PALMDALE WATER DISTRICT

2008 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 Gregory A. Dluzak, Production Manager, 661-947-4111 x306 or Bo Labisi, Water Quality Supervisor, 661-947-4111 x309 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 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 x120 or x101 for information on water conservation or water education.
- Visit our web site at www.palmdalewater.org.

Attencion 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 2008 and is confident its drinking water is of the highest quality. This Consumer Confidence Report is a snapshot of last year's (2008) 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 ten primary standard contaminants were detected, 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 x306 or x309 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 2008 the District received an annual entitlement of 35% or 7,455 acre feet and purchased an additional 9,998 from other State Water Project sources. 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 2008 the District drew 3,050 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 2008 the District pumped 9,786 acre feet from 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 delivers approximately 60% surface water and 40% ground water to its consumers.



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 OEHHA (Office of Environmental Health Hazard Assessment) a division of the California Environmental Protection Agency (CEPA).
- ***Maximum Residual Disinfectant Level (MRDL):*** A level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.
- ***Maximum Residual Disinfectant Level Goal (MRDLG):*** The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency (USEPA).
- ***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 SWDSs do not affect the health at the MCL level.
- ***Counting Error:*** The 95% confidence level for the radioactivity analysis.

Abbreviations used in 2008 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 Districts website (palmdalewater.org) or at the District's office by calling Gregory Dluzak at 661-947-4111 x306.

2008 Water Quality Data Chart

The Water Quality Data chart lists all drinking water contaminants detected during the 2008 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 done January 1 to December 31, 2008.

Parameter Primary Standards	MCL or MRDL (Units)	Meets Standard? YES/NO	DLR	Sample Frequency* Surface Water/ Ground Water	Treated Surface Water		*Ground Water Sampled in 2007		EPA (MCLG) PHG OR (MRDLG)	Typical Source of Contaminant
					Range	Sampled 2/20/08 or Average Effluent	Range	Average		
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.	0.04 - 0.29 100%	0.09 100%	<0.2-3.8	0.26	NA	Soil Runoff
Dist. System Microbiological										
Total Coliform Bacteria (% Positive/month)	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/NA	N/A	0%	NA	NA	0	Naturally present in the environment
Organic Chemicals										
Disinfection Byproducts					System RAA from Dist. Syst.					
					All Sample Range	Highest RAA				
TTHMs	80µg/L	YES	1	Monthly/NA	ND - 179	55.3	NA	NA	NA	By-product of drinking water chlorination
HAA5	60µg/L	YES	NA	Quarterly/NA	ND - 51	16.1	NA	NA	NA	By-product of drinking water chlorination
Disinfectant Residual					System RAA from Dist. Syst.					
Chlorine Residual	4.0 (mg/L as Cl_2)	YES	NA	Weekly/NA	0.01 - 2.50	1.03	NA	NA	I4I	Drinking water disinfectant added for treatment
Disinfectant Byproduct 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	ND - 2.10	1.24	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 - 103	ND	2000	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Fluoride	2mg/L	YES	0.1	Quarterly/Quarterly	ND - 0.12	0.10	0.10 - 0.60	0.22	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as NO_3)	45mg/L	YES	2	Quarterly/Quarterly	ND	ND	ND - 32.2	4.94	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radioactivity										
Gross Alpha Activity**	15 pCi/L	YES	3	**See comment below	ND	ND	ND - 7.31	ND	0	Erosion of natural deposits
Uranium***	20 pCi/L	YES	1	NA/Quaterly	NA	NA	2.1 - 7.92	5.39	0.43	Erosion of natural deposits
Tap Monitoring Lead & Copper	Action Level			No. of samples in 2006	90th Percentile	No. sites exceeded AL				
Lead	15µg/L	YES	5	31	ND	None		NA	2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper	1.3mg/L	YES	0.05	31	0.345	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 - 430	ND	NA	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/Once in 3yrs.	85.1 - 112	102.0	5.12 - 87.7	19.9	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.	NA	ND	ND - 420	ND	NA	Leaching from natural deposits; industrial wastes
Manganese	50µg/L	YES	10	Monthly/Once in 3yrs.	ND - 30.0	ND	ND - 20.0	ND	NA	Leaching from natural deposits
Sulfate	500mg/L	YES	0.5	Quarterly/Quarterly	46.7 - 65.2	53.5	16.0 - 96.2	34.2	NA	Runoff/leaching of natural deposits; industrial wastes
Zinc	5000µg/L	YES	50	Monthly/Once in 3yrs.	0 - 610	247	ND - 50	ND	NA	Runoff/leaching of natural deposits, industrial wastes
Total Dissolved Solids	1000mg/L	YES	NA	Yearly/Once in 3yrs.	NA	310	140 - 390	221	NA	Runoff/leaching of natural deposits
Specific Conductance	1600 µmhos/cm	YES	NA	Yearly/Once in 3yrs.	NA	610	233 - 631	363	NA	Substances that form ions when in water; seawater influence
Additional Constituents Analyzed										
pH	NA (Units)	NA	NA	Continuous/Once in 3yrs.	6.97 - 8.56	7.23	7.20 - 8.80	8	NA	Leaching from natural deposits
Hardness	NA(mg/L)	NA	NA	Weekly/Once in 3yrs.	110 - 126	119	18 - 232	100	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.	64.1 - 86.5	74.3	20.0 - 180	109	NA	Dissolved as water passes through limestone deposits
Sodium	NA(mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	67.0	15.0 - 70.0	34.8	NA	Generally naturally-occurring salt present in water
Calcium	NA(mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	27.0	7.0 - 65.0	31.3	NA	Dissolved as water passes through limestone deposits
Potassium	NA(mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	3.0	0.0 - 5.0	1.3	NA	Leaching from natural deposits
Magnesium	NA(mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	11.0	0.0 - 17.0	5.2	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

