish, reptiles, turtles and amphibians, just as chlorine is, and must be removed. Please consult with your local pet store regarding these precautions and any necessary water conditioning methods.

The City also reduces the corrosivity of the water with sodium hydroxide and orthophosphate before pumping it into the distribution system. Corrosive water can cause leaching of copper or lead from plumbing pipes and fixtures. Our most

Contaminant (reporting unit)	MCL	PHG (MCLG) [MRDLG]	Lopez / CCWA Delivered (c) Range	Lopez / CCWA Delivered (c) Average	Ground Water Range	Ground Water Average	Typical Source of Contaminant

le 1 - Detection of Microbiological Contaminants

Total Coliform Bacteria (b)	> 5.0% of	(0)	ND-2.00% (b)	0-0.30% (b)	ND	ND	Naturally present in the environment
Turbidity (NTU) (b)	TT = 1NTU	-----	0.04 - 1.4	0.09	ND - 0.18	0.05	Surface Water Runoff
HPC (CFU/mL) (b)	TT	(0)	ND - 12	1.5	0-77	2.7	Naturally present in the environment

Table 2 - Detection of Contaminants with a Primary Drinking Water Standard

Aluminum (ppb)	1000	600	ND - 0.04	0.02			Erosion of natural deposits; treatment process residue
Arsenic (ppb)	50	n/a		1.7			Runoff from orchards; natural deposits
Fluoride (ppb)	2000	1000		290	130-260	200	Erosion of natural deposits
Nitrate as NO_3 (ppm) (c)	45	45			ND-28	8.6	Runoff / leaching from fertilizers, septic tanks, sewage; erosion of natural deposits
Gross Alpha Activity (pCi/l)	15	(0)		NA	ND - 2.0	0.50	Decay of natural and man-made deposits

Table 3 - Detection of Contaminants with a Secondary Drinking Water Standard

Aluminum (ppb)	200	n/a	ND - 0.04	0.02			Erosion of natural deposits; treatment process residue
Chloride (ppm)	500	n/a		22.3	27-38	33	Runoff/leaching from natural deposits; seawater
Color (CU)	15	n/a		3	ND - 5	2.50	Naturally occurring organic materials
Copper (ppm)	1.0	n/a		0.07			Runoff/leaching from natural deposits; seawater
Corrosivity [LI] (AI)	Noncorrosive	n/a			(11 - 13)	Noncorrosive	Natural and industrially-influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors
Foaming Agents (MBAS) (ppb)	500	n/a			ND-59	15	Runoff/leaching from natural deposits; industrial wastes
Iron (ppb)	300				ND - 1000	250	Leaching from natural deposits; inustrial wastes
Manganese (ppb)	50				ND - 30	7.5	Leaching from natural deposits; inustrial wastes
Odor, Threshold	3	n/a	1.3-4.0	1.8	ND - 1	0.25	Naturally occurring organic materials
Specific Conductance (micromhos)	1600	n/a		555	520-980	666	Runoff/leaching from natural deposits; seawater
Sulfate (ppm)	500	n/a		81	83-130	100	Runoff/leaching from natural deposits; industrial wastes
Disolved Solids (ppm)	1000	n/a	430 - 450	320	340-610	426	Runoff/leaching from natural deposits
Turbidity (NTU) (b)	0.5-5.0	n/a	0.05-0.33	0.08	ND - 0.18	0.05	Soil and other contaminants

Table 4 - Disinfection Byproducts, Disinfectant Residuals and Disinfection Byproduct Precursors

Total Trihalomethanes (ppb) (a,b)	RAA = 80	n/a	29-32 (a,c)	30 (a,c)	9.0-42.5	25.9	By-product of drinking water chlorination
Total Haloacetic Acids (ppb) (a,b)	RAA = 60	n/a	23-28 (a,c)	27	9.7-42.5	18.2	By-product of drinking water chlorination
Total Chlorine Residual (ppm) (a,b)	MRDL = 4.0	[4]	0.8-3.3	2.0	0.18-2.20	1.35	Disinfectant added for treatment
Chlorite (ppb) (b)	1000	(800)	0.36-.077	0.56			By-product of drinking water chlorination
Chlorate (ppb) (b)	AL = 800		120-489	244			By-product of drinking water chlorination
Chlorine Dioxide (ppb) (b)	800 as ClO_2	[800]	0-135	52			Disinfectant added for treatment

