

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA

LOCATION.--Lat 39°58'07", long 75°40'25", Chester County, Hydrologic Unit 02040205, on left bank at downstream side of Sugars Bridge (U.S. Highway 322), 2,000 ft upstream from Valley Creek, 1.5 mi north of Marshallton, and 3.3 mi southeast of Downingtown.

DRAINAGE AREA.--89.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1972 to current year.

REVISED RECORDS.--WDR PA-75-1: 1972(P), 1973, 1974.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 195 ft above sea level, from topographic map. Feb. 1 to Apr. 10, and June 25 to Nov. 17, 1972, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since November 1973 by Marsh Creek Reservoir (station 01480684) about 7.5 mi upstream. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	62	124	69	229	122	286	95	128	57	38	33
2	69	62	111	68	188	119	271	95	230	55	36	31
3	65	60	65	63	160	116	242	95	140	51	35	31
4	132	60	63	66	136	129	202	94	121	50	51	35
5	379	61	64	68	250	156	164	97	111	55	55	35
6	101	62	62	70	234	137	169	92	106	54	37	29
7	85	61	60	71	202	137	172	89	101	48	37	34
8	74	59	60	82	183	157	165	88	94	49	35	31
9	70	61	59	83	185	165	168	88	89	52	34	31
10	67	113	58	77	512	146	179	88	84	54	35	31
11	66	79	62	75	226	129	174	85	81	61	68	35
12	62	66	63	79	187	123	229	83	81	51	78	30
13	61	64	60	99	187	336	217	82	89	47	282	33
14	60	82	250	99	186	178	195	79	82	44	68	38
15	59	79	132	135	193	158	182	79	83	44	56	34
16	60	67	101	120	194	223	222	78	97	44	50	32
17	62	65	1920	84	246	276	194	79	117	45	47	30
18	87	62	487	83	179	205	248	81	85	50	43	30
19	89	61	198	383	166	182	215	82	77	52	41	29
20	123	62	175	427	165	174	187	79	74	45	46	86
21	112	63	178	172	164	418	140	140	71	42	45	138
22	88	59	164	130	157	375	137	237	70	42	40	40
23	60	57	142	131	154	229	133	188	89	41	38	32
24	63	57	143	126	113	199	128	127	90	40	38	39
25	63	58	138	121	131	154	121	112	75	39	35	202
26	61	202	132	114	203	145	118	397	69	39	36	97
27	54	121	131	113	145	133	129	789	64	41	35	100
28	67	106	130	110	131	125	173	267	62	39	32	95
29	65	128	120	107	---	129	170	185	60	39	36	85
30	67	137	74	385	---	938	152	131	58	42	31	46
31	65	---	70	335	---	353	---	117	---	40	35	---
TOTAL	2638	2336	5596	4145	5406	6566	5482	4418	2778	1452	1573	1572
MEAN	85.1	77.9	181	134	193	212	183	143	92.6	46.8	50.7	52.4
MAX	379	202	1920	427	512	938	286	789	230	61	282	202
MIN	54	57	58	63	113	116	118	78	58	39	31	29
CFSM	.95	.87	2.01	1.49	2.15	2.36	2.03	1.59	1.03	.52	.56	.58
IN.	1.09	.97	2.32	1.72	2.24	2.72	2.27	1.83	1.15	.60	.65	.65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2001, BY WATER YEAR (WY)

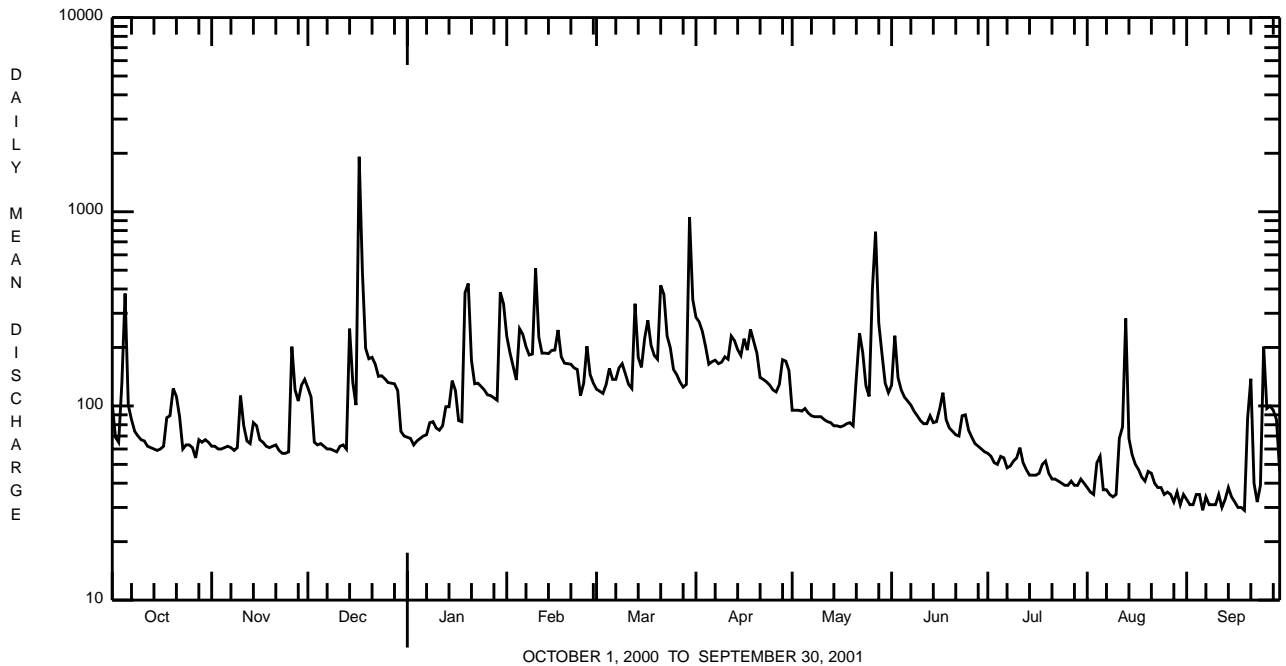
MEAN	92.3	112	170	184	178	222	211	169	118	108	74.1	93.6
MAX	304	242	577	527	409	525	594	410	315	421	177	292
(WY)	1997	1997	1997	1979	1979	1994	1983	1989	1982	1984	1996	1979
MIN	41.2	43.6	40.8	30.9	74.6	61.6	53.1	75.9	45.5	33.3	28.6	29.5
(WY)	1987	1974	1981	1981	1980	1985	1985	1999	1999	1999	1999	1980

