

PALMDALE WATER DISTRICT 2011 CONSUMER CONFIDENCE REPORT



Our Mission: To provide high quality water to our current and future customers at a reasonable cost.

Questions or comments on the contents of this report are encouraged:

Call Peter K. Thompson Jr., Operations Manager, 661-947-4111 x1169 or Joe Kerschner, Water Quality Supervisor, 661-947-4111 x1166 Monday through Friday, 7:00 a.m. to 4:30 p.m.

Attendance, participation, questions, and comments are encouraged:

- ♦ Attend Board of Directors' meetings the second and fourth Wednesday of each month. Board meetings start at 7:00 p.m. and are held at the District office, 2029 East Avenue Q, Palmdale.
- ♦ Call 661-947-4111 with questions about the District or to file a water quality complaint.
- ♦ Call 661-947-4111 x1020 or x101 for information on water conservation or water education.
- ♦ Visit our web site at www.palmdalewater.org.

Atencion Residentes!

Que no hablan Ingles: Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien, ó para recibir una version en Espanol sobre este informe, favor de llamar a la oficina de P.W.D. al telefono 661-947-4111.

The Palmdale Water District is proud to announce 100% regulatory compliance in 2011 and is confident its drinking water is of the highest quality.

This Consumer Confidence Report is a snapshot of last year's (2011) water quality and will provide you with a better understanding of the quality of your drinking water.

This Report includes details about where your water comes from, what it contains, and how it compares to Drinking Water standards. We are committed to providing you with this information because informed customers are our best allies.

Stringent water quality testing is performed before the water is delivered to consumers. Last year, PWD tested more than 3,000 samples for over 80 regulated contaminants. Only 4 primary standard contaminants

were detected in 2011, but all were at levels below the Maximum Contaminant Level allowed by the State.

Please take the time to review this Consumer Confidence Report and Water Quality Data Chart to become an informed consumer. The Water Quality Data Chart is divided into two standards – **Primary** and **Secondary**.

Primary standards are set to protect public health from contaminants in water that may be immediately harmful to humans or affect their health if consumed for long periods of time.

Secondary standards govern aesthetic qualities of water such as taste, mineral content, odor, color, and turbidity.

Please call 661-947-4111 x1166 or x1169 with any questions.

PWD Sources of Water Supply

PWD obtains its water from one of three sources or a combination of these sources. The first source is **surface water** from the State Water Project (California Aqueduct). This water source begins in Northern California, flows into the Delta near Sacramento, and is pumped traveling South to Palmdale Lake. The District is entitled to take a maximum of 21,300 acre feet (or 6.9 billion gallons of water) per year. Based on the amount of rain & snowfall that falls in the Sierra Nevada Mountains and the amount of water stored in northern California reservoirs, the District is granted a percentage of the annual entitlement. In 2011 the District received an annual entitlement of 55 percent or 11,715 acre feet. The water is drawn from the aqueduct and stored in Palmdale Lake prior to treatment.

The second source of **surface water** is from the reservoir created by Littlerock Dam. Littlerock Dam was originally built in 1922 and was recently renovated to increase the storage capacity of the reservoir to 3,500 acre feet, or 1.1 billion gallons, of water. In 2011 the District drew 2,569 acre feet

from this source. Littlerock Dam Reservoir is fed by natural run-off from snow packs in the local San Gabriel Mountains and from rainfall. The water is then transferred from Littlerock Reservoir to Palmdale Lake through a ditch connecting the two reservoirs for storage prior to treatment.

The third source of water for the District's customers is **ground water**. Ground water is pumped from the Antelope Valley ground water basin through 23 wells and in 2011 the District pumped 7,025 acre feet from 22 of these wells. This water is treated with chlorine and pumped directly into the distribution system.

All three sources are constantly tested and treated in compliance with all applicable regulations to ensure high water quality and dependability of the water system. The Palmdale Water District delivered approximately 64 percent surface water and 36 percent ground water to its consumers in 2011.