* Wells are sampled once/3yrs except for Fluoride, Chloride, Sulfate, & Nitrate which are sampled quarterly.
** Sampled between 2001 and 2008. 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. Result is from Well 18 only.

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 Trihalomethandes (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 2008 is 55.3µg/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 2008 is ND – 170µg/L, indicating that certain sampling points or specific locations within the customer service area have exceeded 80µg/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 by Year 2012 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 1.00 or higher. Our quarterly RAA in 2008 ranged from 1.40 to 2.11. Individual TOC sample results for treated water ranged from ND to 2.10mg/L and averaged 1.24mg/L.

Arsenic:

In the Primary Standards Inorganic Chemicals section of the chart for Arsenic, surface water sample was None Detected (ND). For groundwater samples (23 total), the range was None Detected to 2.0 µg/L. The average for all groundwater sources based on 2007 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 103µg/L, which is well under the MCL of 1000 µg/L. Out of 23 wells tested, one well 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 ND to 0.60 mg/L, average of surface water results was ND and the groundwater average was 0.22 mg/L. 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 32.2 mg/L, and the average is 4.94 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% 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.

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 is ND – 7.31pCi/L, and detection was below DLR for our treated surface water source. The average of all well samples was below the DLR of 3pCi/L but Well No. 18 averaged 3.61pCi/L in 2008, which is well below the MCL of 15pCi/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.

***Information Continued on Next Page**

Uranium:

Samples for Uranium are collected only when the quarterly average of Gross Alpha particle activity exceeds 5pCi/L. Since only one well had results for Gross alpha particle activity greater than 5pCi/L when the counting error was used in 2006 uranium was sampled for four consecutive quarters in 2008 and ranged from 2.1 to 7.92pCi/L. The DLR for uranium is 1pCi/L and the MCL is 20pCi/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.

