CITY OF VERNON 2015 ANNUAL WATER QUALITY REPORT

Results are from the most recent testing performed in accordance with state and federal drinking water regulations

PRIMARY STANDARDS MONITORED AT THE SOURCE - MANDATED FOR PUBLIC HEALTH

CONSTITUENTS AND UNITS	GROUNDWATER AVERAGE	GROUNDWATER RANGE	MWD SURFACE WATER AVERAGE	MWD SURFACE WATER RANGE	MCL	(MCLG) or PHG	TYPICAL SOURCE IN DRINKING WATER
ORGANIC CHEMICALS (a)	ND	ND	ND	ND	Various	Various	Industrial wastes and discharges
INORGANIC CHEMICALS Tested in 2013, 2014, and 2015							
Aluminum (mg/l)	ND	ND	0.156	0.088 - 0.2	1	0.6	Runoff/leaching from natural deposits; treatment plant chemical
Arsenic (µg/l)	ND	ND	2.1	2.1	10	0.004	Erosion of natural deposits
Barium (mg/l)	ND	ND	0.122	0.122	1	2	Oil and metal refineries discharge; erosion of natural deposits
Chromium, Hexavalent (µg/l)	<1	ND - 1.1	ND	ND	10	0.02	Runoff/leaching from natural deposits; industrial discharge
Fluoride (mg/l) - naturally-occurring	0.38	0.27 - 0.43	NR		2	1	Runoff/leaching from natural deposits
Fluoride (mg/l) - treatment-related	NR	NR	0.8	0.6 -1	0.6 - 1.2 **(b)**		Water additive for dental health
Nitrate (mg/l)	<0.4	ND - 0.45	ND	ND	10	10	Runoff and leaching from fertilizer use/septic tanks/sewage
RADIOLOGICALS Tested 2006 to 2015							
Gross Alpha (pCi/l)	<3	ND - 5.5	ND	ND - 4	15	(0)	Erosion of natural deposits
Gross Beta (pCi/l)	NR	NR	5	4 - 6	50	(0)	Erosion of natural and man-made deposits
Uranium (pCi/l)	<1	ND - 2.5	3	2 - 3	20	0.43	Erosion of natural deposits

PRIMARY STANDARDS MONITORED IN THE DISTRIBUTION SYSTEM - MANDATED FOR PUBLIC HEALTH

MICROBIALS Tested Weekly	HIGHEST % POSITIVE MONTHLY SAMPLES	MCL	MCLG	TYPICAL SOURCE IN DRINKING WATER
Total Coliform Bacteria	0.0%	5%	0	Naturally present in the environment

DISINFECTION BYPRODUCTS Tested Quarterly	AVERAGE	RANGE	MCL	Health Goal	TYPICAL SOURCE IN DRINKING WATER
Trihalomethanes-TTHMS (µg/l) **(c)**	19	ND - 35	80	-	By-product of drinking water disinfection
Haloacetic Acids (µg/l) **(c)**	8.2	ND - 9.1	60	-	By-product of drinking water disinfection

DISINFECTANT RESIDUAL Tested Weekly	AVERAGE	RANGE	MCL	Health Goal	TYPICAL SOURCE IN DRINKING WATER
Total Chlorine Residual (mg/l) **(c)**	0.4	0.2 - 2.2	4.0 **(d)**	4.0 **(e)**	Drinking water disinfectant added for treatment

LEAD AND COPPER AT-THE-TAP Tested in 2014	90th PERCENTILE LEVEL	# OF SITES ABOVE THE AL	MCL	PHG	TYPICAL SOURCE IN DRINKING WATER
Copper (mg/l)	0.3 **(f)**	0	1.3 AL	0.3	Internal corrosion of household plumbing
Lead (µg/l)	ND **(f)**	0	15 AL	0.2	Internal corrosion of household plumbing

SECONDARY STANDARDS MONITORED AT THE SOURCE - FOR AESTHETIC PURPOSES

MINERALS AND METALS Tested in 2013 and 2015	GROUNDWATER AVERAGE	GROUNDWATER RANGE	MWD SURFACE WATER AVERAGE	MWD SURFACE WATER RANGE	MCL	PHG	TYPICAL SOURCE IN DRINKING WATER
Aluminum (µg/l) **(g)**	ND	ND	156	88 - 200	200	600	Runoff/leaching from natural deposits; treatment plant chemical
Chloride (mg/l)	40	24 - 52	100	98 - 102	500	-	Runoff/leaching from natural deposits
Color (color units)	<1	ND - 2.5	1	1	15	-	Naturally-occurring organic materials
Conductivity (umhos/cm)	630	540 - 690	1,040	1,030 - 1,060	1,600	-	Substances that form ions when in water
Iron (µg/l)	<100	ND - 210	ND	ND	300	-	Runoff/leaching from natural deposits
Manganese (µg/l) (h)	***110***	***24 - 130***	***ND***	***ND***	***50***	-	***Leaching from natural deposits***
Odor (threshold odor number)	ND	ND	2	2	3	-	Naturally-occurring organic materials
Sulfate (mg/l)	80	62 - 97	257	252 - 261	500	-	Runoff/leaching from natural deposits
Total Dissolved Solids (mg/l)	390	340 - 440	660	654 - 665	1,000	-	Runoff/leaching from natural deposits
Turbidity (NTU)	<0.1	ND - 0.25	ND	ND	5	-	Soil runoff