Definitions

The following definitions of key terms are provided to help you understand the data 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 OEHH (Office of Environmental Health Hazard Assessment) a division of the California Environmental Protection Agency (CEPA).

◆ **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.

◆ **Running Annual Average (RAA):**

The running annual arithmetic average, computed quarterly, of quarterly arithmetic averages of all samples collected.

◆ **Detection Limit for purposes of reporting (DLR):**

The designated minimum level at or above which any analytical finding of a contaminant in drinking water shall be reported to the Department of Public Health.

◆ **Unregulated Contaminant Monitoring (UCMR):**

Unregulated contaminant monitoring helps USEPA and the California Department of Public Health to determine where certain contaminants occur and whether the contaminants need to be regulated.

◆ **Treatment Technique (TT):**

A required process intended to reduce the level of a contaminant in drinking water.

◆ **Regulatory Action Level (AL) or Notification Level (NL):**

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

◆ **Primary Drinking Water Standard (PDWS):**

MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

◆ **Secondary Drinking Water Standard (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 level.

◆ **Counting Error:**

The 95 percent confidence level for the radioactivity analysis.

Abbreviations used in 2011 Water Quality Data Chart:

◆ **ND:** Not detectable or None detected at testing limit (DLR)

◆ **NA:** Not Applicable

◆ **Nreg:** No regulation

◆ **<** Less Than

◆ **>** Greater Than

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

◆ **DBP:** Disinfection Byproducts

Comparison examples are provided for the following measurements to help you better understand the amount of chemical contaminants detected in the water. This does not mean that the amounts are not significant regarding risk of health effects for specific contaminants

◆ **ppm:** parts per million or milligrams per liter (mg/L) = qualitatively, approx. 1 drop in 10 gals.

◆ **ppb:** parts per billion or micrograms per liter (ug/L) = qualitatively, approx. 1 drop in 10,000 gals.

◆ **ppt:** parts per trillion or nanograms per liter (ng/L) = qualitatively, approx. 1 drop in 100,000 gals.

Drinking Water Source Assessment and Protection Program:

The Palmdale Water District's Sanitary Survey, including a Source Water Assessment of surface waters, was updated in January of 2008 in compliance with State of California regulations. The assessment of surface water sources included Littlerock Reservoir and Palmdale Lake. A Groundwater Assessment and Protection Program was completed in January of 1999, and a Wellhead Protection Plan was completed in November 2000.

The District's drinking water sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply: illegal activities, such as unauthorized dumping; recreation; highways; railroads; and sewer collection systems. A comprehensive source water protection program can prevent contaminants from entering the public water supply, reduce

treatment costs, and increase public confidence in the quality, reliability and safety of drinking water.

You can help prevent water contamination and pollution by properly disposing of trash and waste materials. Remember, many common household products can contaminate surface and ground water supplies. Anything you throw in the trash, dump on the ground, pour down the drain, or wash down the driveway can eventually reach water sources and cause contamination.

The Sanitary Survey, Source Water Assessment, Groundwater Assessment, and Wellhead Protection Plan are available for review on the District's website (palmdalewater.org) or at the District's office by calling Peter K. Thompson Jr. at 661-947-4111 x1169.

Gross Alpha Particle Activity:

Gross alpha particle activity is reported based on the new Radionuclide requirement that four consecutive quarters of samples from each source must be analyzed between January 2001 and December 2007. We have complied with this requirement at the end of 2006, a year early. The range of results from all our wells during the current compliance cycle is ND – 6.12 pCi/L, and detection was below the DLR for our treated surface water source. The average of all well samples was below the DLR of 3 pCi/L.

- ♦ **Health effects of Gross Alpha Particle Activity:** Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Uranium:

Samples for Uranium are collected only when the quarterly average of Gross Alpha particle activity exceeds 5 pCi/L. Since only Well No. 18 had results for Gross alpha particle activity greater than 5 pCi/L when the counting error was used in 2006, uranium was sampled for four consecutive quarters in 2008 and ranged from 2.11 to 7.92 pCi/L. The DLR for uranium is 1 pCi/L and the MCL is 20 pCi/L.