Table 5 - Detection of Contaminants without a Drinking Water Standard

Alkalinity as $CaCO_3$ (ppm)	n/a	n/a	160-200	180	90-320	151	Runoff/leaching from natural deposits; seawater
Bicarbonate (ppm)	n/a	n/a			110-390	185	Runoff/leaching from natural deposits; seawater
Calcium (ppm)	n/a	n/a		48	38-110	59	Runoff/leaching from natural deposits; seawater
Hardness (ppm)	n/a	n/a	230-260	240	170-490	268	Generally found in ground and surface water
Magnesium (ppm)	n/a	n/a		27	19-53	30	Runoff/leaching from natural deposits; seawater
Orthophosphate (ppm) (b)	n/a	n/a			0.1-3.2	1.58	Added for corrosion control treatment
pH (units) (b)	6.5 - 8.5	n/a	7.91	8.14	7.1-8.3	7.6	Runoff/leaching from natural deposits; seawater
Potassium (ppm)	n/a	n/a			1.9-2.8	2.2	Runoff/leaching from natural deposits; seawater
Sodium (ppm)	n/a	n/a		26	37-41	39	Runoff/leaching from natural deposits; seawater

Table 6 - Detection of Lead and Copper

Lead and Copper (reporting unit)	No. of samples collected	AL	No. of sites exceeding AL	MCLG	90th percentile level detected	Typical Source of Contaminant
(ppb)	60	15 = AL	0	2	0	Internal corrosion of household water plumbing systems
Copper (ppm)	60	1.3 = AL	3	0.17	0.81	Internal corrosion of household water plumbing systems

Footnotes:

(a) Compliance based on the running quarterly annual average of distribution system samples.

(b) Distribution system samples.

(c) Values are based on delivered water data. Values are based on treatment plant values where delivered values were not reported.

recent sampling of 60 residences in September indicates levels of copper and lead below their required limits.

Additional General Information On Drinking Water: All 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).

Time and place of regularly scheduled meetings for public participation: The Grover Beach City Council meets on the first and third Monday of each month at 6:30 PM in the City Hall Council Chambers located at 154 South 8th Street. Please feel free to participate in these meetings.

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 storm water 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 storm water runoff and residential uses.

★ **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

★ **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 storm water runoff, agricultural application, and septic systems.

About Nitrate: *Nitrate in drinking water at levels above 45 ppm 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 ppm may also affect the ability of the blood to carry oxygen in other individuals such as pregnant women and those with certain enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask for advice from a health care provider.*

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

Tables 1 through 7 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 allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative, are more than one year old.

Lopez / CCWA results represent a blend of these two sources that is delivered to customers of the Lopez distribution system. Some contaminants detected in source water samples were not detected in the delivered water samples reported on these tables. These results are reported in the 2010 Water Quality Data for the Lopez Project available at the Grover Beach City Hall.

Key Terms:

- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. ***Primary MCL's*** are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. ***Secondary MCL's*** 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.
- **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.
- **Primary Drinking Water Standard or PDWS:** MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
- **Secondary Drinking Water Standard or SDWS**: MCLs for contaminants to protect the taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect health at the MCL levels.
- **RAA (Running Annual Average)**: An arithmetic average of all samples is computed quarterly. This average is then averaged against the previous three quarters worth of data to provide an annual running average. The highest running average over a twelve month period is used for compliance.
- **Regulatory Action Level (AL)**: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

• **Maximum Residual Disinfectant Level (MRDL):** The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap. • **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water. • **HPC**: Heterotrophic Plate Count. • **CFU/ml**: Colony Forming Units per milliliter. • **micromhos**: Units of specific conductance of water. • **n/a**: not applicable. • **ND**: Not detectable at testing limit. • **NS**: Not Sampled. • **ppb**: parts per billion or micrograms per liter (ug/l). • **ppm**: parts per million or milligrams per liter (mg/l). • **pCi/1**: picocuries per liter (a measure of radiation). • **NTU** Nephelometric Turbidity Unit. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. • **CU**: Color Unit. • **AI**: Aggressive Index and, • **LI**: Langelier Index - are measures of corrosivity.

Table 7 – Primary Standards for Treatment of Surface Water Sources (Lopez and CCWA)

Contaminant (reporting units)	MCL	PHG (MCLG)	Level Found	Violation?	Potential Source of Contamination
Filtration Performance					
Turbidity (NTU)	TT = 1NTU	-----	0.090	No	Surface water runoff
	TT = 95% of samples </=0.1 NTU	-----	100%	No	

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Grover Beach is responsible for providing high quality drinking water; but cannot control the variety of materials used in 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 or at http://www.epa.gov/safewater/lead.

CITY OF GROVER BEACH
WATER QUALITY ANALYSIS

Drinking water supplied to customers of Grover Beach undergoes careful analysis on a regular basis to guarantee compliance with all State and Federal water quality standards. A summary of current test results is provided in the following tables based upon data available as of December 2011. These tables show Primary and Secondary Standards, which the City's drinking water must meet. We hope this information will be helpful to you.

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