

Sonoma County Water Agency - Production Wells 1, 4, 6, 7, Occidental, Todd and Sebastopol Production Wells - 2018 Water Quality Report

VOLATILE ORGANIC COMPOUNDS <i>Section 6444 - Table A</i>	Units	STATE	DLR	PHG	Production 1	Production 4	Production 6	Production 7	Todd #1	Sebastopol #2	Occidental #2
		MCL		{ MCLG }		4-Sep-18	4-Sep-18		4-Sep-18	4-Sep-18	10-Sep-18
Benzene	mg/L	0.001	0.0005	0.00015		ND	ND		ND	ND	ND
Carbon Tetrachloride	mg/L	0.0005	0.0005	0.0001		ND	ND		ND	ND	ND
1,2-Dichlorobenzene (o-DCB)	mg/L	0.6	0.0005	0.6		ND	ND		ND	ND	ND
1,4-Dichlorobenzene (p-DCB)	mg/L	0.005	0.0005	0.006		ND	ND		ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	mg/L	0.005	0.0005	0.003		ND	ND		ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	mg/L	0.0005	0.0005	0.0004	WELL	ND	ND	WELL	ND	ND	ND
1,1-Dichloroethylene (1,1-DCE)	mg/L	0.006	0.0005	0.01		ND	ND		ND	ND	ND
cis-1,2-Dichloroethylene (c-1,2-DCE)	mg/L	0.006	0.0005	0.013	NOT	ND	ND	NOT	ND	ND	ND
trans-1,2-Dichloroethylene (t-1,2-DCE)	mg/L	0.01	0.0005	0.05		ND	ND		ND	ND	ND
Dichloromethane (Methylene Chloride)	mg/L	0.005	0.0005	0.004	RUN	ND	ND	RUN	ND	ND	ND
1,2-Dichloropropane	mg/L	0.005	0.0005	0.0005		ND	ND		ND	ND	ND
1,3-Dichloropropane	mg/L	0.0005	0.0005	0.0002	IN	ND	ND	IN	ND	ND	ND
Ethylbenzene	mg/L	0.3	0.0005	0.3		ND	ND		ND	ND	ND
Methyl tert-butyl ether (MTBE) <sup>(1)</sup>	mg/L	0.013	0.003	0.013	2018	ND	ND	2018	ND	ND	ND
Monochlorobenzene (Chlorobenzene)	mg/L	0.07	0.0005	0.07		ND	ND		ND	ND	ND
Styrene	mg/L	0.1	0.0005	0.0005		ND	ND		ND	ND	ND
1,1,2,2-Tetrachloroethane	mg/L	0.001	0.0005	0.0001		ND	ND		ND	ND	ND
Tetrachloroethylene (PCE)	mg/L	0.005	0.0005	0.00006		ND	ND		ND	ND	ND
Toluene	mg/L	0.15	0.0005	0.15		ND	ND		ND	ND	ND
1,2,4-Trichlorobenzene	mg/L	0.005	0.0005	0.005		ND	ND		ND	ND	ND
1,1,1-Trichloroethane (1,1,1-TCA)	mg/L	0.2	0.0005	1.0		ND	ND		ND	ND	ND
1,1,2-Trichloroethane (1,1,2-TCA)	mg/L	0.005	0.0005	0.0003		ND	ND		ND	ND	ND
Trichloroethylene (TCE)	mg/L	0.005	0.0005	0.0017		ND	ND		ND	ND	ND
Trichlorofluoromethane (Freon 11)	mg/L	0.15	0.005	1.3		ND	ND		ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	mg/L	1.2	0.01	4		ND	ND		ND	ND	ND
Vinyl Chloride (VC)	mg/L	0.0005	0.0005	0.00005		ND	ND		ND	ND	ND
Xylenes (m,p, & o)	mg/L	1.75	0.0005	1.8		ND	ND		ND	ND	ND

<sup>(1)</sup> Methyl tert-butyl ether (MTBE) is listed in both the Primary (Organic Chemicals - VOCs) and Secondary Standards.