- ♦ **Health effects of Uranium:** Some people who drink water containing uranium in excess of the MCL over many years may have kidney problems or an increased risk of getting cancer.

Lead and Copper:

The tap samples for Lead and Copper were taken in the year 2009 (50 samples). The 90th percentile results of <5 ppb for lead and 0.402 ppm for copper are well within the AL of 15 ppb lead and the AL of 1.3 ppm for copper. The District is scheduled to draw new sample sets this year.

- ♦ 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. Palmdale Water District 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 drinking 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 (800-426-4791) or at <http://www.epa.gov/safewater/lead>
- ♦ **Health effects of Lead:** Infants and young 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. If you are concerned about elevated lead 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.
- ♦ **Health effects of Copper:** Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

Palmdale Water District's Rebate Programs

The District has several rebates programs available. Getting started on renovating a landscape can be hard work and expensive, but if you want an efficient water wise landscape, you can apply for the District's "Cash for Grass" program. Applications for the District's rebate programs are online at www.palmdalewater.org or at the District office, 2029 East Avenue Q. Before taking grass out, sign and send in the application, and wait for the District to come out to measure and take photos of the area that is being renovating.

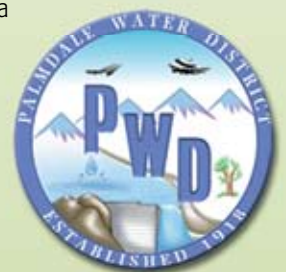
When planning a bathroom remodel, take advantage of the District's toilet rebate program. You can receive a \$60.00 credit back on the water bill for buying and installing a 1.28 gallon per flush, high efficient toilet (HET), or a dual flush toilet.

Want to make your irrigation system more efficient? Buy and install MP rotators. Irrigation systems are usually about 50 percent efficient. Replace sprinkler heads with MP rotators (MP equals "matched precipitation"). MP rotators water at a lower precipitation rate so water sinks into the ground, which reduces water runoff and sprinkler head misting. The District's MP rotator rebate is \$4.00 per rotator, turn in the application and the original receipt to the Palmdale Water District.

If you have a large turf area, a SWAT tested smart controller is a good choice. A smart controller waters by the weather not what you think your landscape needs. Water that is evaporated from soil and plants is put back into the landscape by the controller every day, using science called evapotranspiration (ET) developed years ago by agriculture for growing crops. There are several irrigation suppliers that provide SWAT tested smart controllers including: Hunter, Rainbird, Toro and others. There is a \$150.00 rebate, as a credit back on the water bill, for a smart controller, turn in the application with the original receipt to the Palmdale Water District.

New efficient clothes washing machines can conserve water and reduce water and energy bills. Buying and installing a high efficient clothes washer, with a water factor of 5.0 or less, is a rebate of \$100.00 as a credit back on the water bill. Turn in the application and the original receipt to the Palmdale Water District.

A copy of the Consumer Confidence Report can also be found on the website www.palmdalewater.org



2011 Water Quality Data Chart

The Water Quality Data chart lists all drinking water contaminants detected during the 2011 calendar year. The presence of these contaminants in the water does not necessarily indicate the water poses a health risk. PWD tests for many contaminants in addition to those listed in the chart. Test results for these additional contaminants were all "None Detected (ND)" and are not required to be included in the chart. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. As a result, some of the data, though representative of the water quality, is more than one year old. Unless otherwise noted, the data presented in this chart is from testing performed January 1 to December 31, 2011.

