

**2014 CITY OF SIERRA MADRE GROUNDWATER QUALITY <sup>[1]</sup>**

Chemical	MCL	PHG or (MCLG)	Average Amount	Range of Detections	MCL Violations?	Most Recent Testing	Typical Source of Contaminant
<b>Primary Drinking Water Standards--Health-Related Standards</b>							
<b>Inorganic Chemicals</b>							
Aluminum (ppm)	1	0.6	0.058	ND - 0.2	No	2014	Erosion of natural deposits
Fluoride (ppm)	2	1	0.92	0.55 - 1.7	No	2014	Erosion of natural deposits
Chromium, Hexavalent (ppb)	10	0.02	<1	ND - 2	No	2013	Erosion of natural deposits; industrial discharge
Nitrate as NO3 (ppm)	45	45	3.3	ND - 6.6	No	Quarterly	Fertilizers, Septic Tanks
<b>Secondary Standards<sup>[2]</sup></b>							
Aluminum (ppb) <sup>[3]</sup>	200	600	58	ND - 200	No	2014	Erosion of natural deposits
Chloride (ppm)	500	n/a	11	8 - 16	No	2014	Erosion of natural deposits
Foaming Agents (MBAS) (ppb)	500	n/a	14	ND - 69	No	2014	Municipal and industrial waste discharges
Iron (ppb)	300	n/a	100	ND - 260	No	2014	Leaching from natural deposits; industrial wastes
Odor (threshold odor number) <sup>[2]</sup>	3	n/a	1	1	No	2014	Naturally present in the groundwater
Specific Conductance (µmho/cm)	1,600	n/a	420	370 - 470	No	2014	Substances that form ions in water
Sulfate (ppm)	500	n/a	23	15 - 32	No	2014	Erosion of natural deposits
Total Dissolved Solids (ppm)	1,000	n/a	240	210 - 280	No	2014	Erosion of natural deposits
Turbidity (NTU)	5	n/a	0.95	ND - 2.8	No	2014	Erosion of natural deposits
<b>Unregulated Chemicals</b>							
Alkalinity, total as CaCO3 (ppm)	Not Regulated	n/a	170	150 - 180	n/a	2014	Run off / leaching from natural deposits
Calcium (ppm)	Not Regulated	n/a	51	42 - 65	n/a	2014	Run off / leaching from natural deposits
Hardness, total as CaCO3 (ppm)	Not Regulated	n/a	180	160 - 200	n/a	2014	Erosion of natural deposits
Hardness, total (grains/gal)	Not Regulated	n/a	11	9.4 - 12	n/a	2014	Erosion of natural deposits
Magnesium (ppm)	Not Regulated	n/a	12	8.9 - 14	n/a	2014	Run off / leaching from natural deposits
pH (pH Units)	Not Regulated	n/a	7.6	7.5 - 7.7	n/a	2014	Hydrogen ion concentration
Potassium (ppm)	Not Regulated	n/a	1.4	1.1 - 1.9	n/a	2014	Run off / leaching from natural deposits
Sodium (ppm)	Not Regulated	n/a	16	14 - 19	n/a	2014	Erosion of natural deposits
Total Organic Carbon (ppm)	TT <sup>[4]</sup>	n/a	0.34	ND - 0.78	n/a	Monthly	Naturally present in the groundwater