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SYNTHETIC ORGANIC COMPOUNDS <i>Section 64444 - Table A</i>	Units	STATE	DLR	PHG	Production 1	Production 4	Production 6	Production 7	Todd #1	Sebastopol #2	Occidental #2
		MCL		{ MCLG }		4-Sep-18	4-Sep-18		4-Sep-18	4-Sep-18	10-Sep-18
Alachlor	mg/L	0.002	0.001	0.004		ND	ND		ND	ND	ND
Atrazine	mg/L	0.001	0.0005	0.00015		ND	ND		ND	ND	ND
Bentazon	mg/L	0.018	0.002	0.2		ND	ND		ND	ND	ND
Benzo(a)pyrene	mg/L	0.0002	0.0001	0.000007		ND	ND		ND	ND	ND
Carbofuran	mg/L	0.018	0.005	0.0007		ND	ND		ND	ND	ND
Chlordane	mg/L	0.0001	0.0001	0.00003	WELL	ND	ND	WELL	ND	ND	ND
2,4 - Dichlorophenoxyacetic acid (2,4-D)	mg/L	0.07	0.01	0.02		ND	ND		ND	ND	ND
Dalapon	mg/L	0.2	0.01	0.79	NOT	ND	ND	NOT	ND	ND	ND
Dibromochloropropane (DBCP)	mg/L	0.0002	0.00001	0.0000017		ND	ND		ND	ND	ND
Di(2-ethylhexyl)adipate	mg/L	0.4	0.005	0.2	RUN	ND	ND	RUN	ND	ND	ND
Di(2-ethylhexyl)phthalate (DEHP)	mg/L	0.004	0.003	0.012		ND	ND		ND	ND	ND
Dinoseb	mg/L	0.007	0.002	0.014	IN	ND	ND	IN	ND	ND	ND
Diquat	mg/L	0.02	0.004	0.006		ND	ND		ND	ND	ND
Endothal	mg/L	0.1	0.045	0.094	2018	ND	ND	2018	ND	ND	ND
Endrin	mg/L	0.002	0.0001	0.0003		ND	ND		ND	ND	ND
Ethylene Dibromide (EDB)	mg/L	0.00005	0.00002	0.00001		ND	ND		ND	ND	ND
Glyphosate	mg/L	0.7	0.025	0.9		ND	ND		ND	ND	ND
Heptachlor	mg/L	0.00001	0.00001	0.000008		ND	ND		ND	ND	ND
Heptachlor Epoxide	mg/L	0.00001	0.00001	0.000006		ND	ND		ND	ND	ND
Hexachlorobenzene	mg/L	0.001	0.0005	0.00003		ND	ND		ND	ND	ND
Hexachlorocyclopentadiene	mg/L	0.05	0.001	0.002		ND	ND		ND	ND	ND
Lindane	mg/L	0.0002	0.0002	0.000032		ND	ND		ND	ND	ND
Methoxychlor	mg/L	0.03	0.01	0.00009		ND	ND		ND	ND	ND
Molinate	mg/L	0.02	0.002	0.001		ND	ND		ND	ND	ND
Oxamyl	mg/L	0.05	0.02	0.026		ND	ND		ND	ND	ND
Pentachlorophenol	mg/L	0.001	0.0002	0.0003		ND	ND		ND	ND	ND
Picloram	mg/L	0.5	0.001	0.166		ND	ND		ND	ND	ND
Polychlorinated Biphenyls (PCBs)	mg/L	0.0005	0.0005	0.00009		ND	ND		ND	ND	ND
Simazine	mg/L	0.004	0.001	0.004		ND	ND		ND	ND	ND
Thiobencarb <sup>(2)</sup>	mg/L	0.07	0.001	0.042		ND	ND		ND	ND	ND
Toxaphene	mg/L	0.003	0.001	0.00003		ND	ND		ND	ND	ND
1,2,3-Trichloropropane (1,2,3-TCP)	µg/L	0.0	0.005	0.0007		ND	ND		ND	ND	ND
2,3,7,8-TCDD (Dioxin)	mg/L	3 x 10 <sup>-8</sup>	5 x 10 <sup>-9</sup>	5 x 10 <sup>-11</sup>		ND	ND		ND	ND	ND
2,4,5-TP (Silvex)	mg/L	0.05	0.001	0.003		ND	ND		ND	ND	ND

<sup>(2)</sup> Thiobencarb is listed in both the Primary (Organic Chemicals - SOCs) and Secondary Standards.