Parameter	MCL or MRDL (Units)	Meets Standard? YES/NO	DLR	Sample Frequency* Surface Water/ Ground Water	Treated Surface Water		*Ground Water Sampled in 2010		EPA (MCLG) PHG OR (MRDLG)	Typical Source of Contaminant
					Range	Sampled 11/13/10 or Average Effluent	Range	Average		
Primary Standards										
Turbidity (Water Clarity) Turbidity is a measure of the cloudiness of the water. We measure it because it is a good indicator of the effectiveness of our filtration system. Treated Surface Water Range and Average are of Daily Maximum	TT = 1NTU TT = 95% of monthly samples ≤0.3 NTU	YES	NA	Continuous/Once in 3 yrs.	0.06 - 0.20 100%	0.09 100%	<0.2-0.6	0.08	NA	Soil Runoff
Dist. System Microbiological										
Total Coliform Bacteria (Total Coliform Rule)	For systems that collect less than 40 samples per month: No more than 1 positive sample For systems that collect 40 or more samples per month: More than 5.0% of monthly samples are positive	YES	NA	Weekly	N/A	0%	NA	NA	(0)	Naturally present in the environment
E. coli (Federal Ground Water Rule)	0	YES	NA	Weekly	N/A	0%	NA	0	(0)	Human and animal fecal waste
Organic Chemicals										
Disinfection By-products					System RAA from Dist. Syst. All Sample Range Highest RAA					
TTHMs	80µg/L	YES	NA	Monthly/NA	ND - 136	33	NA	NA	NA	By-product of drinking water disinfection
HAA5	60µg/L	YES	NA	Quarterly/NA	ND - 22	6.1	NA	NA	NA	By-product of drinking water disinfection
Disinfectant Residual	4.0 (mg/L as Cl ₂)	YES	NA	Weekly/NA	System RAA from Dist. Syst. 0.02 - 2.8 1.0		NA	NA	(4)	Drinking water disinfectant added for treatment
Chlorine Residual										
Disinfectant By-product Precursors										
Control of DBP Precursor (Total Organic Carbon, (TOC) - see explanation on the next page	TT= ratio of actual TOC removal to required TOC removal shall be ≥ 1	YES	0.3	Monthly/NA	0.3 - 1.2	0.9	NA	NA	NA	Various natural and manmade sources
Inorganic Chemicals										
Arsenic	10µg/L	YES	2	Yearly/Once in 3yrs.	NA	ND	ND - 2	ND	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium	1000µg/L	YES	100	Yearly/Once in 3yrs.	NA	ND	ND - 170	ND	2000	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Boron	2mg/L	YES	0.1	Quarterly/Quarterly	ND - 01	ND	ND - 0.50	0.17	1	Erosion of natural deposits; water additive that promotes strong leach; discharge from fertilizer and aluminum factories
Nitrate (as NO ₃ -)	45mg/L	YES	2	Quarterly/Quarterly	ND	ND	ND - 31.8	8.2	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Chromium	50µg/L	YES	10	Yearly/Once in 3yrs.	ND	ND	ND - 12	ND	(100)	Steel and pulp mill discharges, chrome plating, natural erosion
Radioactivity										
Gross Alpha Activity**	15 pCi/L	YES	3	**See comment below	ND	ND	ND - 6.12	ND	0	Erosion of natural deposits
Uranium***	20 pCi/L	YES	1	NA/Quarterly	NA	NA	NA	NA	0.43	Erosion of natural deposits
Tap Monitoring Lead & Copper	Action Level			No. of samples in 2009	90th Percentile	No. sites exceeded AL				
Lead	15µg/L	YES	5	50	ND	None		NA	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper	1.3mg/L	YES	0.05	50	0.402	None		NA	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Secondary Standards										
Inorganic Chemicals										
Aluminum	200µg/L	YES	50	Monthly/Once in 3yrs.	ND	ND	ND - 130	ND	600	Erosion of natural deposits; residual from some surface water treatment processes
Color	15 units	YES	NA	Weekly/Once in 3yrs.	NA	<5	NA	<5	NA	Naturally occurring organic materials
Odor-Threshold	3 units	YES	1	Weekly/Once in 3yrs.	NA	1	NA	ND	NA	Naturally occurring organic materials
Chloride	500 mg/L	YES	NA	Quarterly/Quarterly	99 - 120	110	5.6 - 69	28.1	NA	Runoff/leaching from natural deposits; seawater influence
Copper	1.0mg/L	YES	0.05	Yearly/Once in 3yrs.	NA	ND	NA	ND	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron	300µg/L	YES	100	Monthly/Once in 3yrs.	ND	ND	NA	ND	NA	Leaching from natural deposits; industrial wastes
Manganese	50µg/L	YES	20	Monthly/Once in 3yrs.	ND	ND	NA	ND	NA	Leaching from natural deposits
Sulfate	500mg/L	YES	0.5	Quarterly/Quarterly	40 - 44	42	18 - 79	38	NA	Runoff/leaching of natural deposits; industrial wastes
Zinc	500µg/L	YES	50	Monthly/Once in 3yrs.	ND	ND	NA	ND	NA	Runoff/leaching of natural deposits, industrial wastes, corrosion control
Total Dissolved Solids	1000mg/L	YES	NA	Yearly/Once in 3yrs.	NA	300	110 - 570	245	NA	Runoff/leaching of natural deposits
Specific Conductance	1600 µmhos/cm	YES	NA	Yearly/Once in 3yrs.	NA	600	236 - 944	412	NA	Substances that form ions when in water; seawater influence
Additional Constituents Analyzed										
pH	NA (Units)	NA	NA	Continuous/Once in 3yrs.	6.9 - 9.0	7.14	7.6 - 8.70	8.10	NA	Leaching from natural deposits
Hardness	NA(mg/L)	NA	NA	Weekly/Once in 3yrs.	82 - 120	102	20 - 335	120	NA	Sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally-occurring
Alkalinity	NA(mg/L)	NA	NA	Weekly/Once in 3yrs.	46 - 79	61	80 - 260	122	NA	Dissolved as water passes through limestone deposits
Sodium	NA(mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	63	16 - 77	36	NA	Generally naturally-occurring salt present in water
Calcium	NA(mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	24	8 - 103	37	NA	Dissolved as water passes through limestone deposits
Potassium	NA(mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	3	ND - 4	1.4	NA	Leaching from natural deposits
Magnesium	NA(mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	13	ND - 24	6.7	NA	Dissolved as water passes through magnesium-bearing minerals
Special Testing										
Radium 228	5pCi/L	NA	1	4 Quarters by 12/31/2007	NA	ND	NA	ND	0.019	Erosion of natural deposits
UCMR						Average				
Chromium VI	No Standard (µg/L)	NA	1	Yearly/Yearly	NA	ND	ND - 13	3.8	NA	Steel and pulp mill discharges, chrome plating, natural erosion