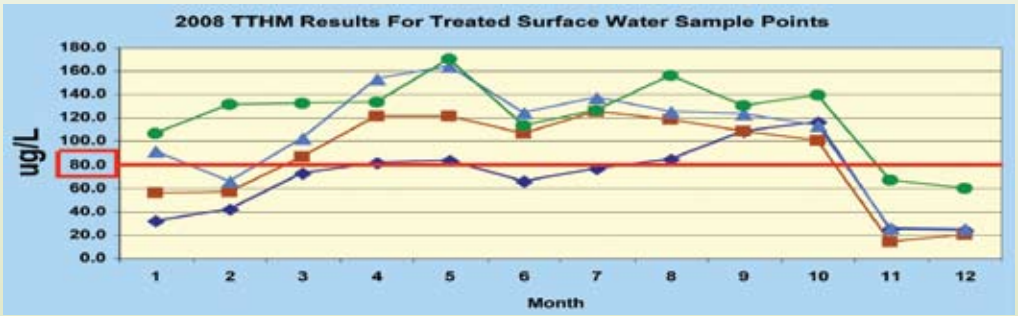
Lead and Copper:

The tap samples for Lead and Copper were taken in the year 2006 (31 samples). The 90th percentile results of <5 ppb for lead and 0.345 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 in the year 2009.

- 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.

Water Treatment Plant Improvements

Improvements to the District's Leslie O. Carter Water Treatment Plant were completed, in December of 2008. These improvements included installation of a self cleaning screen at the lake outlet, upgrades to the influent piping, addition of an third stage of flocculation, inclined plate settlers and new sludge removal system to the existing sedimentation basins, as well as enclosing the sedimentation basins inside a building. New chemical feed equipment, a larger emergency power generator and additional sludge drying beds (lagoons) were also installed. Two new filters were added, as well as upgrades to the existing 10 filters. The most significant change, however, is the addition of the Granular Activated Carbon (GAC) contactors. GAC is perhaps the most powerful substance used to absorb impurities. One pound of GAC contains a surface area of roughly 125 acres and can absorb thousands of different chemicals. There are two principal mechanisms by which GAC removes contaminants from water; absorption, and catalytic reduction, a process involving the attraction of negatively-charged contaminant ions to the positively-charged GAC media. Organic compounds are removed by absorption while other chemical contaminants are removed by catalytic reduction. The primary reason for the addition of the GAC contactors is to reduce the Total Organic Compounds (TOCs) that react with chlorine to produce Disinfection By Products (DBPs) such as trihalomethanes (THMs) which have been linked to liver, kidney, central nervous system problems and an increased risk of cancer when water in excess of the Maximum Contaminant Level (MCL) is consumed over many years. The Current Federal Stage 1 Disinfection By Product Rule MCL for Total Trihalomethanes (TTHMs) is 80 µg/L, this MCL is based on what is known as a distribution system-wide Running Annual Average. The Running Annual Average or (RAA) is the running annual arithmetic average, compounded quarterly, of quarterly arithmetic averages of all samples collected. For example, the District samples 16 sites within the distribution system monthly and each month the individual 16 sample results are averaged. At the end of a quarter (Jan. – Mar.) the three monthly averages are again averaged thus providing a quarterly average. After four quarters the quarterly averages are averaged which becomes the Running Annual Average. The RAA is updated every quarter by averaging the previous four quarters. Therefore a system can have sites that are high and sites that are low and, because all sample results are averaged together, the MCL can still be met. The new Stage 2 Disinfection By Product Rule MCL (which comes into effect in April of 2012) for TTHMs will still be 80 µg/L, however, the RAA will be based on averaging individual sample site results which means the Districts system will have 16 RAA's that all must meet the 80 µg/L MCL. The new GAC contactors were brought on line early in November and the chart shown is a graphic illustration of the effect on the individual site results. Other benefits of using GAC are removal of taste and odor as well as the removal of other organic or chemical compounds including radon that may appear in the raw (untreated) water in the future. ***These water treatment plant improvements will enable the Palmdale Water District to provide a high quality, healthful, and aesthetically pleasing product to customers for years to come.***



The chart above shows the 2008 sample results from the four highest sites within the distribution system and the reduction that occurred after the GAC contactors were brought on-line in November of 2008. The Red line indicated the 80 µg/L MCL

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Raul Figueroa
Division 4

David T. Gomez
Division 5

New General Manager
Randy Hill

2008 CONSUMER CONFIDENCE REPORT

PALMDALE WATER DISTRICT

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 byproducts 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.