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INORGANIC CHEMICALS <i>Section 64431 - Table A</i>	Units	STATE MCL	DLR	PHG { MCLG }	Production 1	Production 4	Production 6	Production 7	Todd #1	Sebastopol #2	Occidental #2
						4-Sep-18	4-Sep-18		4-Sep-18	4-Sep-18	10-Sep-18
Aluminum <sup>(3)</sup>	µg/L	1000	50	600		< 50 <sup>(6)</sup>	< 50		< 50	< 50	< 50
Antimony	µg/L	6	6	1		< 6.0	< 6.0		< 6.0	< 6.0	< 6.0
Arsenic	µg/L	10	2	0.004		< 2.0	< 2.0		< 2.0	< 2.0	< 2.0
Asbestos	MFL	7	0.2	7		< 2.2	< 0.2		< 0.2	< 0.2	< 0.2 <sup>(7)</sup>
Barium	µg/L	1000	100	2000		< 100	< 100		< 100	< 100	< 100
Beryllium	µg/L	4	1	1	WELL	< 1.0	< 1.0	WELL	< 1.0	< 1.0	< 1.0
Cadmium	µg/L	5	1	0.04		< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
Chromium	µg/L	50	10	{ 100 }	NOT	< 10	< 10	NOT	< 10	< 10	< 10
Chromium, Hexavalent (CrVI)	µg/L	---	---	0.02		1.7 <sup>(6)</sup>	0.58		0.60	< 0.50	< 0.50
Cyanide	mg/L	0.15	0.1	0.15	RUN	< 0.0030	< 0.0030	RUN	< 0.0030	< 0.0030	< 0.0030
Fluoride (F) Natural-Source	mg/L	2.0	0.1	1		< 0.10	< 0.10		< 0.10	0.13	0.12
Mercury	µg/L	2	1	1.2	IN	< 0.20	< 0.20	IN	< 0.20	< 0.20	< 0.20
Nickel	µg/L	100	10	12		< 10	< 10		< 10	< 10	< 10
Nitrate (as N)	mg/L	10	0.4	10	2018	< 0.40	< 0.40	2018	< 0.40	< 0.40	< 0.40
Nitrate + Nitrite (as N)	mg/L	10	---	10		< 0.40	< 0.40		< 0.40	< 0.40	< 0.40
Nitrite (as N)	mg/L	1	0.4	1		< 0.20	< 0.20		< 0.20	< 0.20	< 0.20
Perchlorate	µg/L	6	4	1		< 4.0	< 4.0		< 4.0	< 4.0	< 4.0
Selenium	µg/L	50	5	30		< 5.0	< 5.0		< 5.0	< 5.0	< 5.0
Thallium	µg/L	2	1	0.1		< 1.0	< 1.0		< 1.0	< 1.0	< 1.0

RADIONUCLIDE - <i>Section 64442</i> Gross Alpha (4 quarterly samples every 9 years)	Units	STATE MCL	DLR	PHG { MCLG }	Next Complete Sampling Due 2023						
					Production 1	Production 4	Production 6	Production 7	Todd #1	Sebastopol #2	Occidental #2
11-Mar-14	pCi/L	15	3	{ 0 }	1.35 ± 1.23	0.736 ± 1.05	0.930 ± 1.03	1.28 ± 1.18	0.336 ± 0.972	0.261 ± 1.03	0.847 ± 1.21
24-Jun-14	pCi/L	15	3.0	{ 0 }	0.455 ± 0.893	0.203 ± 0.800	0.214 ± 0.845	0.116 ± 0.745	---	---	---
26-Jun-14	pCi/L	15	3	{ 0 }	---	---	---	---	0.051 ± 0.838	0.000 ± 0.809	0.443 ± 1.00
19-Aug-14	pCi/L	15	3	{ 0 }	0.000 ± 0.705	0.252 ± 0.994	---	0.422 ± 0.827	---	---	---
20-Aug-14	pCi/L	15	3	{ 0 }	---	---	0.570 ± 1.00	---	---	0.000 ± 0.764	0.000 ± 0.766
27-Aug-14	pCi/L	15	3	{ 0 }	---	---	---	---	0.217 ± 0.858	---	---
28-Oct-14	pCi/L	15	3.0	{ 0 }	---	---	---	---	0.556 ± 0.923	---	---
4-Nov-14	pCi/L	15	3	{ 0 }	---	---	---	---	---	0.223 ± 0.881	---
6-Nov-14	pCi/L	15	3.00	{ 0 }	---	---	---	---	---	---	1.000 ± 1.13
18-Nov-14	pCi/L	15	3	{ 0 }	0.192 ± 0.756	0.728 ± 1.04	0.114 ± 0.737	0.156 ± 0.809	---	---	---

<sup>(3)</sup> Aluminum is listed in both the Primary (Inorganic Chemicals) and Secondary Standards.

<sup>(6)</sup> Aluminum, Iron, Manganese, Hexavalent Chromium, Color & Turbidity resampled 12-6-18 for Production Well 4. Original results were uncharacteristically high.

(Original results: Aluminum 930 ug/L, Iron 1000 ug/L, Manganese 26 ug/L, Hexavalent Chromium 3.6 ug/L, Color 18 CU, Turbidity 16 NTU)

<sup>(7)</sup> Asbestos resampled 11-20-18 for Occidental Well. Initial sample from 9-10-18: sample bottle broke.