**2014 CITY OF SIERRA MADRE SURFACE WATER QUALITY**

Chemical	MCL	PHG or (MCLG)	Average Amount	Range of Detections	MCL Violations?	Most Recent Testing	Typical Source of Contaminant
<b>Primary Drinking Water Standards--Health-Related Standards</b>							
<b>Radiologicals</b>							
Gross Alpha Particle (pCi/L)	15	(0)	ND	ND - 4	No	2014	Erosion of natural deposits
Gross Beta Particle (pCi/L)	50	(0)	5	4 - 6	No	2014	Decay of natural and man-made deposits
Uranium (pCi/L)	20	0.43	3	2 - 3	No	2014	Erosion of natural deposits
<b>Inorganic Chemicals</b>							
Aluminum (ppm)	1	0.6	0.14	0.07 - 0.23	No	2014	Water treatment process residue
Barium (ppm)	1	2	0.11	0.11	No	2014	Refinery discharge; erosion of natural deposits
Fluoride (ppm) Treatment Optimal Control Range 0.7 - 1.3	2	1	0.8	0.6 - 1	No	2014	Treatment additive for dental health
<b>Secondary Standards<sup>[2]</sup></b>							
Aluminum (ppb) <sup>[3]</sup>	200	600	140	70 - 230	No	2014	Water treatment process residue
Chloride (ppm)	500	n/a	89	86 - 92	No	2014	Runoff or leaching from natural deposits
Color (Color Units)	15	n/a	1	1	No	2014	Naturally-occurring organic materials
Odor (threshold odor number)	3	n/a	2	2	No	2014	Naturally-occurring organic materials
Specific Conductance (µmho/cm)	1600	n/a	990	960 - 1,000	No	2014	Substances that form ions in water
Sulfate (ppm)	500	n/a	230	230 - 240	No	2014	Runoff or leaching from natural deposits
Total Dissolved Solids (ppm)	1000	n/a	620	600 - 640	No	2014	Runoff or leaching from natural deposits
<b>Unregulated Chemicals</b>							
Boron (ppm)	NL=1	n/a	0.11	0.11	n/a	2014	Runoff or Leaching from Natural Deposits
Alkalinity, total as CaCO3 (ppm)	Not Regulated	n/a	130	130	n/a	2014	Run off / leaching from natural deposits
Calcium (ppm)	Not Regulated	n/a	74	74	n/a	2014	Run off / leaching from natural deposits
Hardness, total as CaCO3 (ppm)	Not Regulated	n/a	290	280 - 290	n/a	2014	Erosion of natural deposits
Hardness, total (grains/gal)	Not Regulated	n/a	17	16 - 17	n/a	2014	Erosion of natural deposits
Magnesium (ppm)	Not Regulated	n/a	25	25 - 26	n/a	2014	Run off / leaching from natural deposits
N-Nitrosodimethylamine (ppt)	NL = 10	3	ND	ND - 5	No	2014	Byproduct of chloramination, industrial process
pH (pH Units)	Not Regulated	n/a	8.1	8.1	n/a	2014	Hydrogen ion concentration
Potassium (ppm)	Not Regulated	n/a	4.6	4.4 - 4.7	n/a	2014	Run off / leaching from natural deposits
Sodium (ppm)	Not Regulated	n/a	93	89 - 96	n/a	2014	Erosion of natural deposits
Total Organic Carbon (ppm)	TT <sup>[4]</sup>	n/a	2.5	2.4 - 2.7	n/a	2014	Naturally present in the groundwater
<b>Turbidity - combined filter effluent</b> Metropolitan Water District Weymouth Filtration Plant		<b>Treatment Technique</b>		<b>Turbidity Measurements</b>	<b>TT Violation?</b>	<b>Typical Source of Contaminant</b>	
1) Highest single turbidity measurement		0.3 NTU		0.03	No	Soil Runoff	
2) Percentage of samples less than 0.3 NTU		95%		100%	No	Soil Runoff	

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT). A treatment technique is a required process intended to reduce the level of contaminants in drinking water that are difficult and sometimes impossible to measure directly.

**2014 CITY OF SIERRA MADRE UNREGULATED CHEMICALS REQUIRING MONITORING**

Chemical	Notification Level	PHG or (MCLG)	Average Groundwater and Surface Water Amount	Range of Detections	Most Recent Testing
Chlorate (ppb)	800	n/a	67	ND - 130	2013
Chromium, Hexavalent (ppb) <sup>[5]</sup>	MCL = 10	0.02	0.55	ND - 1.4	2013
Chromium, Total (ppb) <sup>[6]</sup>	MCL = 50	(100)	0.19	ND - 0.39	2013
Estriol (ppb)	n/a	n/a	<0.0008	ND - 0.0011	2013
Molybdenum, Total (ppb)	n/a	n/a	2.9	ND - 4.3	2013
Strontium, Total (ppb)	n/a	n/a	730	290 - 960	2013
Vanadium, Total (ppb)	50	n/a	4.2	2.7 - 6.6	2013

**2014 CITY OF SIERRA MADRE DISTRIBUTION SYSTEM WATER QUALITY**

Bacterial Quality	MCL	MCLG	Highest Monthly # of Positives	MCL Violation ?	Most Recent Sampling	Typical Source of Contaminant
Total Coliform Bacteria	1	0	0	No	Weekly	Naturally present in the environment

No more than one monthly sample may be positive for total coliform bacteria.

Chemical	MCL or (MRDL)	PHG or (MRDLG)	Average Amount	Range of Detections	MCL Violations?	Most Recent Sampling Date	Typical Source of Contaminant
Haloacetic Acids (ppb)	60	n/a	15	ND - 17	No	Quarterly	Byproducts of chlorine disinfection
Total Trihalomethanes (ppb)	80	n/a	33	ND - 35	No	Quarterly	Byproducts of chlorine disinfection
Chlorine Residual (ppm)	(4)	(4)	1.7	0.5 - 2.2	No	Weekly	Drinking water disinfectant
Fluoride (ppm)	2	1	1	0.82 - 1.9	No	Quarterly	Erosion of natural deposits
Color (Color Units) <sup>[2]</sup>	15	n/a	4.4	ND - 25	No	Monthly	Naturally-occurring organic materials
Odor (threshold odor number) <sup>[2]</sup>	3	n/a	1	1	No	Monthly	Naturally present in the groundwater
Turbidity (NTU) <sup>[2]</sup>	5	n/a	2.3	ND - 11	No	Monthly	Erosion of natural deposits

At-The-Tap Lead and Copper Testing	Action Level	PHG	90th Percentile Value	Sites Exceeding Action Level	AL Violations?	Typical Source of Contaminant
Copper (ppm)	1.3	0.3	0.14	0 / 30	No	Corrosion of household plumbing
Lead (ppb)	15	0.2	ND	2 / 30	No	Corrosion of household plumbing

Every three years, 30 residences are tested for lead and copper at-the-tap. The most recent set of samples was collected in 2014. Lead was detected in two samples, both of which exceeded the lead AL. Copper was detected in 14 samples, none of which exceeded the copper AL. An AL is the concentration of a contaminant which, if exceeded in more than 10 percent of the samples, triggers treatment or other requirements that a water system must follow. The City of Sierra Madre complies with the Lead and Copper ALs.

**2014 CITY OF SIERRA MADRE UNREGULATED CHEMICALS REQUIRING MONITORING IN THE DISTRIBUTION SYSTEM**

Chemical	Notification Level	PHG or (MCLG)	Average Amount	Range of Detections	Most Recent Testing
Chlorate (ppb)	800	n/a	92	64 - 120	2013
Chromium, Hexavalent (ppb) <sup>[5]</sup>	MCL = 10	0.02	0.83	0.16 - 1.5	2013
Chromium, Total (ppb) <sup>[6]</sup>	MCL = 50	(100)	0.85	ND - 1.7	2013
Molybdenum, Total (ppb)	n/a	n/a	3.4	3.2 - 3.6	2013
Strontium, Total (ppb)	n/a	n/a	630	390 - 860	2013
Vanadium, Total (ppb)	50	n/a	7.3	4.9 - 9.7	2013

**MCL** = Maximum Contaminant Level; **MCLG** = Maximum Contaminant Level Goal; **MRDL** = Maximum Residual Disinfectant Level; **MRDLG** = Maximum Residual Disinfectant Level Goal; **NL** = Notification Level; **n/a** = not applicable; **ND** = not detected; **NTU** = nephelometric turbidity units; **PHG** = California Public Health Goal; **ppb** = parts-per-billion; **ppm** = parts-per-million; **ppt** = parts-per-trillion; **TT** = Treatment Technique; **µmho/cm** = micromho per centimeter; **pCi/L** = picoCuries per liter; **<** = detected but average is less than the required reporting limit

- [1] This table includes groundwater quality for water sampled at City of Sierra Madre's wells and tunnel. Results are from the most recent testing performed pursuant to state and federal drinking water regulations.
- [2] Chemical is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).
- [3] Aluminum has primary and secondary standards.
- [4] A treatment technique is a required process intended to reduce the level of contaminants in drinking water that are difficult and sometimes impossible to measure directly.
- [5] Hexavalent chromium was included as part of the unregulated chemicals requiring monitoring.
- [6] Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated chemicals requiring monitoring.