* Wells are sampled once/3yrs except for Fluoride, Chloride, Sulfate, & Nitrate which are sampled quarterly.

** Sampled between 2010 and 2011. Individual sites are sampled once/6yrs or once/9yrs. Range is from individual sample results. Compliance is based on the average of four consecutive quarters.

*** Sample collected only when quarterly average of Gross Alpha exceeds 5pCi/L.

Unregulated contaminant monitoring helps USEPA and the California Department of Public Health to determine where certain contaminants occur and whether the contaminants need to be regulated.

Total Trihalomethanes (TTHMs):

Total Trihalomethanes (TTHMs) are the total of four trihalomethanes of concern in drinking water: chloroform, bromoform, bromodichloromethane, and chlorodibromomethane. In the Primary Standards Disinfection Byproducts section of the Water Quality Chart under System RAA from Distribution System, the highest area-wide quarterly Running Annual Average (RAA) for 2011 is 33 µg/L, which is less than and complies with the Federal TTHM MCL of 80 µg/L. The range of monthly sample results from all 16 sampling points in 2011 is ND – 136 µg/L, indicating that certain sampling points or specific locations within the customer service area have exceeded 80 µg/L. These samples were taken from dedicated sample points within the distribution system and are representative of maximum residence time in the system. The Federal TTHM MCL of 80 ppb will be applicable to each sampling point or location beginning April of this year pursuant to a recently approved USEPA ruling.