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SECONDARY STANDARDS	Units	Secondary	DLR	PHG	Production 1	Production 4	Production 6	Production 7	Todd #1	Sebastopol #2	Occidental #2
<i>Section 64449 - Table A</i>		MCL		{ MCLG }		4-Sep-18	4-Sep-18		4-Sep-18	4-Sep-18	10-Sep-18
Aluminum <sup>(3)</sup>	µg/L	200	50	600		< 50 <sup>(6)</sup>	< 50		< 50	< 50	< 50
Color	Color Units	15			WELL	< 3.0 <sup>(6)</sup>	< 3.0	WELL	< 3.0	< 3.0	< 3.0
Copper	µg/L	1000	50	300		< 50	< 50		< 50	< 50	< 50
Foaming Agents (MBAS)	mg/L	0.5			NOT	< 0.050	< 0.050	NOT	< 0.050	< 0.050	< 0.050
Iron	µg/L	300	100			< 100 <sup>(6)</sup>	< 100		200	< 100	< 100
Manganese	µg/L	50	20		RUN	< 20 <sup>(6)</sup>	< 20	RUN	< 20	42	< 20
Methyl tert-butyl ether (MTBE) <sup>(1)</sup>	mg/L	0.005	0.003	0.013		< 0.003	< 0.003		< 0.003	< 0.003	< 0.003
Odor - Threshold	TON	3	1		IN	< 1.0	< 1.0	IN	< 1.0	< 1.0	< 1.0
Silver	µg/L	100	10			< 10	< 10		< 10	< 10	< 10
Thiobencarb <sup>(2)</sup>	mg/L	0.001	0.001	0.042	2018	< 0.001	< 0.001	2018	< 0.001	< 0.001	< 0.001
Turbidity	NTU	5				0.41 <sup>(6)</sup>	0.27		0.73	< 0.10	0.59
Zinc	µg/L	5000	50			< 50	< 50		< 50	< 50	< 50

SECONDARY STANDARDS	Units	Secondary	DLR	PHG	Sebastopol #2			
<i>Section 64449 - Table A</i>		MCL		{ MCLG }	(Quarterly for Color, Odor, Manganese)			
					20-Mar-18	31-Jul-18	4-Sep-18	20-Nov-18
Color	Color Units	15			< 3.0	< 3.0	< 3.0	7.0
Manganese	µg/L	50	20		38	29	42	< 20
Odor - Threshold	TON	3	1		28	13	< 1.0	< 1.0

SECONDARY STANDARDS	Units	Recommended	DLR	Upper	Production 1	Production 4	Production 6	Production 7	Todd #1	Sebastopol #2	Occidental #2
<i>Section 64449 - Table B</i>		MCL		MCL		4-Sep-18	4-Sep-18		4-Sep-18	4-Sep-18	10-Sep-18
Total Dissolved Solids	mg/L	500		1000	WELL	140	140	WELL	160	180	170
Specific Conductance	µS/cm	900		1600	NOT	240	260	NOT	290	290	250
Chloride	mg/L	250		500	RUN IN	6.7	5.3	RUN IN	6.8	14	14
Sulfate	mg/L	250	0.5	500	2018	12	12	2018	14	7.2	2.0

<sup>(1)</sup> Methyl tert-butyl ether (MTBE) is listed in both the Primary (Organic Chemicals - VOCs) and Secondary Standards.

<sup>(2)</sup> Thiobencarb is listed in both the Primary (Organic Chemicals - SOCs) and Secondary Standards.

<sup>(3)</sup> Aluminum is listed in both the Primary (Inorganic Chemicals) and Secondary Standards.

<sup>(6)</sup> Aluminum, Iron, Manganese, Hexavalent Chromium, Color & Turbidity resampled 12-6-18 for Production Well 4. Original results were uncharacteristically high.  
(Original results: Aluminum 930 ug/L, Iron 1000 ug/L, Manganese 26 ug/L, Hexavalent Chromium 3.6 ug/L, Color 18 CU, Turbidity 16 NTU)