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SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1974 - 2001	
ANNUAL TOTAL	53211		43962			
ANNUAL MEAN	145		120		144	
HIGHEST ANNUAL MEAN					257	1984
LOWEST ANNUAL MEAN					59.7	1981
HIGHEST DAILY MEAN	2600	Mar 22	1920	Dec 17	3080	Sep 16 1999
LOWEST DAILY MEAN	47	Aug 26, Sep 10	29	Sep 6, 19	23	Sep 12 1995
ANNUAL SEVEN-DAY MINIMUM	49	Sep 6	32	Sep 6	24	Aug 2 1999
MAXIMUM PEAK FLOW			a4270	Dec 17	b8160	Jun 22 1972
MAXIMUM PEAK STAGE			10.79	Dec 17	14.79	Sep 16 1999
ANNUAL RUNOFF (CFSM)	1.62		1.34		1.60	
ANNUAL RUNOFF (INCHES)	22.02		18.19		21.78	
10 PERCENT EXCEEDS	239		209		273	
50 PERCENT EXCEEDS	104		85		94	
90 PERCENT EXCEEDS	60		38		42	

- a From rating curve extended above 3,600 ft³/s on basis of runoff comparison with nearby station.
- b From rating curve extended above 3,600 ft³/s on basis of slope-area measurement of peak flow at gage height 13.40 ft.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1965 to September 1966, October 1970 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1972 to current year.
 pH: February 1972 to current year.
 WATER TEMPERATURES: February 1972 to current year.
 DISSOLVED OXYGEN: February 1972 to current year.

INSTRUMENTATION.--Water-quality monitor since February 1972.

REMARKS.--Specific conductance, pH, and water temperature records rated good. Dissolved oxygen records rated good, except for July 23 to Sept. 30, which are fair. Data collection discontinued during winter months since 1981 water year. Other interruptions in the record were due to malfunctions of the equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 891 microsiemens, Mar. 5, 2001; minimum, 67 microsiemens, July 1, 1984.
 pH: Maximum, 9.9, May 13, June 5, 1973; minimum, 5.4, Oct. 24, 26, 1973.
 WATER TEMPERATURE: Maximum, 33.0°C, July 18, 1977; minimum, 0.0°C, many days during winters.
 DISSOLVED OXYGEN: Maximum, 19.4 mg/L, Mar. 18, 1989; minimum, 0.8 mg/L, July 23, 1984.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	AGENCY ANA-LYZING SAMPLE NUMBER (00028)	AGENCY COL-LECTING SAMPLE NUMBER (00027)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	CALCIUM SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L) (00935)	SODIUM, DIS-SOLVED (MG/L) (00930)
OCT 2000 12...	1130	80020	1028	65	10.2	7.6	351	12.5	28.9	10.5	3.75	18.8
DATE	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (µG/L AS AL) (01106)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BORON, DIS-SOLVED (µG/L AS B) (01020)	
OCT 2000 12...	95	31.2	12.8	21.9	<.041	3.95	.006	.195	E9	<2.0	118	
DATE	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (µG/L AS MO) (01060)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)		
OCT 2000 12...	<.14	E.7	2.9	30	<1.00	15.2	<.23	E1.5	<2.40	<20		

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WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, 0.7 μ M-MF (COLS./ 100 ML) (31625)
MAR 2001									
08...	1120	1028	1028	155	14.3	8.1	348	4.9	310
21...	1450	1028	1028	288	11.2	7.6	255	6.7	120
APR									
03...	1115	1028	1028	240	12.0	7.5	243	7.3	240
17...	1120	1028	1028	174	12.4	7.8	261	10.3	140
MAY									
02...	1115	1028	1028	97	10.1	7.6	306	16.5	E1200
14...	1120	1028	1028	77	9.5	7.7	316	15.9	160
23...	1305	1028	1028	184	9.3	7.4	238	17.6	3400
JUN									
05...	1315	1028	1028	105	9.4	7.4	285	19.1	320
13...	1400	1028	1028	92	9.1	7.5	298	23.6	E6500
26...	1100	1028	1028	68	8.3	7.6	300	21.2	300
JUL									
09...	1350	1028	1028	53	9.5	7.8	360	24.6	590
16...	1530	1028	1028	41	10.3	8.3	389	25.3	1400
23...	1145	1028	1028	42	8.7	7.5	381	22.7	680
AUG									
01...	1330	1028	1028	43	11.2	7.9	365	22.3	590
15...	1515	1028	1028	54	8.7	8.0	333	26.0	510
SEP									
13...	1400	1028	1028	33	10.4	8.0	424	21.4	290
25...	1430	1028	1028	170	7.9	7.2	207	19.2	4700

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BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATESREMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 µm. Each sample covered a total area of 3.2 m².

Date	10/12/00
Benthic Macroinvertebrate	Count
Nematoda (NEMATODES)	8
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	12
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	45
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<u>Gammarus</u> sp	7
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	11
<u>Pseudocloeon</u> sp	4
Ephemerellidae sp	
<u>Serratella</u> sp	12
Heptageniidae	
<u>Stenonema</u> sp	5
Isonychiidae	
<u>Isonychia</u> sp	1
Plecoptera (STONEFLIES)	
Chloroperlidae	1
Perlidae	
<u>Acroneuria</u> sp	1
Trichoptera (CADDISFLIES)	
Brachycentridae	
<u>Micrasema</u> sp	2
Glossosomatidae	
<u>Glossosoma</u> sp	1
Hydropsychidae	
<u>Cheumatopsyche</u> sp	144
<u>Hydropsyche</u> sp	578
Hydroptilidae	
<u>Leucotrichia</u> sp	2
Lepidostomatidae	
<u>Lepidostoma</u> sp	3
Philopotamidae	
<u>Chimarra</u> sp	50
Lepidoptera	
Pyralididae (MOTHS)	
<u>Petrophila</u> sp	1

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BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/12/00
Benthic Macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Ancyronyx</u> sp	3
<u>Optioservus</u> sp	125
<u>Oulimnius</u> sp	19
<u>Stenelmis</u> sp	56
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	5
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	31
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	5
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	26
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	4
Total Organisms	1162
Total Taxa	28

