

Manganese in Distribution System -- City of Denmark Drinking Water

All concentrations are in milligrams per liter (mg/L)

February 13, 2019

USEPA Secondary Maximum Contaminant Level (SMCL) is 0.05 mg/L

Red-bolded concentration indicates exceedance of USEPA SMCL (0.05 mg/L)

Sample Date	Sample Location										
July 16, 2007	Richards St. 0.022										
May 20, 2008	Richards St. 0.020										
September 9, 2008	E. Richards St. 0.069										
September 29, 2009	Cecile St. 0.11										
October 15, 2009	Chestnut Av. <0.010	Old Olar Rd. <0.010	Voorhees Rd. <0.010	SCE&G-Hwy 321 <0.010	Locust Ave. 0.017	Voorhees Rd. 0.066					
February 1, 2010	Mercer Funeral Hm. <0.010	Heritage Hwy. <0.010	Carolina Hwy. <0.010	Bethel Pk. Meth. 0.91	Piggly Wiggly 0.43	N. Mimosa Ave. 0.038	Rice Ave. 0.013	Carrie St. 0.081	Cecile St. 0.021	Lifetime Doors 0.047	Colonial Cleaners 0.069
	Coastal Lumber <0.010	Hwy 321 0.029	Grace Residence 0.029	Barnwell Rd. 0.039							
February 17, 2010	Redwood Ct. <0.010	Wheat St. 0.015	Chestnut Ave. 0.012	Chestnut St. 0.021	Barnwell Rd. 0.079						
April 8, 2010	Wheat St. 0.061	Chestnut Ave. 0.14									
August 16, 2010	Barnwell Rd. 0.049	Redwood Ct. 0.033	Wheat St. 1.1	Chestnut Ave. 0.27							
October 18, 2010	Mercer Funeral Hm. <0.010	Denmark HS <0.010	N. Mimosa Ave. <0.010	Rice Ave. <0.010	Bethel AME Ch. 0.025	Redwood Ct. <0.010	Wheat St. 0.033	Chestnut Ave. <0.010	Denmark MS 0.018	Carrie St. 0.035	Denmark ES 0.027
	Heritage Hwy. <0.010	Barnwell Rd. 0.082	Barnwell Rd. <0.010	Coastal Lumber <0.010	Grace Residential <0.010						
October 21, 2010	Chestnut Ave. <0.010	Chestnut Ave. <0.010									
December 12, 2011	Dr. Glenn 0.015	Denmark Lumber 0.025	Lifetime Doors 0.012	Denmark MS <0.010	Denmark ES <0.010	Voorhees Rec. Ctr. <0.010	Bethel AME Ch. <0.010	Denmark HS <0.010	Mercer Funeral Hm. <0.010		
December 3, 2012	Denmark MS 0.035	Denmark ES 0.028	Carrie St. 0.010	Heritage Hwy. <0.010	Wheat St. <0.010	Mill St. <0.010	Redwood Ct. <0.010	N. Mimosa Ave. <0.010	Rice Ave. <0.010	Mercer Funeral Hm. <0.010	
September 3, 2013	Denmark MS 0.021	Denmark ES 0.020	Carrie St. <0.010	Heritage Hwy. <0.010	Wheat St. 0.051	Mill St. 0.041	Redwood Ct. <0.010	N. Mimosa Ave. <0.010	Rice Ave. <0.010	Mercer Funeral Hm. <0.010	
January 29, 2018	Hwy 321 <0.010	Olar HS <0.010	Mill St. 0.010	Wheat St. 0.010	Voorhees Rd. <0.010	Carrie St. <0.010	Hwy 70 0.020	Hwy 78 <0.010	Spruce St. 0.019	Locust Ave. 0.015	Denmark MS 0.016
April 9, 2018	Chestnut Ave. <0.010	Maple Ave. <0.010									
July 24, 2018	Hwy 321 BP <0.010	Rice Ave. <0.010	Voorhees Rd. 0.018	Voorhees Park 0.034	Hwy 321 0.082	E. Hampton St. <0.010	Corbitt 0.020	Chestnut Ave. <0.010	Locust Ave. <0.010	Byers Tire Serv. <0.010	
December 5, 2018	Spruce St. 0.04	Carolina Hwy. 0.42	Mill St. <0.010	Wheat St. <0.010	Voorhees Rd. 0.039	Carrie St. <0.010	Locust Ave. 0.021	Chestnut Ave. <0.010	Locust Ave. <0.010	Wisteria St. 0.013	Heritage Hwy. <0.010
January 14-15, 2019	Spruce St. 0.020	Carolina Hwy. <0.010	Mill St. <0.010	Wheat St. <0.010	Voorhees Rd. <0.010	Carrie st. <0.010	Locust Ave. 0.011	Chestnut Ave. 0.032	Locust St. <0.010	Wisteria St. 0.017	Heritage Hwy. <0.010

Note: HS = high school; MS = middle school; ES = elementary school

Exceedances of USEPA Secondary Maximum Contaminant Level (SMCL) for Manganese in Distribution System -- City of Denmark Drinking Water