SECONDARY STANDARDS MONITORED IN THE DISTRIBUTION SYSTEM - FOR AESTHETIC PURPOSES

GENERAL PHYSICALS Tested in 2015	AVERAGE	RANGE	MCL	Health Goal	TYPICAL SOURCE IN DRINKING WATER
Color (color units)	4.1	2.5 - 15	15	-	Naturally-occurring organic materials
Odor (threshold odor number)	1	1 - 3	3	-	Naturally-occurring organic materials
Turbidity (NTU)	0.34	0.1 - 7.9	5	-	Naturally-occurring organic materials

CHEMICALS OF ADDITIONAL INTEREST

UNREGULATED CHEMICALS Tested in 2013, 2014, and 2015	GROUNDWATER AVERAGE	GROUNDWATER RANGE	MWD SURFACE WATER AVERAGE	MWD SURFACE WATER RANGE	PHG (MCLG)
1,4-Dioxane (µg/l)	0.46	ND - 3.1	ND	ND	
Alkalinity (mg/l as CaCO3)	185	170 - 200	126	123 - 129	-
Boron (mg/l)	NR		0.12	0.12	-
Calcium (mg/l)	61	52 - 68	78	77 - 78	-
Chlorate (µg/l)	87	25 - 310	56	56	
Chromium, Hexavalent (µg/l) **(i)**	0.27	ND - 1	0.036	0.036	0.02
Chromium, Total (µg/l) **(j)**	0.38	ND - 1.4	ND	ND	(100)
Magnesium (mg/l)	15	12 - 16	27	26 - 28	-
Molybdenum, Total (µg/l)	9.6	7.1 - 12	4.7	4.7	-
N-Nitrosodimethylamine (ng/l)	NR		ND	ND - 2.1 **(k)**	3
pH (standard unit)	8	7.8 - 8.2	8.1	8.1	-
Potassium (mg/l)	3.8	3.3 - 4.4	4.9	4.8 - 5	-
Sodium (mg/l)	48	44 - 57	100	97 - 102	-
Strontium, Total (µg/l)	480	410 - 570	1,100	1,100	-
Total Hardness (mg/l as CaCO3)	210	180 - 240	300	296 - 304	-
Total Organic Carbon (mg/l)	NR		2.6	2.4 - 2.8	-
Vanadium, Total (µg/l)	0.47	ND - 1.2	2.4	2.4	

UNREGULATED CHEMICALS Tested in 2015	DISTRIBUTION SYSTEM AVERAGE	DISTRIBUTION SYSTEM RANGE	PHG (MCLG)
Chlorate (µg/l)	65	65	
Chromium, Hexavalent (µg/l) **(i)**	0.41	0.41	0.02
Chromium, Total (µg/l) **(j)**	0.61	0.61	(100)
Molybdenum, Total (µg/l)	6.8	6.8	-
Strontium, Total (µg/l)	910	910	-
Vanadium, Total (µg/l)	2	2	