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ADDITIONAL CONSTITUENTS ANALYZED	Units	STATE MCL	DLR	PHG { MCLG }	Production 1	Production 4	Production 6	Production 7	Todd #1	Sebastopol #2	Occidental #2
						4-Sep-18	4-Sep-18		4-Sep-18	4-Sep-18	10-Sep-18
pH	pH					7.50	7.40		8.31	8.38	8.57
Total Hardness as CaCO <sub>3</sub>	mg/L					106	111		109	36	36
Calcium	mg/L					20	22		21	10	11
Magnesium	mg/L				WELL	13	14	WELL	14	2.5	1.8
Sodium	mg/L					8.8	8.2		18	45	39
Potassium	mg/L				NOT	1.4	1.1	NOT	1.2	1.3	< 1.0
Total Alkalinity as CaCO <sub>3</sub>	mg/L					100	100		120	110	100
Hydroxide	mg/L				RUN	< 5.0	< 5.0	RUN	< 5.0	< 5.0	< 5.0
Carbonate	mg/L					< 5.0	< 5.0		< 5.0	< 5.0	< 5.0
Bicarbonate	mg/L				IN	120	120	IN	150	140	130
Agressiveness Index						11.05	11.01		11.17	11.54	12.04
Lead	µg/L	15 <sup>(4)</sup>	5	0.2	2018	< 5.0	< 5.0	2018	< 5.0	< 5.0	< 5.0
Boron	mg/L	1 <sup>(5)</sup>				---	---		---	---	---
Total Radon 222 ± Counting Error	pCi/L		100			149 ± 22.3	268 ± 26.2		201 ± 24.5	157 ± 22.4	114 ± 20.1
N-Nitrosodimethylamine (NDMA)	µg/L	0.01 <sup>(5)</sup>		0.003		< 0.002	< 0.002		< 0.002	< 0.002	< 0.002
Perfluorooctyl Sulfanate (PFOS)	µg/L		0.040	0.013							
Perfluorooctanoic Acid (PFOA)	µg/L		0.020	0.014							

<sup>(4)</sup> Action Level under the Lead and Copper Rule.

<sup>(5)</sup> Notification Level.



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## NOTES:

MCL:	<u>Maximum Contaminant Level:</u> The highest level of a contaminant that is allowed in drinking water. MCLs are set close to the PHGs and MCLGs as is economically and technologically feasible. Blanks indicate that no numerical values have been established.		
DLR:	<u>Detection Limits for the Purposes of Reporting:</u> The designated minimum level at or above which any analytical finding of a contaminant in drinking water resulting from monitoring shall be reported. Blanks indicate that no numerical values have been established.		
MCLG:	<u>Maximum Contaminant Level Goal:</u> 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. Blanks indicate that no numerical values have been established.		
PHG:	<u>Public Health Goal:</u> The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are determined by the Office of Environmental Health Hazard Assessment. Blanks indicate that no numerical values have been established.		
Notification Levels:	<u>Notification Levels:</u> Are health-based advisory levels established by DHS for chemicals in drinking water that lack Maximum Contamination Levels (MCL).		
Unregulated Contaminant:	<u>Unregulated Contaminant:</u> Constituents that do not have drinking water standards and have been determined by CDHS or EPA to warrant monitoring for occurrence data.		
µg/L:	Micrograms per liter (equals parts per billion)	TON:	Threshold Odor Number
mg/L:	Milligrams per liter (equals parts per million)	µmho/cm:	Micromhos per centimeter
pCi/L:	Picocuries per liter (a measure of radioactivity)	ND:	Non detected
NTU:	Nephelometric Turbidity Units	N/A:	Not available
MFL:	Million fibers per liter greater than 10 micrometers		
Production 1, 4, 6, & 7:	Wells 1 through 7. Collectively referred to as the "Russian River Well Field". Chemical monitoring required on Wells 1, 4, 6, & 7.		

## FOOTNOTES:

- <sup>(1)</sup> Methyl tert-butyl ether (MTBE) is listed in both the Primary (Organic Chemicals - VOCs) and Secondary Standards.
- <sup>(2)</sup> Thiobencarb is listed in both the Primary (Organic Chemicals - SOCs) and Secondary Standards.
- <sup>(3)</sup> Aluminum is listed in both the Primary (Inorganic Chemicals) and Secondary Standards.
- <sup>(4)</sup> Action Level under the Lead and Copper Rule.
- <sup>(5)</sup> Notification Level.
- <sup>(6)</sup> Aluminum, Iron, Manganese, Hexavalent Chromium, Color & Turbidity resampled 12-6-18 for Production Well 4. Original results were uncharacteristically high. (Original results: Aluminum 930 ug/L, Iron 1000 ug/L, Manganese 26 ug/L, Hexavalent Chromium 3.6 ug/L, Color 18 CU, Turbidity 16 NTU)
- <sup>(7)</sup> Asbestos resampled 11-20-18 for Occidental Well. Initial sample from 9-10-18: sample bottle broke.