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SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	276	261	269	340	289	324	---	---	---	---	---	---
2	312	269	297	349	315	337	---	---	---	---	---	---
3	330	310	323	339	322	328	---	---	---	---	---	---
4	336	132	313	338	325	330	---	---	---	---	---	---
5	261	130	201	351	332	340	---	---	---	---	---	---
6	299	261	281	350	331	340	---	---	---	---	---	---
7	317	297	307	342	325	334	---	---	---	---	---	---
8	323	306	315	337	311	327	---	---	---	---	---	---
9	324	315	320	333	320	328	---	---	---	---	---	---
10	328	316	323	---	---	---	---	---	---	---	---	---
11	342	326	331	---	---	---	---	---	---	---	---	---
12	348	332	340	335	309	318	---	---	---	---	---	---
13	351	333	344	333	313	323	---	---	---	---	---	---
14	355	318	340	328	289	308	---	---	---	---	---	---
15	361	322	345	314	289	302	---	---	---	---	---	---
16	359	333	347	322	310	315	---	---	---	---	---	---
17	356	327	337	327	316	322	---	---	---	---	---	---
18	330	289	313	339	316	325	---	---	---	---	---	---
19	316	270	301	339	327	333	---	---	---	---	---	---
20	270	255	260	338	324	330	---	---	---	---	---	---
21	294	263	272	330	322	326	---	---	---	---	---	---
22	336	286	294	340	326	332	---	---	---	---	---	---
23	355	336	347	333	313	324	---	---	---	---	---	---
24	352	331	343	331	315	324	---	---	---	---	---	---
25	340	326	332	339	321	328	---	---	---	---	---	---
26	343	326	333	---	---	---	---	---	---	---	---	---
27	365	343	356	---	---	---	---	---	---	---	---	---
28	357	323	332	296	257	279	---	---	---	---	---	---
29	340	325	331	264	256	260	---	---	---	---	---	---
30	347	329	336	261	254	257	---	---	---	---	---	---
31	345	323	329	---	---	---	---	---	---	---	---	---
MONTH	365	130	317	351	254	319	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	316	304	309	238	225	233	309	292	302
2	---	---	---	307	294	303	239	234	237	308	297	303
3	---	---	---	304	293	299	244	236	240	309	296	304
4	---	---	---	399	293	309	262	241	249	310	289	305
5	---	---	---	891	399	585	266	254	263	310	294	305
6	---	---	---	655	436	516	271	260	265	310	302	306
7	---	---	---	439	377	407	270	260	263	311	303	307
8	---	---	---	399	341	358	267	258	264	311	294	304
9	---	---	---	361	314	336	265	255	261	308	298	304
10	---	---	---	335	313	321	266	251	259	307	298	303
11	---	---	---	319	303	310	271	255	265	313	296	305
12	---	---	---	311	302	307	255	237	245	311	303	307
13	---	---	---	320	238	269	251	241	245	315	305	310
14	---	---	---	292	267	281	254	242	248	321	305	314
15	---	---	---	298	271	289	265	242	248	330	312	318
16	---	---	---	273	250	267	267	233	247	321	295	307
17	---	---	---	267	247	258	260	238	250	312	286	303
18	---	---	---	271	262	266	248	226	238	310	303	307
19	---	---	---	271	262	268	246	231	240	314	300	307
20	---	---	---	272	261	268	267	241	248	315	304	309
21	---	---	---	270	186	245	277	263	270	311	257	277
22	---	---	---	245	186	218	278	265	274	262	206	232
23	---	---	---	257	245	252	287	271	279	255	228	237
24	---	---	---	269	249	256	298	272	281	276	252	266
25	---	---	---	277	268	272	297	277	284	280	272	276
26	---	---	---	283	270	277	290	273	283	280	182	220
27	321	286	312	282	272	276	299	262	286	207	132	169
28	316	310	313	288	277	283	262	254	257	230	207	222
29	---	---	---	291	275	285	263	254	259	262	223	239
30	---	---	---	275	137	174	292	255	263	275	261	265
31	---	---	---	227	183	211	---	---	---	285	270	275
MONTH	321	286	312	891	137	299	299	225	258	330	132	284

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01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	292	224	277	353	332	343	370	327	353	418	373	397
2	253	209	227	358	337	349	377	347	365	403	378	393
3	275	253	263	364	349	357	376	342	359	413	385	400
4	279	260	271	364	335	353	368	277	348	412	375	398
5	289	271	279	361	333	346	327	257	291	384	291	343
6	290	277	282	353	328	339	362	327	346	455	382	436
7	294	276	283	360	332	349	381	341	361	450	398	426
8	295	277	285	369	354	363	395	346	376	436	394	413
9	295	282	289	363	348	357	396	362	380	439	405	419
10	293	287	290	364	283	342	410	362	393	425	390	409
11	305	288	293	356	272	320	389	279	327	400	384	393
12	314	295	303	365	341	353	379	208	336	413	321	379
13	309	279	295	383	315	364	257	130	190	428	390	411
14	311	295	301	385	353	365	304	257	287	441	323	400
15	317	286	304	392	366	376	332	304	314	439	394	411
16	302	268	290	395	375	388	345	308	331	444	409	427
17	286	260	272	375	353	364	378	345	358	451	425	440
18	301	283	290	377	343	362	381	354	362	442	414	426
19	307	292	298	358	333	344	383	361	372	445	396	424
20	319	298	309	378	327	367	372	342	360	448	174	374
21	325	308	314	384	367	375	372	344	355	311	192	241
22	333	305	318	379	367	372	379	343	362	397	311	354
23	334	282	309	394	366	381	388	358	375	427	397	415
24	294	281	287	387	365	378	387	358	373	429	376	406
25	308	290	299	397	365	381	398	367	384	376	195	233
26	323	299	310	403	370	388	400	379	390	281	243	265
27	327	313	318	389	362	376	400	381	390	279	262	270
28	336	319	326	403	369	381	402	304	365	280	261	269
29	345	328	336	397	372	382	428	391	411	335	259	281
30	348	328	339	389	331	359	420	316	377	370	335	356
31	---	---	---	353	323	341	426	394	414	---	---	---
MONTH	348	209	295	403	272	362	428	130	355	455	174	374