METROPOLITAN WATER DISTRICT FILTRATION TREATMENT

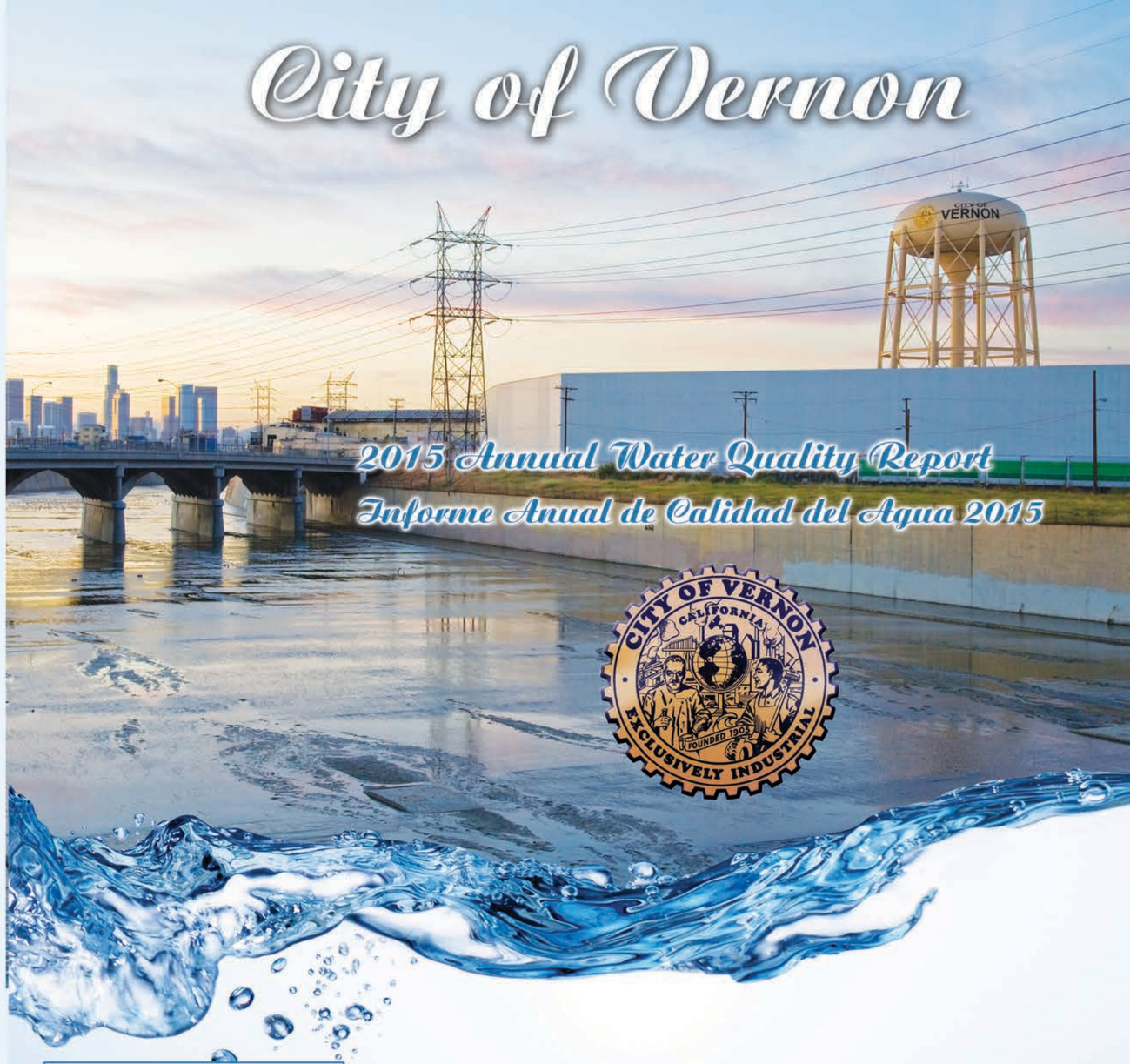
MWD Combined Filter Effluent Weymouth Plant	Treatment Technique	Turbidity Measurements	TT Violation?	Typical Source
1) Highest single measurement	0.3 NTU	0.05	No	Soil Runoff
2) Percentage of samples < 0.3 NTU	95%	100%	No	Soil Runoff

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.

FOOTNOTES/ACRONYMS

(a) Over 50 regulated and unregulated organic chemicals were analyzed in 2015. None were detected in groundwater or surface water sources.
(b) Optimal control range
(c) Running annual average used to calculate MCL compliance.
(d) Maximum Residual Disinfectant Level (MRDL)
(e) Maximum Residual Disinfectant Level Goal (MRDLG)
(f) 90th percentile from the most recent sampling at selected customer taps. Thirty (30) sites are tested every 3 years.
(g) Aluminum has primary and secondary standards.
(h) The secondary MCL for manganese was exceeded in 2015. Groundwater is blended with surface water before delivery to the customer, which dilutes the amount against unpleasant effects such as color, taste, odor, and staining of laundry/plumbing fixtures. A manganese secondary MCL exceedance does not pose a health risk.
(i) Hexavalent chromium is regulated with an MCL of 10 µg/l. Hexavalent chromium was included as part of the unregulated chemicals requiring monitoring.
(j) Total Chromium is regulated with an MCL of 50 µg/l but was not detected based on the detection limit for purposes of reporting of 10 µg/l. Total chromium was included as part of the unregulated chemicals requiring monitoring.
(k) N-Nitrosodimethylamine (NDMA) is a byproduct formed during MWD's surface water treatment disinfection using chlorine and ammonia, called chloramines.

AL = Action Level; **MCL** = Maximum Contaminant Level; **MCLG** = MCL Goal
MWD = Metropolitan Water District of Southern California
MRDL = Maximum Residual Disinfectant Level; **MRDLG** = MRDL Goal
ND = constituent not detected at the reporting limit
NR = constituent not required to be tested; **NTU** = nephelometric turbidity units
PHG = Public Health Goal; **TT** = Treatment Technique
mg/l = milligrams per liter or parts per million (equivalent to 1 drop in 42 gallons)
µg/l = micrograms per liter or parts per billion (equivalent to 1 drop in 42,000 gallons)
ng/l = nanograms per liter or parts per trillion (equivalent to 1 drop in 42 million gallons)
pCi/l = picoCuries per liter; **µmhos/cm** = micromhos per centimeter
"<" means the constituent was detected but the average of the test results is less than the reporting limit required by the State Water Resources Control Board, Division of Drinking Water.



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