♦ **Health effects of Total Trihalomethanes (TTHMs):** Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems and may have an increased risk of getting cancer.

Total Organic Carbon (TOC):

Total Organic Carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. TOC result is based on quarterly RAA of percent removal ratio. Paired samples (one from source and the other from treated water) are collected monthly. The percent removal between source water and treated water is divided by the required monthly TOC percent removal based on certain criteria that all public water systems must follow. The quarterly RAA of these monthly results should be 1.0 or higher. Our quarterly RAA in 2011 ranged from 2.45 to 3.62. Individual TOC sample results for treated water ranged from 0.3 to 1.2 mg/L and averaged 0.9 mg/L.

Arsenic:

In the Primary Standards Inorganic Chemicals section of the chart for Arsenic, surface water sample was None Detected (ND). For groundwater samples (22 total), the range was None Detected to 2.0 µg/L. The average for all groundwater sources based on 2010 analysis is less than the DLR of 2 µg/L, MCL = 10 µg/L.

♦ **Health effects of Arsenic:** While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The USEPA 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.

Barium:

In the Primary Standards Inorganic Chemicals section of the chart for Barium, surface water sample was ND. In the groundwater column, the range of barium is None Detected (ND) to 170 µg/L, which is well under the MCL of 1000 µg/L. Out of 23 wells tested, three wells exceeded the DLR for barium.

♦ **Health effects of Barium:** Some people who drink water containing barium in excess of the MCL over many years may experience an increase in blood pressure.

Fluoride:

Fluoride in all our water sources ranged from None Detected to 0.48 mg/L, average of surface water results was ND and the groundwater average was 0.17 mg/L. The MCL for fluoride is 2 mg/L and the DLR is 0.1 mg/L.

♦ **Health effects of Fluoride:** Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth.

Nitrate:

In the Primary Standards Inorganic Chemicals section of the chart for Nitrate as (NO₃), surface water sample was ND. In the groundwater column, the range of Nitrate is None Detected (ND) to 33.1 mg/L, and the average is 8.2 mg/L. The California Department of Public Health requires annual sampling if all results are less than 50% of the MCL. If the result from any one source is greater than 50% of the MCL, then sampling must be done quarterly at that source. The District samples all its wells on a quarterly basis (4 times a year) even when they test below 50 percent of the MCL. The numbers expressed on the chart are derived from quarterly sampling of all District wells, except those that are out of service.

♦ **Health effects of 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 rise quickly for short periods of time because of rainfall or agricultural activity.

Chromium:

Chromium is a lustrous, hard, brittle, metallic element used in alloy steels for hardness and corrosion resistance, as in stainless steel, and for plating other metals. In the Primary Standards Inorganic Chemicals section of the chart for Chromium, the Surface water sample was ND. In the groundwater column, the range of Chromium is ND to 12 µg/L. The average for all ground water sources was ND. The MCL for Chromium is 50 µg/L and the DLR is 10 µg/L.

♦ **Health effects of Chromium:** Chromium-3 is a nutritionally essential element in humans and is often added to vitamins as a dietary supplement. Chromium-3 has relatively low toxicity and would be a concern in drinking water only at very high levels of contamination; Chromium-6 is more toxic and poses potential health risks. People who use water containing total chromium in excess of the maximum contaminant level (MCL) over many years could experience allergic dermatitis.

****Information Continued on Next Page***



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PALMDALE WATER DISTRICT 2011 CONSUMER CONFIDENCE REPORT

Educational Information and Possible Drinking Water Contaminants:

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. 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). PWD tested for *cryptosporidium* monthly in 2007 and results were "none detected."

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**, 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 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**, which 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 California Department of Public Health (Department) make 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.

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2012

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