All concentrations are in milligrams per liter (mg/L)

February 13, 2019

USEPA SMCL is 0.05 mg/L

Sample Year	Number of		% Detections	Range (mg/L)		SMCL Exceedances			
	Samples	Detections		All Data	Detects Only	Number	Concentration (mg/L)	% of All Data	% of Detects Only
2007	1	1	--	--	0.022	0	--	--	--
2008	1	1	--	--	0.020	0	--	--	--
2009	8	4	50.0	<0.010 - 0.11	0.017 - 0.11	3	0.066; 0.069; 0.11	37.5	75.0
2010	44	27	61.4	<0.010 - 1.1	0.012 - 1.1	9	0.061; 0.069; 0.079; 0.081; 0.14; 0.27; 0.43; 0.91; 1.1	20.5	75.0
2011	9	3	33.3	<0.010 - 0.025	0.012 - 0.025	0	--	--	--
2012	10	3	30.0	<0.010 - 0.035	0.010 - 0.035	0	--	--	--
2013	10	4	40.0	<0.010 - 0.051	0.020 - 0.051	1	0.051	10.0	25.0
2018	34	15	44.1	<0.010 - 0.42	0.013 - 0.42	2	0.083; 0.42	5.9	13.3
2019	11	3	27.3	<0.010 - 0.020	0.011 - 0.020	0	--	--	--
Total	128	61	47.7	--	--	15	--	11.7	24.6

Manganese in Source Water-- City of Denmark Drinking Water

All concentrations are in milligrams per liter (mg/L)

USEPA Secondary Maximum Contaminant Level (SMCL) is 0.05 mg/L

February 13, 2019

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Sample Date	Well				Notes
	Voorhees	Cox Mill	Acacia St.	W. Voorhees	
September 2007	Not Sampled	0.048	Not Sampled	Not Sampled	From well refurbishment work
January 25, 2010	0.013	0.084	Not Sampled		--
October 18, 2010	Not Sampled	<0.010	<0.010	0.021	--
December 12, 2011	<0.010	0.018	<0.010	0.018	--
January 29, 2018	<0.010	<0.010	0.010	0.030	--
April 16, 2018	Untreated/Treated				Treatment is disinfection by chlorination
	<0.010/<0.010	<0.010/<0.0010	0.010/0.010	0.030/0.029	SCDHEC Data
	0.010/0.009	0.009/0.005	0.010/0.010	0.030/0.030	Edisto RiverKeeper Data
	0.0094/0.0090	0.0093/0.0046	0.0105/0.0107	0.0285/0.0291	USC Data

Iron in Distribution System -- City of Denmark Drinking Water

All concentrations are in milligrams per liter (mg/L)

February 13, 2019

USEPA Secondary Maximum Contaminant Level (SMCL) is 0.3 mg/L

Red-bolded concentration indicates exceedance of USEPA SMCL (0.3 mg/L)

