



US Army Corps
of Engineers
Baltimore District



Washington Aqueduct

U.S. ARMY Corps of Engineers

Annual Report of Water Analysis 2005

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Potomac River Raw Water Supply

	Miscellaneous Physical Parameters										Inorganic Ions									Microorganisms						
	pH	ALKALINITY	CONDUCTIVITY	DISSOLVED SOLIDS	SUSPENDED SOLIDS	TEMPERATURE	TOTAL HARDNESS	TOTAL ORG. CARBON	TOTAL SOLIDS	TURBIDITY	TOTAL AMMONIA	BROMIDE	CHLORIDE	FLUORIDE	IODIDE	NITRATE	NITRITE	ORTHOPHOSPHATE as PO4	PERCHLORATE	SULFATE	ALGAE COUNT	TOTAL COLIFORM	E. COLL.	GIARDIA	CRYPTOSPORIDIUM	VIRUS
	ppm	uS/cm	ppm	ppm	F	ppm	ppm	ppm	NTU	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppb	ppm	org/mL	MPN/100mL	MPN/100mL	cysts/10L	oocysts/100L	MPN/100L	
Jan	7.8	67	259	174	6	44	102	2.12	180	18	ND	ND	13	0.09	ND	1.88	0.03	0.24	1.4	28	116	2669	168	ND	ND	-----
Feb	8.0	75	344	174	13	45	114	2.12	187	5	ND	0.03	40	0.10	-----	3.00	0.02	0.17	ND	29	104	2008	30	ND	ND	118.4
Mar	8.3	67	346	150	5	45	98	2.26	155	23	ND	ND	27	0.12	-----	1.90	ND	ND	ND	26	381	4382	185	ND	ND	-----
Apr	7.8	65	236	190	7	60	99	2.87	197	28	ND	ND	21	0.09	4.8	2.19	ND	ND	ND	24	636	1970	146	ND	ND	-----
May	7.9	84	305	112	6	66	116	2.61	118	11	ND	ND	21	0.11	-----	1.68	0.02	0.18	ND	26	345	6160	33	ND	ND	62.5
Jun	7.8	97	315	220	2	79	126	2.63	222	10	ND	ND	21	0.13	-----	1.41	ND	ND	ND	33	371	11258	897	ND	ND	-----
Jul	7.6	90	319	168	6	82	114	4.21	174	15	ND	ND	20	0.14	7.1	2.10	0.03	0.33	ND	24	656	10395	39	ND	ND	-----
Aug	7.9	110	351	227	5	84	136	2.88	232	6	ND	ND	23	0.15	-----	0.84	ND	0.22	ND	41	622	5795	29	0.1	ND	-----
Sep	7.9	118	388	256	1	79	145	3.10	257	6	ND	0.04	27	0.18	-----	0.86	ND	0.24	ND	47	836	5738	137	ND	ND	15.8
Oct	7.8	104	371	242	8	66	137	3.24	250	9	ND	ND	28	0.16	6.8	2.27	0.02	0.42	ND	62	314	4493	261	ND	1.5	-----
Nov	7.9	105	389	195	3	55	140	2.94	198	6	ND	ND	20	0.14	-----	1.73	ND	0.09	1.5	41	160	2492	92	ND	ND	37.9
Dec	7.7	70	323	183	7	47	103	3.71	190	18	ND	ND	37	0.11	-----	2.78	ND	0.15	ND	26	154	10050	150	ND	ND	-----
Avg	7.9	88	329	191	6	63	119	2.89	197	13	ND	ND	25	0.13	6.2	1.89	ND	0.17	ND	34	391	5618	181	ND	ND	58.7
Max	8.3	118	389	256	13	84	145	4.21	257	28	ND	0.04	40	0.18	7.1	3.00	0.03	0.33	1.5	62	836	11258	897	0.1	1.5	118.4
Min	7.6	65	236	112	1	44	98	2.12	118	5	ND	ND	13	0.09	4.8	0.84	ND	ND	ND	24	104	1970	29	ND	ND	15.8

