2013 CITY OF SIERRA MADRE GROUNDWATER QUALITY [1]

Chemical	MCL	PHG or (MCLG)	Average Amount	Range of Detections	MCL Violations?	Most Recent Testing	Typical Source of Contaminant
Primary Drinking Water Standards--Health-Related Standards							
Organic Chemicals							
Tetrachloroethylene (ppb)	5	0.06	<0.5	ND - 0.58	No	Monthly	Industrial discharge
Trichloroethylene (ppb)	5	1.7	<0.5	ND - 1.2	No	Monthly	Industrial discharge
Inorganic Chemicals							
Fluoride (ppm)	2	1	0.96	0.65 - 1.4	No	2011	Erosion of natural deposits
Nitrate as NO3 (ppm)	45	45	13	ND - 18	No	Quarterly	Fertilizers, Septic Tanks
Secondary Standards[2]							
Chloride (ppm)	500	n/a	8.4	6.8 - 12	No	2011	Erosion of natural deposits
Odor (threshold odor number)[2]	3	n/a	1	1	No	2011/2013	Naturally present in the groundwater
Specific Conductance (µmho/cm)	1,600	n/a	300	280 - 350	No	2011	Substances that form ions in water
Sulfate (ppm)	500	n/a	17	12 - 30	No	2011	Erosion of natural deposits
Total Dissolved Solids (ppm)	1,000	n/a	230	210 - 280	No	2011	Erosion of natural deposits
Turbidity (NTU)	5	n/a	<0.1	ND - 0.25	No	2011/2013	Erosion of natural deposits
Unregulated Chemicals Requiring Monitoring							
1,2,3-Trichloropropane (ppt)	NL= 5	0.7	<5	ND - 9.6	n/a	2013	Industrial discharge
Alkalinity, total as CaCO3 (ppm)	Not Regulated	n/a	150	140 - 160	n/a	2011	Run off / leaching from natural deposits
Calcium (ppm)	Not Regulated	n/a	41	36 - 46	n/a	2011	Run off / leaching from natural deposits
Hardness, total as CaCO3 (ppm)	Not Regulated	n/a	140	120 - 150	n/a	2011	Erosion of natural deposits
Hardness, total (grains/gal)	Not Regulated	n/a	8	7 - 9	n/a	2011	Erosion of natural deposits
Magnesium (ppm)	Not Regulated	n/a	9.1	6.6 - 12	n/a	2011	Run off / leaching from natural deposits
pH (pH Units)	Not Regulated	n/a	8.3	8.2 - 8.5	n/a	2011	Hydrogen ion concentration
Potassium (ppm)	Not Regulated	n/a	1.1	0.81 - 1.8	n/a	2011	Run off / leaching from natural deposits
Sodium (ppm)	Not Regulated	n/a	20	12 - 43	n/a	2011	Erosion of natural deposits
Total Organic Carbon (ppm)	TT [3]	n/a	<0.3	ND - 0.58	n/a	Monthly	Naturally present in the groundwater