Sample Date	Sample Location										
July 16, 2007	Richards St.										
	0.052										
May 20, 2008	Richards St.										
	0.19										
September 9, 2008	E. Richards St.										
	0.12										
September 29, 2009	Cecile St.										
	0.48										
October 15, 2009	Chestnut Av.	Old Olar Rd.	Voorhees Rd.	SCE&G-Hwy 321	Locust Ave.	Voorhees Rd.					
	<0.020	0.038	0.024	<0.020	0.044	0.21					
February 1, 2010	Mercer Funeral Hm.	Heritage Hwy.	Carolina Hwy.	Bethel Pk. Meth.	Piggly Wiggly	N. Mimosa Ave.	Rice Ave.	Carrie St.	Cecile St.	Lifetime Doors	Colonial Cleaners
	<0.020	0.022	<0.020	1.8	1.4	0.14	0.10	0.65	0.16	0.10	0.22
	Coastal Lumber	Hwy 321	Grace Residence	Barnwell Rd.							
	0.022	0.11	0.074	0.072							
February 17, 2010	Redwood Ct.	Wheat St.	Chestnut Ave.	Chestnut St.	Barnwell Rd.						
	0.057	0.12	0.032	0.059	0.17						
April 8, 2010	Wheat St.	Chestnut Ave.									
	0.28	0.50									
August 16, 2010	Barnwell Rd.	Redwood Ct.	Wheat St.	Chestnut Ave.							
	0.17	0.033	1.1	0.27							
October 18, 2010	Mercer Funeral Hm.	Denmark HS	N. Mimosa Ave.	Rice Ave.	Bethel AME Ch.	Redwood Ct.	Wheat St.	Chestnut Ave.	Denmark MS	Carrie St.	Denmark ES
	0.033	0.051	0.18	0.064	0.63	0.16	3.6	<0.020	0.062	0.44	0.25
	Heritage Hwy.	Barnwell Rd.	Barnwell Rd.	Coastal Lumber	Grace Residential						
	0.042	0.15	<0.020	<0.020	<0.020						
October 21, 2010	Chestnut Ave.	Chestnut Ave.									
	<0.020	<0.020									
December 12, 2011	Dr. Glenn	Denmark Lumber	Lifetime Doors	Denmark MS	Denmark ES	Voorhees Rec. Ctr.	Bethel AME Ch.	Denmark HS	Mercer Funeral Hm.		
	0.058	0.11	0.067	<0.020	0.024	0.067	0.052	0.13	0.023		
December 3, 2012	Denmark MS	Denmark ES	Carrie St.	Heritage Hwy.	Wheat St.	Mill St.	Redwood Ct.	N. Mimosa Ave.	Rice Ave.	Mercer Funeral Hm.	
	0.16	0.082	0.033	0.13	<0.020	0.12	<0.020	0.11	<0.020	<0.020	
September 3, 2013	Denmark MS	Denmark ES	Carrie St.	Heritage Hwy.	Wheat St.	Mill St.	Redwood Ct.	N. Mimosa Ave.	Rice Ave.	Mercer Funeral Hm.	
	0.072	0.069	<0.020	0.023	0.20	0.57	<0.020	0.16	<0.020	0.023	
January 29, 2018	Hwy 321	Olar HS	Mill St.	Wheat St.	Voorhees Rd.	Carrie St.	Hwy 70	Hwy 78	Spruce St.	Locust Ave.	Denmark MS
	0.073	0.13	0.19	0.17	0.023	0.031	0.11	<0.020	0.11	0.077	0.079
April 9, 2018	Chestnut Ave.	Maple Ave.									
	<0.020	<0.020									
July 24, 2018	Hwy 321 BP	Rice Ave.	Voorhees Rd.	Voorhees Park	Chestnut Ave.	Locust	Corbitt	Hwy 321	E. Hampton St.	Byers Tire Serv.	
	0.16	0.030	0.100	0.120	0.025	<0.020	0.150	0.330	0.049	0.037	
December 5, 2018	Spruce St.	Carolina Hwy.	Mill St.	Wheat St.	Voorhees Rd.	Carrie St.	Locust Ave.	Chestnut Ave.	Locust Ave.	Wisteria St.	Heritage Hwy.
	0.24	6.4	0.053	0.10	0.029	0.027	0.14	<0.020	<0.020	0.085	<0.020
January 14, 2019	Spruce St.	Carolina Hwy.	Mill St.	Wheat St.	Voorhees Rd.	Carrie St.	Locust Ave.	Chestnut Ave.	Locust St.	Wisteria St.	Heritage Hwy.
	0.12	0.14	0.013	0.098	0.69	0.050	0.062	0.032	0.24	0.10	<0.020

Note: HS = high school; MS = middle school; ES = elementary school

Exceedances of USEPA Secondary Maximum Contaminant Level (SMCL) for Iron in Distribution System -- City of Denmark Drinking Water

All concentrations are in milligrams per liter (mg/L)

February 13, 2019

USEPA SMCL is 0.3 mg/L

Sample Year	Number of		% Detections	Range (mg/L)		SMCL Exceedances			
	Samples	Detections		All Data	Detects Only	Number	Concentration (mg/L)	% of All Data	% of Detects
2007	1	1	--	--	0.052	0	--	--	--
2008	1	1	--	--	0.19	0	--	--	--
2009	8	6	75.0	<0.020 - 0.48	0.024 - 0.48	1	0.48	12.5	16.7
2010	44	36	81.8	<0.020 - 3.6	0.021 - 3.6	8	0.44; 0.50; 0.63; 0.65; 1.4; 1.8; 3.6	18.2	22.2
2011	9	8	88.9	<0.020 - 0.13	0.024 - 0.13	0	--	--	--
2012	10	6	60.0	<0.020 - 0.16	0.033 - 0.16	0	--	--	--
2013	10	7	70.0	<0.020 - 0.57	0.023 - 0.57	1	0.57	10.0	14.3
2018	34	17	50.0	<0.020 - 6.4	0.025 - 6.4	2	0.330; 6.4	5.9	11.8
2019	11	10	90.9	<0.020 - 0.69	0.013 - 0.69	1	0.69	9.1	10.0
Total	128	92	71.9	--		13	--	10.2	14.1

Iron in Source Water-- City of Denmark Drinking Water

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February 13, 2019

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Sample Date	Well				Notes
	Voorhees	Cox Mill	Acacia St.	W. Voorhees	
September 2007	Not Sampled	0.093	Not Sampled	Not Sampled	From well refurbishment work
January 25, 2010	0.073	0.16	Not Sampled		--
October 18, 2010	Not Sampled	<0.010	<0.010	5.2	
December 12, 2011	0.034	<0.020	0.17	0.10	--
January 29, 2018	0.043	0.068	0.20	0.14	--
April 16, 2018	Untreated/Treated				Treatment is disinfection by chlorination
	0.034/0.027	0.022/<0.020	0.18/0.18	0.15/0.15	SCDHEC Data
	0.171/0.154	0.1667/0.1800	0.022/<0.020	0.130/0.140	Edisto RiverKeeper Data
	0.1667/0.1800	0.0175/0.0148	0.0113/<0.0009	0.1319/0.1398	USC Data