	Metals																												
	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM	COBALT	COPPER	IRON	LEAD	LITHIUM	MAGNESIUM	MANGANESE	MERCURY	MOLYBDENUM	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	STRONTIUM	THALLIUM	THORIUM	URANIUM	VANADIUM	ZINC	
	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Jan	261	ND	ND	33.0	ND	ND	30	ND	ND	4.0	162	0.6	2.0	7	51	ND	0.5	1.0	2.5	ND	ND	12.0	142	ND	ND	ND	ND	ND	3.0
Feb	306	ND	ND	34.0	ND	ND	33	ND	ND	3.0	115	0.5	2.0	8	38	ND	0.9	1.0	-----	ND	ND	-----	157	ND	ND	ND	ND	ND	2.1
Mar	186	ND	ND	38.0	ND	ND	28	ND	ND	5.0	124	ND	2.0	7	42	ND	0.7	2.7	-----	ND	ND	-----	147	ND	ND	ND	ND	ND	2.9
Apr	1071	ND	0.6	47.0	ND	ND	29	1.3	1.5	6.0	1626	2.8	3.0	6	90	ND	ND	3.7	2.5	ND	ND	13.0	78	ND	ND	ND	ND	2.1	10.2
May	218	ND	ND	35.0	ND	ND	34	ND	ND	3.0	208	ND	2.0	8	47	ND	0.5	2.2	-----	ND	ND	-----	151	ND	ND	ND	ND	0.6	3.0
Jun	265	ND	ND	42.0	ND	ND	38	ND	ND	3.0	251	ND	2.0	8	108	ND	0.7	1.2	-----	ND	ND	-----	162	ND	ND	ND	ND	0.9	2.4
Jul	358	ND	0.6	40.0	ND	ND	33	0.7	0.5	4.0	367	0.6	2.0	8	306	ND	1.1	1.8	3.2	ND	ND	12.0	155	ND	ND	ND	ND	1.7	3.6
Aug	190	ND	0.9	42.0	ND	ND	38	ND	ND	4.0	72	ND	2.0	10	162	ND	1.8	1.9	-----	0.5	ND	-----	213	ND	ND	ND	ND	1.7	3.6
Sep	170	ND	0.8	42.0	ND	ND	39	ND	ND	5.0	122	0.5	3.0	12	135	ND	1.9	4.1	-----	0.6	ND	-----	237	ND	ND	ND	ND	1.5	3.0
Oct	267	ND	0.8	46.0	ND	ND	38	0.5	ND	5.0	70	ND	4.0	10	47	ND	2.8	1.7	4.4	0.6	ND	19.0	263	ND	ND	ND	ND	1.2	1.9
Nov	209	ND	0.5	40.0	ND	ND	41	ND	ND	4.0	113	0.8	2.0	9	46	ND	0.9	1.1	-----	0.5	ND	-----	199	ND	ND	ND	ND	0.9	2.6
Dec	1192	ND	0.7	43.0	ND	ND	30	1.7	1.2	5.0	1520	2.0	2.0	7	82	ND	ND	2.7	-----	ND	ND	-----	139	ND	ND	ND	ND	3.4	8.2
Avg	391	ND	ND	40.2	ND	ND	34	ND	ND	4.3	396	0.6	1.9	8	96	ND	1.0	2.1	3.2	ND	ND	14.0	170	ND	ND	ND	ND	1.2	3.9
Max	1192	ND	0.9	47.0	ND	ND	41	1.7	1.5	6.0	1626	2.8	4.0	12	306	ND	2.8	4.1	4.4	0.6	ND	19.0	263	ND	ND	ND	ND	3.4	10.2
Min	170	ND	ND	33.0	ND	ND	28	ND	ND	3.0	70	ND	2.0	6	38	ND	ND	1.0	2.5	ND	ND	12.0	78	ND	ND	ND	ND	ND	1.9

ppb = Parts Per Billion

ppm = Parts Per Million

ND = Not Detected

"---" = No Analysis Required



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	Miscellaneous					Radionuclides				
	DIBROMOCHLOROPROPANE (DBCP)	ETHYLENE DIBROMIDE (EDB)	CYANIDE	DIOXIN	N-nitrosodimethylamine (NDMA)	GROSS ALPHA	GROSS BETA	RADIUM 226 / 228	STRONTIUM 90	TRITIUM
EPA MCL*	0.2	50	0.2	30		15	50	5		

Dalecarlia Water Treatment Plant Finished Water

	ppb	ppt	ppm	pg/L	ppt	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Jan	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Feb	----	----	----	----	----	----	----	----	----	----
Mar	----	----	----	----	----	----	----	----	----	----
Apr	ND	ND	ND	ND	ND	ND	ND	0.76	ND	ND
May	ND	ND	----	ND	----	----	----	----	----	----
Jun	----	----	----	----	----	----	----	----	----	----
Jul	ND	ND	ND	ND	ND	ND	3.6	ND	ND	ND
Aug	ND	ND	----	ND	----	----	----	----	----	----
Sep	----	----	----	----	----	----	----	----	----	----
Oct	ND	ND	ND	ND	ND	ND	3.8	ND	ND	ND
Nov	----	----	----	----	----	----	----	----	----	----
Dec	----	----	----	----	----	----	----	----	----	----
Avg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Max	ND	ND	ND	ND	ND	ND	3.8	0.76	ND	ND
Min	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*EPA MCL = Environmental Protection Agency's Maximum Contaminant Level for regulated parameters.

ppb = Parts Per Billion

ppm = Parts Per Million

ppt = Parts Per Trillion

pCi/L = Picocuries per Liter

ND = Not Detected

"----" = No Analysis Required

McMillan Water Treatment Plant Finished Water

Jan	ND	ND	ND	ND	ND	ND	ND	0.81	0.74	ND
Feb	----	----	----	----	----	----	----	----	----	----
Mar	----	----	----	----	----	----	----	----	----	----
Apr	ND	ND	ND	ND	ND	ND	ND	0.78	ND	ND
May	ND	ND	----	ND	----	----	----	----	----	----
Jun	----	----	----	----	----	----	----	----	----	----
Jul	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aug	ND	ND	----	ND	----	----	----	----	----	----
Sep	----	----	----	----	----	----	----	----	----	----
Oct	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nov	----	----	----	----	----	----	----	----	----	----
Dec	----	----	----	----	----	----	----	----	----	----
Avg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Max	ND	ND	ND	ND	ND	ND	ND	0.81	0.74	ND
Min	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND