

Sonoma County Water Agency - Production Wells 1, 4, 7, Occidental, Todd and Sebastopol Production Wells - 2006 Water Quality Report

VOLATILE ORGANIC COMPOUNDS <i>Section 64444 - Table A</i>	Units	STATE MCL	DLR	MCLG (PHG)	Production 1	Production 4	Production 7	Todd #1	Sebastopol #2	Occidental #2
					29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	4-Dec-06	19-Dec-06
Benzene	mg/L	0.001	0.0005	(0.00015)	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	mg/L	0.0005	0.0005	(0.0001)	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene (o-DCB)	mg/L	0.6	0.0005	(0.6)	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene (p-DCB)	mg/L	0.005	0.0005	(0.006)	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	mg/L	0.005	0.0005	(0.003)	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	mg/L	0.0005	0.0005	(0.0004)	ND	ND	ND	ND	ND	ND
1,1,-Dichloroethylene (1,1-DCE)	mg/L	0.006	0.0005	(0.01)	ND	ND	ND	ND	ND	ND
cis-1,2-Dichlorethylene (c-1,2-DCE)	mg/L	0.006	0.0005	(0.1)	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene (t-1,2-DCE)	mg/L	0.01	0.0005	(0.06)	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene Chloride)	mg/L	0.005	0.0005	(0.004)	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	mg/L	0.005	0.0005	(0.0005)	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	mg/L	0.0005	0.0005	(0.0002)	ND	ND	ND	ND	ND	ND
Ethylbenzene	mg/L	0.3	0.0005	(0.3)	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE) ⁽¹⁾	mg/L	0.013	0.003	(0.013)	ND	ND	ND	ND	ND	ND
Monochlorobenzene (Chlorobenzene)	mg/L	0.07	0.0005	(0.2)	ND	ND	ND	ND	ND	ND
Styrene	mg/L	0.1	0.0005	0.1	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	mg/L	0.001	0.0005	(0.0001)	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	mg/L	0.005	0.0005	(0.00006)	ND	ND	ND	ND	ND	ND
Toluene	mg/L	0.15	0.0005	(0.15)	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	mg/L	0.005	0.0005	(0.005)	ND	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	ND
1,1,2-Trichloroethane (1,1,2-TCA)	mg/L	0.005	0.0005	(0.0003)	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	mg/L	0.005	0.0005	(0.0008)	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane (Freon 11)	mg/L	0.15	0.005	(0.7)	ND	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	ND
Vinyl Chloride (VC)	mg/L	0.0005	0.0005	(0.00005)	ND	ND	ND	ND	ND	ND
Xylenes (m,p, & o)	mg/L	1.75		(1.8)	ND	ND	ND	ND	ND	ND

⁽¹⁾ 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 MCL	DLR	MCLG (PHG)	Production 1	Production 4	Production 7	Todd #1	Sebastopol #2	Occidental #2
					29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	19-Dec-06
Alachlor	mg/L	0.002	0.001	(0.004)	ND	ND	ND	ND	ND	ND
Atrazine	mg/L	0.001	0.0005	(0.00015)	ND	ND	ND	ND	ND	ND
Bentazon	mg/L	0.018	0.002	(0.2)	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	mg/L	0.0002	0.0001	(0.000004)	ND	ND ⁽⁶⁾	ND	ND	ND ⁽⁷⁾	ND
Carbofuran	mg/L	0.018	0.005	(0.0017)	ND	ND	ND	ND	ND	ND
Chlordane	mg/L	0.0001	0.0001	(0.00003)	ND	ND	ND	ND	ND	ND
2,4 - Dichlorophenoxyacetic acid (2,4-D)	mg/L	0.07	0.01	(0.07)	ND	ND	ND	ND	ND	ND
Dalapon	mg/L	0.2	0.01	(0.79)	ND	ND	ND	ND	ND	ND
Dibromochloropropane (DBCP)	mg/L	0.0002	0.00001	(0.0000017)	ND	ND	ND	ND	ND	ND
Di(2-ethylhexyl)adipate	mg/L	0.4	0.005	(0.2)	ND	ND	ND	ND	ND	ND
Di(2-ethylhexyl)phthalate	mg/L	0.004	0.003	(0.012)	ND	ND	ND	ND	ND	ND
Dinoseb	mg/L	0.007	0.002	(0.014)	ND	ND	ND	ND	ND	ND
Diquat	mg/L	0.02	0.004	(0.015)	ND	ND	ND	ND	ND	ND
Endothall	mg/L	0.1	0.045	(0.58)	ND	ND ⁽⁶⁾	ND	ND	ND ⁽⁷⁾	ND
Endrin	mg/L	0.002	0.0001	(0.0018)	ND	ND	ND	ND	ND	ND
Ethylene Dibromide (EDB)	mg/L	0.00005	0.00002	(0.00001)	ND	ND	ND	ND	ND	ND
Glyphosate	mg/L	0.7	0.025	(1)	ND	ND	ND	ND	ND	ND
Heptachlor	mg/L	0.00001	0.00001	(0.000008)	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	mg/L	0.00001	0.00001	(0.000006)	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	mg/L	0.001	0.0005	(0.00003)	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	mg/L	0.05	0.001	(0.05)	ND	ND	ND	ND	ND	ND
Lindane	mg/L	0.0002	0.002	(0.000032)	ND	ND	ND	ND	ND	ND
Methoxychlor	mg/L	0.03	0.01	(0.03)	ND	ND	ND	ND	ND	ND
Molinate	mg/L	0.02	0.002	NA	ND	ND	ND	ND	ND	ND
Oxamyl	mg/L	0.05	0.02	(0.05)	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/L	0.001	0.0002	(0.0004)	ND	ND	ND	ND	ND	ND
Picloram	mg/L	0.5	0.001	(0.5)	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCBs)	mg/L	0.0005	0.0005	(0.00009)	ND	ND	ND	ND	ND	ND
Simazine	mg/L	0.004	0.001	(0.004)	ND	ND	ND	ND	ND	ND
Thiobencarb ⁽²⁾	mg/L	0.07	0.001	(0.07)	ND	ND	ND	ND	ND	ND
Toxaphene	mg/L	0.003	0.001	(0.00003)	ND	ND	ND	ND	ND	ND
2,3,7,8-TCDD (Dioxin)	mg/L	3 x 10 ⁻⁸	5 x 10 ⁻⁹	(1x10 ⁻⁹)	ND	ND	ND	ND	ND	ND
2,4,5-TP (Silvex)	mg/L	0.05	0.001	(0.025)	ND	ND	ND	ND	ND	ND

⁽²⁾ Thiobencarb is listed in both the Primary (Organic Chemicals - SOCs) and Secondary standards.

⁽⁶⁾ The Production Well #4 samples for Benzo(a)pyrene and Endothall sampled on Aug 29, 2007 were run past the maximum holding time. A resample was taken on Oct 10, 2007 with the results for both compounds "ND".

⁽⁷⁾ The Sebastopol well samples for Benzo(a)pyrene and Endothall sampled on Aug 29, 2007 were run past the maximum holding time. A resample was taken on Dec 4, 2007 with the results for both compounds "ND".

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INORGANIC CHEMICALS <i>Section 64431 - Table A</i>	Units	STATE MCL	DLR	MCLG (PHG)	Production 1	Production 4	Production 7	Todd #1	Sebastopol #2	Occidental #2
					29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	19-Dec-06
Aluminum ⁽³⁾	µg/L	1000	50	(600)	< 50	< 50	< 50	< 50	< 50	< 50
Antimony	µg/L	6	6	(20)	< 6	< 6	< 6	< 6	< 6	< 6
Arsenic	µg/L	10	2	(0.004)	< 2	< 2	< 2	< 2	< 2	< 2
Asbestos	MFL	7	0.2	(7)	0.34 ⁽⁸⁾	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Barium	µg/L	1000	100	(2000)	< 100	< 100	< 100	< 100	< 100	< 100
Beryllium	µg/L	4	1	(1)	< 1	< 1	< 1	< 1	< 1	< 1
Cadmium	µg/L	5	1	(0.04)	< 1	< 1	< 1	< 1	< 1	< 1
Chromium	µg/L	50	10	100	< 2	< 2	< 2	< 2	< 2	< 2
Cyanide	mg/L	0.15	0.1	(0.15)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Fluoride (F) Natural-Source	mg/L	2.0	0.1	(1)	<0.1	<0.1	<0.1	<0.1	<0.1	0.12
Mercury	µg/L	2	1	(1.2)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Nickel	µg/L	100	10	(12)	< 2	< 2	< 2	< 2	< 2	< 2
Nitrate (as NO3)	mg/L	45	2	(45)	1.4	< 1	< 1	< 1	< 1	< 1
Nitrate + Nitrite (as N)	mg/L	10	0.4	(10)	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Nitrite (as N)	mg/L	1	0.4	(1)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Selenium	µg/L	50	5	50	< 5	< 5	< 5	< 5	< 5	< 5
Thallium	µg/L	2	1	(0.1)	<1.0	<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	MCLG (PHG)	Production 1	Production 4	Production 7	Todd #1	Sebastopol #2	Occidental #2
16-Mar-05	pCi/L	15	3	0	-0.01 ± 0.42	-0.17 ± 0.73	-0.22 ± 0.35	-0.29 ± 0.35	-0.80 ± 0.90	-0.15 ± 0.40
8-Jun-05	pCi/L	15	3	0	-0.36 ± 0.53	-0.01 ± 0.62	-0.94 ± 0.35	-0.51 ± 0.49	-0.36 ± 0.43	-0.57 ± 0.48
1-Sep-05	pCi/L	15	3	0	0.107 ± 0.647	0.0727 ± 0.607	0.000 ± 0.568	0.261 ± 0.770	0.000 ± 0.470	0.000 ± 0.500
5-Dec-05	pCi/L	15	3	0	0.034 ± 0.572	0.319 ± 0.657	0.00 ± 0.538	0.283 ± 0.816	0.309 ± 0.736	0.432 ± 0.806
Next Sample					Due 2014	Due 2014	Due 2014	Due 2014	Due 2014	Due 2014

RADIONUCLIDE - <i>Section 64442</i> Radium-228 (4 quarterly samples)	Units	STATE MCL	DLR	MCLG (PHG)	Production 1	Production 4	Production 7	Todd #1	Sebastopol #2	Occidental #2
10-Jul-06	pCi/L	5	1	(0.019)	0.0584 ± 0.563	0.103 ± 0.585	0.0973 ± 0.602	0.000 ± 0.566	0.0124 ± 0.554	0.000 ± 0.527
10-Oct-06	pCi/L	5	1	(0.019)	0.115 ± 0.492	0.000 ± 0.438	0.000 ± 0.502	0.000 ± 0.520	---	---
4-Dec-06	pCi/L	5	1	(0.019)	---	---	---	---	0.000 ± 0.513	---
19-Dec-06	pCi/L	5	1	(0.019)	---	---	---	---	---	0.0115 ± 0.524

⁽³⁾ Aluminum is listed in both the Primary (Inorganic Chemicals) and Secondary standards.

⁽⁸⁾ Production Well #1 was resampled for Asbestos on Oct 10, 2007 with a result of < 0.2 MFL.

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SECONDARY STANDARDS <i>Section 64449 - Table A</i>	Units	Secondary MCL	DLR	MCLG (PHG)	Production 1	Production 4	Production 7	Todd #1	Sebastopol #2	Occidental #2
					29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	19-Dec-06
Aluminum ⁽³⁾	µg/L	200	50	(600)	< 50	< 50	< 50	< 50	< 50	< 50
Color	Color Units	15			< 3	< 3	< 3	< 3	< 3	< 3
Copper ⁽⁴⁾	µg/L	1300 ⁽⁴⁾	50	(170)	< 10	< 10	< 10	< 10	< 10	< 10
Foaming Agents (MBAS)	mg/L	0.5			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Iron	µg/L	300	100		< 100	< 100	< 100	< 100	< 100	120.0
Manganese	µg/L	50	20		< 20	< 20	< 20	34.0	77.0	< 20
Methyl tert-butyl ether (MTBE) ⁽¹⁾	mg/L	0.005	0.003	(0.013)	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Odor - Threshold	TON	3	1		< 1	< 1	< 1	< 1	4.0	5
Silver	µg/L	100	10		< 10	< 10	< 10	< 10	< 10	< 10
Thiobencarb ⁽²⁾	mg/L	0.001	0.001	(0.07)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Turbidity	NTU	5			0.87	0.24	< 0.1	0.18	< 0.1	0.18
Zinc	µg/L	5000	50		<10	<10	<10	<10	< 10	< 10

SECONDARY STANDARDS <i>Section 64449 - Table A</i>	Units	Secondary MCL	DLR	MCLG (PHG)	Sebastopol #2 (Quarterly for Color, Odor, Manganese)			
					13-Mar-06	29-Jun-06	18-Sep-06	4-Dec-06
Color	Color Units	15			< 3.0	< 3.0	< 3.0	< 3.0
Manganese	µg/L	50	20		75	73	78	< 20
Odor - Threshold	TON	3			< 1.0	2.0	< 1.0	1.5

SECONDARY STANDARDS <i>Section 64449 - Table B</i>	Units	Recommended MCL	DLR	Upper MCL	Production 1	Production 4	Production 7	Todd #1	Sebastopol #2	Occidental #2
					29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	19-Dec-06
Total Dissolved Solids	mg/L	500		1000	160	140	130	200	180	150
Specific Conductance	µS/cm	900		1600	280	240	240	260	250	230
Chloride	mg/L	250		500	6.6	5.3	5.2	21	15	14
Sulfate	mg/L	250	0.5	500	16	14	13	3.8	5.2	5.5

⁽¹⁾ Methyl tert-butyl ether (MTBE) is listed in both the Primary (Organic Chemicals - VOCs) and Secondary standards.

⁽²⁾ Thiobencarb is listed in both the Primary (Organic Chemicals - SOCs) and Secondary standards.

⁽³⁾ Aluminum is listed in both the Primary (Inorganic Chemicals) and Secondary standards.

⁽⁴⁾ Notification Level under the Lead and Copper Rule.

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ADDITIONAL CONSTITUENTS ANALYZED	Units	STATE MCL	DLR	MCLG (PHG)	Production 1	Production 4	Production 7	Todd #1	Sebastopol #2	Occidental #2
					29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	19-Dec-06
pH	pH				7.2	7.2	7.1	7.2	7.8	8.2
Total Hardness as CaCO ₃	mg/L				131	111	104	50	60	52
Calcium	mg/L				21	21	21	13	18	16
Magnesium	mg/L				19	14	13	4.3	3.9	2.6
Sodium	mg/L				8.3	7.7	7.5	34	29	19
Potassium	mg/L				< 1.0	1.0	1.1	1.8	1.6	< 1.0
Total Alkalinity as CaCO ₃	mg/L				130	120	100	100	110	100
Hydroxide as CaCO ₃	mg/L				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbonate as CaCO ₃	mg/L				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bicarbonate as CaCO ₃	mg/L				130	120	100	100	110	100
Agressiveness Index					11.03	11.00	10.84	10.71	11.49	11.87
Lead ⁽⁴⁾	µg/L	15 ⁽⁴⁾	5	(2)	< 2	< 2	< 2	< 2	< 2	< 2
Total Radon 222 ± Counting Error	pCi/L		100		232 ± 22	166 ± 23	192 ± 24	363 ± 28	138 ± 26	136 ± 23
N-Nitrosodimethylamine (NDMA) ⁽⁵⁾	µg/L	0.01 ⁽⁵⁾	0.002	(0.003)	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

⁽⁴⁾ Notification Level under the Lead and Copper Rule.

⁽⁵⁾ 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, & 7:	Wells 1 through 7. Collectively referred to as the "Russian River Well Field". Chemical monitoring required on Wells 1, 4, & 7.		

FOOTNOTES:

- ⁽¹⁾ Methyl tert-butyl ether (MTBE) is listed in both the Primary (Organic Chemicals - VOCs) and Secondary standards.
- ⁽²⁾ Thiobencarb is listed in both the Primary (Organic Chemicals - SOCs) and Secondary standards.
- ⁽³⁾ Aluminum is listed in both the Primary (Inorganic Chemicals) and Secondary standards.
- ⁽⁴⁾ Notification Level under the Lead and Copper Rule.
- ⁽⁵⁾ Notification Level
- ⁽⁶⁾ The Production Well #4 samples for Benzo(a)pyrene and Endothall sampled on Aug 29, 2007 were run past the maximum holding time. A resample was taken on Oct 10, 2007 with the results for both compounds "ND".
- ⁽⁷⁾ The Sebastopol well samples for Benzo(a)pyrene and Endothall sampled on Aug 29, 2007 were run past the maximum holding time. A resample was taken on Dec 4, 2007 with the results for both compounds "ND".
- ⁽⁸⁾ Production Well #1 was resampled for Asbestos on Oct 10, 2007 with a result of < 0.2 MFL.