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	7.7	7.5	7.5	8.3	7.5	7.6	---	---	---	---	---	---
2	7.7	7.4	7.5	8.3	7.6	7.7	---	---	---	---	---	---
3	7.8	7.5	7.5	8.5	7.6	7.7	---	---	---	---	---	---
4	7.9	7.2	7.5	8.6	7.6	7.7	---	---	---	---	---	---
5	7.4	7.0	7.3	8.5	7.6	7.8	---	---	---	---	---	---
6	7.6	7.4	7.4	8.6	7.7	7.9	---	---	---	---	---	---
7	7.7	7.4	7.5	8.7	7.5	7.8	---	---	---	---	---	---
8	7.8	7.5	7.6	8.8	7.4	7.6	---	---	---	---	---	---
9	7.8	7.6	7.7	8.5	7.4	7.5	---	---	---	---	---	---
10	7.7	7.5	7.6	---	---	---	---	---	---	---	---	---
11	7.6	7.4	7.5	---	---	---	---	---	---	---	---	---
12	7.7	7.4	7.5	8.4	7.6	7.7	---	---	---	---	---	---
13	7.8	7.5	7.6	8.4	7.5	7.6	---	---	---	---	---	---
14	7.8	7.5	7.6	7.6	7.5	7.6	---	---	---	---	---	---
15	7.9	7.5	7.6	8.3	7.5	7.6	---	---	---	---	---	---
16	7.8	7.4	7.5	8.5	7.5	7.6	---	---	---	---	---	---
17	7.7	7.5	7.5	8.4	7.5	7.6	---	---	---	---	---	---
18	7.5	7.4	7.4	8.5	7.5	7.6	---	---	---	---	---	---
19	7.7	7.4	7.5	8.4	7.5	7.6	---	---	---	---	---	---
20	7.6	7.4	7.5	8.3	7.5	7.6	---	---	---	---	---	---
21	7.6	7.4	7.4	8.5	7.5	7.7	---	---	---	---	---	---
22	7.6	7.3	7.4	8.4	7.5	7.6	---	---	---	---	---	---
23	7.7	7.4	7.5	8.4	7.6	7.7	---	---	---	---	---	---
24	7.8	7.4	7.5	8.4	7.5	7.6	---	---	---	---	---	---
25	7.8	7.4	7.5	8.3	7.5	7.6	---	---	---	---	---	---
26	7.8	7.4	7.4	---	---	---	---	---	---	---	---	---
27	8.2	7.4	7.5	---	---	---	---	---	---	---	---	---
28	8.0	7.4	7.5	8.0	7.4	7.5	---	---	---	---	---	---
29	8.1	7.4	7.7	7.9	7.5	7.5	---	---	---	---	---	---
30	8.1	7.6	7.6	7.8	7.5	7.5	---	---	---	---	---	---
31	8.2	7.5	7.6	---	---	---	---	---	---	---	---	---
MAX	8.2	7.6	7.7	8.8	7.7	7.9	---	---	---	---	---	---
MIN	7.4	7.0	7.3	7.6	7.4	7.5	---	---	---	---	---	---

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	8.5	7.4	7.6	7.6	7.3	7.4	8.3	7.3	7.4
2	---	---	---	8.5	7.4	7.7	7.6	7.3	7.4	8.3	7.3	7.4
3	---	---	---	8.8	7.4	7.7	7.8	7.4	7.4	8.1	7.3	7.4
4	---	---	---	8.0	7.4	7.6	7.9	7.4	7.5	8.0	7.3	7.4
5	---	---	---	8.6	7.4	7.6	8.0	7.4	7.5	7.8	7.2	7.3
6	---	---	---	8.8	7.5	7.7	7.8	7.4	7.5	7.9	7.3	7.4
7	---	---	---	8.8	7.5	7.7	7.8	7.3	7.5	7.9	7.4	7.4
8	---	---	---	8.8	7.4	7.6	8.1	7.4	7.5	8.1	7.3	7.5
9	---	---	---	8.8	7.4	7.7	8.2	7.4	7.5	8.0	7.4	7.5
10	---	---	---	8.9	7.4	7.7	8.3	7.3	7.5	8.0	7.4	7.5
11	---	---	---	9.0	7.4	7.8	7.7	7.4	7.4	8.0	7.4	7.5
12	---	---	---	8.9	7.4	7.7	7.9	7.4	7.5	7.9	7.3	7.5
13	---	---	---	7.5	7.4	7.4	8.2	7.3	7.5	7.9	7.3	7.4
14	---	---	---	8.3	7.4	7.5	8.3	7.4	7.6	7.9	7.3	7.5
15	---	---	---	8.3	7.4	7.5	8.4	7.4	7.5	7.9	7.4	7.5
16	---	---	---	8.4	7.4	7.5	8.1	7.4	7.5	7.9	7.4	7.5
17	---	---	---	7.6	7.4	7.4	8.3	7.4	7.6	7.7	7.3	7.5
18	---	---	---	8.4	7.4	7.6	8.3	7.4	7.6	7.6	7.4	7.5
19	---	---	---	8.4	7.4	7.6	8.5	7.4	7.6	7.8	7.4	7.4
20	---	---	---	8.6	7.4	7.6	8.5	7.4	7.6	7.7	7.3	7.5
21	---	---	---	7.7	7.3	7.4	8.6	7.4	7.6	7.4	7.3	7.4
22	---	---	---	7.5	7.3	7.4	8.8	7.3	7.7	7.3	7.2	7.2
23	---	---	---	7.8	7.4	7.4	8.7	7.3	7.5	7.5	7.2	7.3
24	---	---	---	7.8	7.4	7.5	8.6	7.2	7.5	7.5	7.3	7.3
25	---	---	---	8.1	7.4	7.6	8.7	7.4	7.8	7.5	7.3	7.4
26	---	---	---	8.1	7.4	7.6	8.6	7.5	7.7	7.4	7.2	7.3
27	8.4	7.4	7.6	8.3	7.4	7.6	8.5	7.4	7.7	7.3	7.0	7.2
28	8.4	7.4	7.6	8.3	7.4	7.6	8.4	7.3	7.5	7.3	7.2	7.2
29	---	---	---	8.2	7.4	7.5	8.3	7.4	7.5	7.3	7.2	7.3
30	---	---	---	7.5	7.2	7.3	8.2	7.3	7.5	7.5	7.3	7.4
31	---	---	---	7.5	7.3	7.4	---	---	---	7.5	7.4	7.4
MAX	8.4	7.4	7.6	9.0	7.5	7.8	8.8	7.5	7.8	8.3	7.4	7.5
MIN	8.4	7.4	7.6	7.5	7.2	7.3	7.6	7.2	7.4	7.3	7.0	7.2

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.5	7.3	7.4	8.2	7.4	7.6	8.4	7.1	7.4	8.5	7.2	7.5
2	7.4	7.2	7.2	8.2	7.4	7.6	8.4	7.1	7.5	8.6	7.4	7.6
3	7.4	7.2	7.3	8.4	7.6	7.8	8.7	7.2	7.7	8.6	7.4	7.6
4	7.5	7.3	7.3	8.1	7.5	7.7	8.3	7.1	7.4	8.5	7.3	7.5
5	7.7	7.2	7.3	7.9	7.4	7.5	7.8	7.0	7.2	8.5	7.2	7.5
6	7.7	7.3	7.4	8.2	7.4	7.6	8.2	6.9	7.2	8.4	7.4	7.6
7	7.9	7.3	7.4	8.4	7.5	7.8	8.2	6.9	7.2	8.5	7.4	7.5
8	7.8	7.3	7.4	8.1	7.6	7.7	8.2	6.9	7.3	8.5	7.4	7.6
9	7.6	7.3	7.4	8.4	7.5	7.7	8.2	7.0	7.3	8.4	7.4	7.5
10	7.8	7.2	7.3	8.3	7.5	7.7	8.1	7.0	7.2	8.2	7.3	7.5
11	7.8	7.2	7.3	8.3	7.5	7.6	7.1	7.0	7.0	8.2	7.3	7.5
12	7.7	7.1	7.2	8.1	7.5	7.6	7.4	6.8	7.1	8.4	7.3	7.5
13	7.9	7.1	7.3	8.2	7.5	7.7	6.9	6.6	6.8	8.3	7.4	7.5
14	7.8	7.2	7.4	8.2	7.5	7.7	7.2	6.9	7.0	7.8	7.3	7.5
15	7.8	7.2	7.4	8.2	7.4	7.6	7.7	7.0	7.2	8.2	7.5	7.6
16	7.6	7.2	7.4	8.2	7.4	7.5	8.0	7.3	7.5	8.2	7.5	7.6
17	7.8	7.4	7.5	8.3	7.3	7.6	8.1	7.4	7.6	8.2	7.5	7.6
18	7.8	7.4	7.5	7.7	7.2	7.4	8.3	7.5	7.7	8.2	7.5	7.7
19	7.9	7.4	7.5	8.1	7.3	7.5	8.2	7.5	7.7	8.3	7.5	7.6
20	7.9	7.4	7.5	8.1	7.3	7.5	8.6	7.5	7.8	7.7	7.2	7.4
21	8.2	7.4	7.6	8.2	7.5	7.6	8.6	7.5	7.9	7.4	7.2	7.3
22	8.2	7.5	7.6	8.2	7.4	7.6	8.7	7.5	7.8	7.7	7.2	7.4
23	8.0	7.5	7.6	8.4	7.3	7.6	8.5	7.5	7.7	7.8	7.3	7.3
24	8.1	7.5	7.6	8.3	7.3	7.5	8.7	7.4	7.7	7.7	7.2	7.3
25	8.1	7.5	7.6	8.3	7.2	7.5	8.6	7.4	7.6	7.3	7.0	7.2
26	8.2	7.5	7.6	7.7	7.1	7.4	8.7	7.4	7.7	7.6	7.2	7.4
27	8.2	7.5	7.7	8.2	7.3	7.5	8.6	7.3	7.7	7.7	7.3	7.4
28	8.4	7.5	7.7	8.4	7.3	7.6	8.7	7.3	7.6	7.8	7.3	7.5
29	8.2	7.5	7.7	8.0	7.3	7.5	8.5	7.3	7.5	7.8	7.4	7.5
30	8.2	7.4	7.6	8.4	7.3	7.5	8.7	7.3	7.7	7.9	7.4	7.6
31	---	---	---	8.4	7.2	7.5	8.5	7.3	7.5	---	---	---
MAX	8.4	7.5	7.7	8.4	7.6	7.8	8.7	7.5	7.9	8.6	7.5	7.7
MIN	7.4	7.1	7.2	7.7	7.1	7.4	6.9	6.6	6.8	7.3	7.0	7.2

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.5	13.5	14.5	11.5	8.5	10.0	---	---	---	---	---	---
2	16.5	14.0	15.5	11.5	8.5	10.0	---	---	---	---	---	---
3	18.0	14.5	16.0	12.0	9.0	10.5	---	---	---	---	---	---
4	18.5	16.0	17.0	13.0	10.5	11.5	---	---	---	---	---	---
5	17.5	16.5	17.0	12.0	9.5	10.5	---	---	---	---	---	---
6	18.0	16.5	17.5	11.0	8.0	9.5	---	---	---	---	---	---
7	17.0	14.0	15.5	10.5	8.0	9.0	---	---	---	---	---	---
8	14.0	11.5	13.0	11.5	9.5	10.5	---	---	---	---	---	---
9	11.5	10.5	11.0	12.5	11.0	12.0	---	---	---	---	---	---
10	11.5	10.0	10.5	---	---	---	---	---	---	---	---	---
11	13.0	10.0	11.5	---	---	---	---	---	---	---	---	---
12	14.0	11.0	12.5	12.0	10.5	11.0	---	---	---	---	---	---
13	14.5	11.0	12.5	12.0	10.5	11.5	---	---	---	---	---	---
14	15.0	12.0	13.5	11.5	9.0	11.0	---	---	---	---	---	---
15	16.0	12.5	14.5	9.5	8.0	8.5	---	---	---	---	---	---
16	15.5	14.0	15.0	8.5	6.5	7.5	---	---	---	---	---	---
17	15.0	14.5	14.5	9.5	7.5	8.5	---	---	---	---	---	---
18	15.0	14.5	14.5	8.5	6.5	7.5	---	---	---	---	---	---
19	15.0	13.0	14.0	7.0	5.5	6.5	---	---	---	---	---	---
20	14.0	12.0	13.0	6.5	4.5	5.5	---	---	---	---	---	---
21	14.5	12.0	13.5	6.0	4.0	5.0	---	---	---	---	---	---
22	14.5	12.5	13.5	5.0	3.0	4.0	---	---	---	---	---	---
23	13.5	11.0	12.0	5.0	2.5	3.5	---	---	---	---	---	---
24	14.0	11.0	12.0	5.0	2.5	3.5	---	---	---	---	---	---
25	15.0	12.0	13.5	5.0	3.0	4.0	---	---	---	---	---	---
26	15.0	13.0	14.0	---	---	---	---	---	---	---	---	---
27	15.5	12.5	14.0	---	---	---	---	---	---	---	---	---
28	15.0	11.5	13.5	9.0	7.5	8.0	---	---	---	---	---	---
29	11.5	9.5	10.5	8.0	6.0	7.0	---	---	---	---	---	---
30	11.0	8.5	10.0	7.5	7.0	7.0	---	---	---	---	---	---
31	11.5	8.5	10.0	---	---	---	---	---	---	---	---	---
MONTH	18.5	8.5	13.5	13.0	2.5	8.2	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	6.0	3.5	4.5	8.0	6.5	7.5	19.0	12.5	15.5
2	---	---	---	7.0	4.5	5.5	8.5	7.0	7.5	20.5	15.0	17.5
3	---	---	---	8.0	6.0	7.0	10.0	6.0	8.0	21.5	16.5	19.0
4	---	---	---	7.0	3.5	5.5	12.0	8.0	10.0	22.0	17.5	19.5
5	---	---	---	4.5	3.0	3.5	12.0	8.0	10.0	21.0	17.5	19.5
6	---	---	---	4.5	2.5	3.5	11.0	9.5	10.0	19.5	15.5	17.0
7	---	---	---	7.0	3.5	5.5	10.5	9.5	10.0	18.5	13.5	15.5
8	---	---	---	6.5	4.0	5.5	10.0	9.0	9.5	18.5	13.5	15.5
9	---	---	---	6.5	5.0	6.0	15.0	9.0	12.0	18.5	15.0	16.5
10	---	---	---	7.0	4.0	5.5	15.0	12.5	13.5	19.5	15.0	17.0
11	---	---	---	7.0	4.0	5.5	13.5	11.0	12.0	21.0	16.0	18.0
12	---	---	---	8.0	4.5	6.5	12.0	10.5	11.0	20.5	17.0	18.5
13	---	---	---	7.0	5.5	6.0	14.5	10.5	12.0	20.0	16.0	17.5
14	---	---	---	8.0	6.0	7.0	14.5	10.5	12.5	18.0	14.5	16.0
15	---	---	---	7.0	5.5	6.0	13.5	10.0	12.0	18.5	14.0	16.0
16	---	---	---	8.0	6.0	7.0	12.5	11.0	12.0	17.5	14.0	16.0
17	---	---	---	7.5	6.5	7.0	11.5	9.5	10.5	16.0	15.0	15.0
18	---	---	---	8.5	5.5	7.0	11.5	8.5	10.0	15.0	14.5	14.5
19	---	---	---	9.0	5.0	7.0	12.0	7.5	9.5	19.0	15.0	16.5
20	---	---	---	8.5	5.0	7.0	11.0	8.5	10.0	17.5	16.0	16.5
21	---	---	---	8.0	6.5	7.0	13.5	11.0	12.0	16.0	14.5	15.0
22	---	---	---	7.5	6.0	7.0	18.0	12.5	15.0	16.0	14.5	15.0
23	---	---	---	9.5	5.5	7.5	20.0	15.0	17.5	18.5	15.5	17.0
24	---	---	---	8.0	6.0	7.0	20.0	16.5	18.0	19.5	16.5	18.0
25	---	---	---	8.5	4.5	6.5	17.0	13.0	14.0	19.0	17.5	18.0
26	---	---	---	9.0	6.0	7.0	15.5	10.5	13.0	17.5	15.5	16.0
27	6.5	4.0	5.5	8.0	4.0	6.0	16.5	11.0	14.0	17.0	15.0	15.5
28	7.0	5.0	6.0	9.0	4.5	6.5	15.0	11.0	13.5	18.0	15.0	16.5
29	---	---	---	7.5	6.0	6.5	14.5	9.5	12.0	18.0	14.5	16.0
30	---	---	---	7.0	5.5	6.0	15.0	9.5	12.5	18.5	16.0	17.0
31	---	---	---	7.5	5.5	6.5	---	---	---	17.5	14.0	16.0
MONTH	7.0	4.0	5.8	9.5	2.5	6.2	20.0	6.0	11.7	22.0	12.5	16.7

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.5	14.5	15.0	26.5	23.0	24.5	24.5	18.5	21.0	24.5	21.0	23.0
2	17.0	14.5	15.5	24.0	20.0	22.0	25.0	19.0	21.5	22.5	18.5	20.5
3	18.0	16.5	17.0	22.5	18.0	20.5	24.5	20.0	22.0	23.0	17.5	20.0
4	18.5	15.0	17.0	23.0	20.0	21.0	23.5	20.5	22.0	23.0	19.5	21.0
5	20.5	16.5	18.0	23.0	20.5	21.5	24.5	20.5	22.5	23.0	19.0	20.5
6	19.0	18.0	18.5	23.5	19.5	21.0	26.5	22.0	24.0	23.0	17.5	20.0
7	20.5	17.5	18.5	24.0	18.0	20.5	28.0	22.5	25.0	23.0	17.5	20.0
8	20.5	17.0	18.5	22.0	20.5	21.0	28.0	23.0	25.0	23.5	19.0	20.5
9	20.5	16.5	18.5	26.0	20.5	22.5	28.0	23.0	25.0	23.5	19.5	21.5
10	20.5	17.0	18.5	25.0	21.0	23.0	27.0	24.0	25.5	23.5	21.0	22.0
11	22.0	17.5	19.5	25.0	21.0	22.5	25.0	22.0	23.0	23.5	19.5	21.0
12	23.0	19.0	21.0	24.0	19.5	21.5	24.0	22.0	22.5	22.0	17.5	19.5
13	24.5	20.5	22.0	22.5	19.0	20.5	24.0	22.0	22.5	22.5	17.5	19.5
14	23.5	21.5	22.5	23.5	18.5	21.0	25.5	22.0	23.5	20.5	17.0	18.5
15	23.5	21.0	22.0	24.5	18.5	21.0	26.0	22.0	23.5	19.0	15.0	16.5
16	22.5	21.0	21.5	25.5	20.0	22.5	26.0	22.0	23.5	19.5	14.5	16.5
17	23.5	20.5	21.5	26.0	21.0	23.0	25.5	23.0	24.0	20.0	15.0	17.0
18	24.0	20.0	22.0	23.5	22.0	22.5	24.5	21.5	23.0	19.0	15.5	17.0
19	25.0	20.0	22.5	24.5	20.5	22.0	23.5	21.5	22.5	20.5	16.0	18.0
20	25.5	20.5	22.5	25.0	20.0	22.0	26.0	22.0	23.5	19.5	18.5	18.5
21	24.5	21.5	22.5	25.5	19.0	21.5	24.5	21.5	23.0	20.5	18.5	19.5
22	24.0	22.0	22.5	25.5	19.5	22.0	25.5	20.5	22.5	22.5	19.0	20.0
23	24.0	22.0	22.5	26.0	20.5	23.0	23.5	21.0	22.0	22.5	19.0	20.5
24	22.5	20.0	21.5	27.5	22.0	24.0	25.0	21.0	23.0	21.5	19.5	20.5
25	24.5	19.5	21.5	28.0	23.0	25.0	25.5	22.0	23.0	21.0	17.5	19.0
26	25.0	20.0	22.0	25.5	22.0	24.0	25.0	20.0	22.0	17.5	15.0	16.0
27	26.0	21.0	23.0	24.0	20.0	21.5	25.0	21.5	23.0	16.0	14.5	15.5
28	26.5	22.0	24.0	23.5	19.0	21.0	25.5	21.5	23.5	15.5	14.0	15.0
29	26.5	22.5	24.0	21.0	19.0	19.5	25.5	21.0	23.0	15.5	14.0	15.0
30	26.5	23.0	24.5	22.5	19.0	20.0	24.0	21.0	22.5	15.0	14.0	14.5
31	---	---	---	23.5	18.5	20.5	25.5	21.5	23.5	---	---	---
MONTH	26.5	14.5	20.7	28.0	18.0	21.9	28.0	18.5	23.1	24.5	14.0	18.9

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	10.1	8.9	9.4	12.3	9.0	10.1	---	---	---	---	---	---
2	10.1	8.6	9.2	12.5	8.8	10.0	---	---	---	---	---	---
3	10.1	8.2	9.0	12.6	8.5	10.0	---	---	---	---	---	---
4	10.3	7.7	8.8	12.4	8.2	9.7	---	---	---	---	---	---
5	8.5	7.6	8.2	12.4	8.1	9.7	---	---	---	---	---	---
6	9.8	8.3	8.9	12.8	8.7	10.1	---	---	---	---	---	---
7	10.2	8.8	9.4	14.7	8.8	10.5	---	---	---	---	---	---
8	10.8	9.3	10.0	13.3	8.6	10.4	---	---	---	---	---	---
9	11.1	9.9	10.4	12.7	7.9	9.5	---	---	---	---	---	---
10	11.2	10.0	10.5	---	---	---	---	---	---	---	---	---
11	11.0	9.5	10.2	---	---	---	---	---	---	---	---	---
12	11.3	9.4	10.1	---	---	---	---	---	---	---	---	---
13	11.1	9.3	10.0	---	---	---	---	---	---	---	---	---
14	11.0	8.9	9.8	---	---	---	---	---	---	---	---	---
15	11.3	8.6	9.7	12.4	9.0	10.3	---	---	---	---	---	---
16	10.8	8.5	9.3	12.7	9.2	10.5	---	---	---	---	---	---
17	10.1	8.5	9.0	12.3	9.0	10.1	---	---	---	---	---	---
18	9.3	8.5	8.8	12.7	9.1	10.5	---	---	---	---	---	---
19	10.6	8.6	9.5	12.7	9.3	10.6	---	---	---	---	---	---
20	11.0	8.9	10.3	13.0	9.8	10.9	---	---	---	---	---	---
21	10.5	8.6	9.5	13.2	9.7	11.0	---	---	---	---	---	---
22	10.5	8.6	9.4	13.9	10.2	11.6	---	---	---	---	---	---
23	11.4	8.9	9.8	13.7	10.8	11.8	---	---	---	---	---	---
24	11.8	9.1	10.2	13.8	10.7	11.7	---	---	---	---	---	---
25	11.7	8.8	9.8	13.7	10.4	11.6	---	---	---	---	---	---
26	11.6	8.5	9.5	---	---	---	---	---	---	---	---	---
27	12.3	8.4	9.8	---	---	---	---	---	---	---	---	---
28	11.4	8.3	9.3	12.2	9.9	10.5	---	---	---	---	---	---
29	11.9	8.5	9.9	12.2	10.1	10.9	---	---	---	---	---	---
30	12.2	9.0	10.1	11.8	10.2	10.8	---	---	---	---	---	---
31	12.2	9.1	10.1	---	---	---	---	---	---	---	---	---
MONTH	12.3	7.6	9.6	14.7	7.9	10.6	---	---	---	---	---	---

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	14.6	11.1	12.5	12.0	10.7	11.2	12.0	6.9	9.1
2	---	---	---	14.3	10.7	12.2	12.1	10.7	11.2	11.7	6.6	8.6
3	---	---	---	14.6	10.5	12.1	12.3	10.3	11.3	11.1	6.3	8.2
4	---	---	---	13.2	10.4	11.6	12.3	9.7	11.0	10.8	6.1	7.9
5	---	---	---	14.9	11.4	12.7	12.7	9.6	11.0	9.9	6.1	7.5
6	---	---	---	15.4	11.4	12.9	12.1	9.6	10.7	10.6	6.8	8.4
7	---	---	---	15.5	10.8	12.6	12.2	9.9	10.9	10.7	7.3	8.8
8	---	---	---	15.0	10.7	12.5	12.7	10.2	11.2	11.3	7.1	9.0
9	---	---	---	14.8	10.7	12.3	12.8	8.4	10.8	10.8	7.5	8.8
10	---	---	---	15.4	10.8	12.6	12.7	8.2	10.1	10.5	7.4	8.7
11	---	---	---	15.7	10.7	12.7	11.4	8.9	9.9	10.5	7.1	8.5
12	---	---	---	16.0	10.3	12.6	12.0	9.8	10.6	10.0	7.1	8.3
13	---	---	---	11.4	10.2	10.9	12.4	9.3	10.6	10.4	7.3	8.6
14	---	---	---	13.6	10.4	11.6	12.8	9.3	10.7	10.6	7.9	9.0
15	---	---	---	14.4	10.4	11.9	13.1	9.3	10.8	10.7	8.0	9.1
16	---	---	---	14.0	10.4	11.6	12.3	9.2	10.4	10.6	8.0	9.1
17	---	---	---	11.8	10.4	11.1	13.4	9.7	11.3	10.2	8.2	9.1
18	---	---	---	13.7	10.6	11.8	13.1	10.2	11.3	9.7	8.6	9.0
19	---	---	---	14.3	10.4	11.9	13.7	9.8	11.6	10.3	8.0	9.1
20	---	---	---	14.4	10.2	11.9	13.6	9.5	11.4	9.9	7.9	8.8
21	---	---	---	12.0	10.1	10.9	13.9	8.8	10.8	9.0	8.4	8.7
22	---	---	---	11.3	10.3	10.8	14.5	7.5	10.6	9.0	8.5	8.8
23	---	---	---	12.6	10.3	11.2	14.0	6.8	9.8	9.4	8.2	8.8
24	---	---	---	12.8	10.2	11.2	12.9	6.6	8.9	9.4	8.0	8.6
25	---	---	---	13.5	10.6	11.7	13.2	6.9	9.8	9.5	7.9	8.6
26	---	---	---	14.1	10.2	11.8	13.1	8.3	10.3	9.1	8.2	8.6
27	13.9	10.9	12.3	14.1	10.4	12.1	12.6	7.9	9.9	9.1	8.5	8.9
28	14.1	10.8	12.1	14.4	9.9	12.0	12.0	7.9	9.8	9.5	8.7	9.1
29	---	---	---	14.2	10.4	12.0	12.2	8.7	10.1	9.7	8.7	9.2
30	---	---	---	11.4	10.7	11.2	11.9	7.8	9.9	9.3	8.6	8.9
31	---	---	---	11.8	10.8	11.4	---	---	---	10.0	8.6	9.3
MONTH	14.1	10.8	12.2	16.0	9.9	11.9	14.5	6.6	10.6	12.0	6.1	8.7
	JUNE			JULY			AUGUST			SEPTEMBER		
1	9.9	8.7	9.4	10.0	6.1	7.5	11.9	6.6	8.5	11.9	5.7	8.0
2	9.6	8.6	9.1	10.1	6.1	7.7	11.7	6.7	8.6	12.2	6.2	8.6
3	9.4	8.4	8.9	10.3	6.7	8.1	12.9	6.5	8.9	12.4	6.7	8.8
4	9.8	8.4	9.1	9.1	6.2	7.4	11.5	6.3	8.1	12.4	6.3	8.6
5	9.9	7.9	8.7	9.2	6.1	7.4	9.8	6.5	7.9	11.8	6.0	8.1
6	9.5	7.8	8.6	9.5	6.1	7.5	11.1	5.9	8.0	12.7	6.5	8.6
7	9.6	7.8	8.5	9.7	6.4	7.7	10.9	5.8	7.6	10.8	6.0	8.1
8	9.4	7.6	8.4	9.0	6.3	7.4	11.2	5.7	7.7	11.7	5.4	7.5
9	9.6	7.6	8.4	9.6	5.9	7.4	11.1	5.6	7.7	10.4	5.3	7.4
10	10.2	7.6	8.5	9.2	5.4	6.8	11.0	5.3	7.1	10.8	5.4	7.3
11	9.7	7.1	8.3	8.9	5.9	7.1	7.2	5.2	6.3	10.9	5.7	7.5
12	9.4	6.5	7.7	9.2	6.2	7.4	8.3	5.6	6.9	10.5	5.6	7.8
13	9.0	6.5	7.6	9.1	6.0	7.5	7.1	5.7	6.7	10.6	6.2	7.8
14	8.9	6.5	7.4	9.7	6.6	7.9	7.5	5.8	6.6	9.0	5.9	7.3
15	8.9	6.3	7.5	9.4	6.5	7.6	8.7	6.4	7.2	10.9	6.3	8.0
16	8.0	6.3	7.1	10.4	6.4	7.8	9.2	6.6	7.5	11.4	6.5	8.3
17	8.6	6.9	7.5	10.5	6.2	7.8	9.4	6.4	7.5	12.0	6.8	8.9
18	8.8	6.8	7.5	9.0	6.2	7.3	10.1	6.3	7.8	12.1	6.9	9.0
19	9.1	6.7	7.6	10.1	6.6	8.0	9.9	6.3	7.8	11.2	6.4	8.4
20	9.3	6.6	7.6	10.3	6.4	8.0	10.8	5.6	7.8	8.6	6.1	7.3
21	9.6	6.5	7.7	10.6	6.7	8.2	10.7	5.5	7.6	8.8	6.6	7.7
22	9.4	6.6	7.6	10.8	6.8	8.3	11.2	5.9	7.8	9.2	6.5	7.6
23	9.2	6.7	7.5	10.3	6.0	8.0	11.0	5.9	7.8	9.8	6.2	7.7
24	9.6	6.9	7.9	9.9	5.7	7.3	11.5	5.7	7.9	9.7	6.3	7.6
25	9.7	6.9	8.0	10.2	5.5	7.2	12.0	5.4	8.0	---	---	7.7
26	9.5	6.8	7.9	8.3	5.3	6.6	12.3	5.5	8.2	---	---	8.5
27	9.7	6.6	7.8	10.2	6.1	7.7	12.2	5.8	8.1	---	---	8.8
28	9.9	6.4	7.7	10.7	6.4	8.1	12.8	5.4	8.1	---	---	8.9
29	10.0	6.4	7.8	9.4	6.5	7.6	12.0	5.5	7.9	9.8	8.1	8.8
30	10.1	6.2	7.7	10.7	6.7	8.2	12.0	6.1	8.3	10.3	8.0	8.9
31	---	---	---	10.6	6.6	8.2	12.1	6.1	8.2	---	---	---
MONTH	10.2	6.2	8.0	10.8	5.3	7.6	12.9	5.2	7.7	12.7	5.3	8.1