2013 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
Primary Drinking Water Standards--Health-Related Standards							
Radiologicals							
Gross Alpha Particle (pCi/L)	15	(0)	ND	ND - 3	No	2011	Erosion of natural deposits
Gross Beta Particle (pCi/L)	50	(0)	4	ND - 6	No	2011	Decay of natural and man-made deposits
Uranium (pCi/L)	20	0.43	2	1 - 2	No	2011	Erosion of natural deposits
Inorganic Chemicals							
Aluminum (ppm)	1	0.6	0.14	0.095 - 0.22	No	2013	Water treatment process residue
Fluoride (ppm) Treatment Optimal Control Range 0.7 - 1.3	2	1	0.8	0.7 - 1.0	No	2013	Treatment additive for dental health
Nitrate as NO3 (ppm)	45	45	2.2	2.2	No	2013	Runoff and leaching from fertilizer use
Secondary Standards[2]							
Aluminum (ppb)	200	600	140	95 - 220	No	2013	Water treatment process residue
Chloride (ppm)	500	n/a	88	84 - 91	No	2013	Runoff or leaching from natural deposits
Color (Color Units)	15	n/a	1	1	No	2013	Naturally-occurring organic materials
Odor (threshold odor number)	3	n/a	4	3 - 6	No	2013	Naturally-occurring organic materials
Specific Conductance (µmho/cm)	1600	n/a	870	850 - 890	No	2013	Substances that form ions in water
Sulfate (ppm)	500	n/a	180	170 - 190	No	2013	Runoff or leaching from natural deposits
Total Dissolved Solids (ppm)	1000	n/a	530	520 - 540	No	2013	Runoff or leaching from natural deposits
Unregulated Chemicals Requiring Monitoring							
Boron (ppm)	NL=1	n/a	0.15	0.15	n/a	2013	Runoff or Leaching from Natural Deposits
Alkalinity, total as CaCO3 (ppm)	Not Regulated	n/a	110	76 - 130	n/a	2013	Run off / leaching from natural deposits
Calcium (ppm)	Not Regulated	n/a	58	56 - 61	n/a	2013	Run off / leaching from natural deposits
Hardness, total as CaCO3 (ppm)	Not Regulated	n/a	240	230 - 250	n/a	2013	Erosion of natural deposits
Hardness, total (grains/gal)	Not Regulated	n/a	14	13 - 15	n/a	2013	Erosion of natural deposits
Magnesium (ppm)	Not Regulated	n/a	22	21 - 23	n/a	2013	Run off / leaching from natural deposits
N-Nitrosodimethylamine (ppt)	NL = 10	3	ND	ND - 11	No	2013	Byproduct of chloramination, industrial process
pH (pH Units)	Not Regulated	n/a	8.1	8.1	n/a	2013	Hydrogen ion concentration
Potassium (ppm)	Not Regulated	n/a	4.2	4 - 4.3	n/a	2013	Run off / leaching from natural deposits
Sodium (ppm)	Not Regulated	n/a	82	79 - 85	n/a	2013	Erosion of natural deposits
Total Organic Carbon (ppm)	TT [3]	n/a	2.4	2.1 - 2.7	n/a	2013	Naturally present in the groundwater

Turbidity - combined filter effluent Metropolitan Water District Weymouth Filtration Plant	**Treatment Technique**	**Turbidity Measurements**	**TT Violation?**	**Typical Source of Contaminant**
1) Highest single turbidity measurement	0.3 NTU	0.05	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.

2013 CITY OF SIERRA MADRE UNREGULATED CHEMICALS REQUIRING MONITORING

Chemical	Notification Level	PHG	Average Groundwater and Surface Water Amount	Range of Detections	Most Recent Testing
Chlorate (ppb)	800	n/a	67	ND - 130	2013
Chromium, Hexavalent (ppb)	n/a	0.02	0.55	ND - 1.4	2013
Chromium, Total (ppb)	n/a	n/a	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

2013 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	ND	ND - 15	No	Quarterly	Byproducts of chlorine disinfection
Total Trihalomethanes (ppb)	80	n/a	5.1	ND - 37	No	Quarterly	Byproducts of chlorine disinfection
Chlorine Residual (ppm)	(4)	(4)	0.92	0.14 - 2.2	No	Weekly	Drinking water disinfectant
Fluoride (ppm)	2	1	0.9	0.58- 1.8	No	Quarterly	Erosion of natural deposits
Odor (threshold odor number)[2]	3	n/a	1	1	No	Monthly	Naturally present in the groundwater
Turbidity (NTU)[2]	5	n/a	0.075	ND - 0.9	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	0.22	0 / 30	No	Corrosion of household plumbing
Lead (ppb)	15	0.2	ND	0 / 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 2011. Lead was not detected in any sample. Copper was detected in 20 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.

2013 CITY OF SIERRA MADRE UNREGULATED CHEMICALS REQUIRING MONITORING IN THE DISTRIBUTION SYSTEM

Chemical	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Testing
Chlorate (ppb)	800	n/a	92	64 - 120	2013
Chromium, Hexavalent (ppb)	n/a	0.02	0.83	0.16 - 1.5	2013
Chromium, Total (ppb)	n/a	n/a	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] 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.