CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 39°52'11", long 75°35'37", Delaware County, Hydrologic Unit 02040205, on left bank 27 ft upstream from Penn Central Railroad bridge at Chadds Ford, 150 ft upstream from Harvey Run, and 1,200 ft downstream from highway bridge on U.S. Highway 1.

DRAINAGE AREA.--287 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1911 to September 1953, October 1962 to current year. Prior to October 1911, monthly discharge only, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1202: 1917-18(M), 1919-20, 1922-31(M), 1932-33, 1934(M), 1936, 1938(P), 1939(M), 1942, 1944-46(M), WDR PA-98-1: 1996-97 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 150.45 ft above National Geodetic Vertical Datum of 1929. Prior to May 21, 1927, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since November 1973 by Marsh Creek Reservoir (station 01480684) about 17 mi upstream. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 19, 1955, reached a stage of 14.64 ft, gage datum, discharge, about 16,400 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	95	102	e80	231	119	216	219	172	128	55	106
2	115	98	101	e85	220	114	190	280	160	124	55	158
3	108	101	97	e85	175	665	176	817	149	118	53	91
4	104	98	97	e90	164	281	178	275	145	112	172	73
5	101	98	97	e90	146	178	172	217	156	110	67	65
6	93	96	98	e100	139	153	161	195	185	101	57	59
7	94	93	95	298	151	147	157	186	1240	98	54	54
8	92	98	103	193	150	152	151	177	291	103	50	52
9	95	94	194	144	145	139	154	202	201	103	48	51
10	95	95	142	136	144	161	169	231	182	115	47	49
11	97	93	122	324	151	140	157	185	171	107	44	47
12	95	91	113	458	141	127	151	180	161	93	43	42
13	97	91	113	187	138	148	151	371	159	89	43	39
14	95	92	132	150	128	171	163	1010	299	89	40	39
15	125	92	175	134	130	153	196	350	346	101	40	42
16	109	96	134	128	135	139	159	248	247	95	38	78
17	104	95	119	123	131	137	149	217	201	85	37	67
18	102	95	196	126	126	225	140	925	185	77	36	55
19	100	92	168	122	124	229	140	560	198	74	37	49
20	101	99	132	128	124	522	166	307	188	74	39	51
21	101	99	117	130	148	681	142	260	162	75	37	50
22	98	96	112	126	137	270	170	235	149	72	33	49
23	93	95	110	128	126	209	172	216	141	69	36	47
24	94	95	157	498	124	186	145	201	144	74	41	54
25	102	134	139	659	122	173	148	194	156	72	158	44
26	91	261	123	243	124	167	165	185	141	69	66	41
27	95	139	e100	190	125	453	144	189	139	65	54	371
28	91	113	e95	171	119	258	471	202	197	70	50	287
29	92	105	e90	163	---	202	393	191	151	70	252	124
30	93	105	e85	159	---	190	231	183	134	65	125	71
31	95	---	e80	231	---	191	---	171	---	56	76	---
TOTAL	3085	3144	3738	5879	4018	7080	5477	9379	6550	2753	1983	2405
MEAN	99.5	105	121	190	144	228	183	303	218	88.8	64.0	80.2
MAX	125	261	196	659	231	681	471	1010	1240	128	252	371
MIN	91	91	80	80	119	114	140	171	134	56	33	39

    e Estimated.

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2002, BY WATER YEAR (WY) (<u>SINCE REGULATION</u>)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	266	316	453	529	531	657	614	511	376	323	229	269
MAX	924	751	1634	1664	1308	1713	1509	1097	833	1153	562	906
(WY)	1997	1997	1997	1979	1979	1994	1983	1989	1975	1975	1996	1979
MIN	99.5	105	112	106	144	195	183	249	153	88.8	64.0	80.2
(WY)	2002	2002	1999	1981	2002	1981	2002	1999	1999	2002	2002	2002

| SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1974 - 2002	
ANNUAL TOTAL	111418		55491			
ANNUAL MEAN	305		152		422	
HIGHEST ANNUAL MEAN					714	1984
LOWEST ANNUAL MEAN					152	2002
HIGHEST DAILY MEAN	2500	Mar 30	1240	Jun 7	10600	Jan 26 1978
LOWEST DAILY MEAN	e80	Dec 31	33	Aug 22	33	Aug 22 2002
ANNUAL SEVEN-DAY MINIMUM	93	Nov 9	36	Aug 17	36	Aug 17 2002
MAXIMUM PEAK FLOW			2380	Jun 7	a26900	Sep 17 1999
MAXIMUM PEAK STAGE			5.66	Jun 7	17.15	Sep 17 1999
INSTANTANEOUS LOW FLOW			32	Aug 22	8.4	Sep 13 1980
10 PERCENT EXCEEDS	625		233		800	
50 PERCENT EXCEEDS	202		126		287	
90 PERCENT EXCEEDS	95		54		122	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911-1953, 1963-1973, BY WATER YEAR (WY) (<u>PRIOR TO REGULATION</u>)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	219	301	348	444	570	605	530	435	364	309	278	230
MAX	666	625	827	1020	1130	1366	1043	946	1144	802	1089	1050
(WY)	1972	1972	1973	1936	1971	1920	1973	1952	1972	1919	1933	1971
MIN	67.7	98.3	114	145	214	247	226	175	149	91.1	82.1	59.4
(WY)	1964	1942	1966	1966	1934	1931	1963	1926	1963	1963	1930	1932

SUMMARY STATISTICS	WATER YEARS 1911-1953 1963-1973	
ANNUAL MEAN	385	
HIGHEST ANNUAL MEAN	625	1928
LOWEST ANNUAL MEAN	218	1932
HIGHEST DAILY MEAN	9590	Aug 24 1933
LOWEST DAILY MEAN	42	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	45	Sep 7 1966
MAXIMUM PEAK FLOW	b23800	Jun 22 1972
MAXIMUM PEAK STAGE	16.56	Jun 22 1972
INSTANTANEOUS LOW FLOW	4.9	Oct 2 1942
ANNUAL RUNOFF (CFSM)	1.34	
ANNUAL RUNOFF (INCHES)	18.23	
10 PERCENT EXCEEDS	700	
50 PERCENT EXCEEDS	274	
90 PERCENT EXCEEDS	118	

a From rating curve extended above 13,200 ft^3/s on basis of area-velocity study at gage height 16.56 ft.
b From rating curve extended above 9,000 ft^3/s on basis of area-velocity study.
e Estimated.
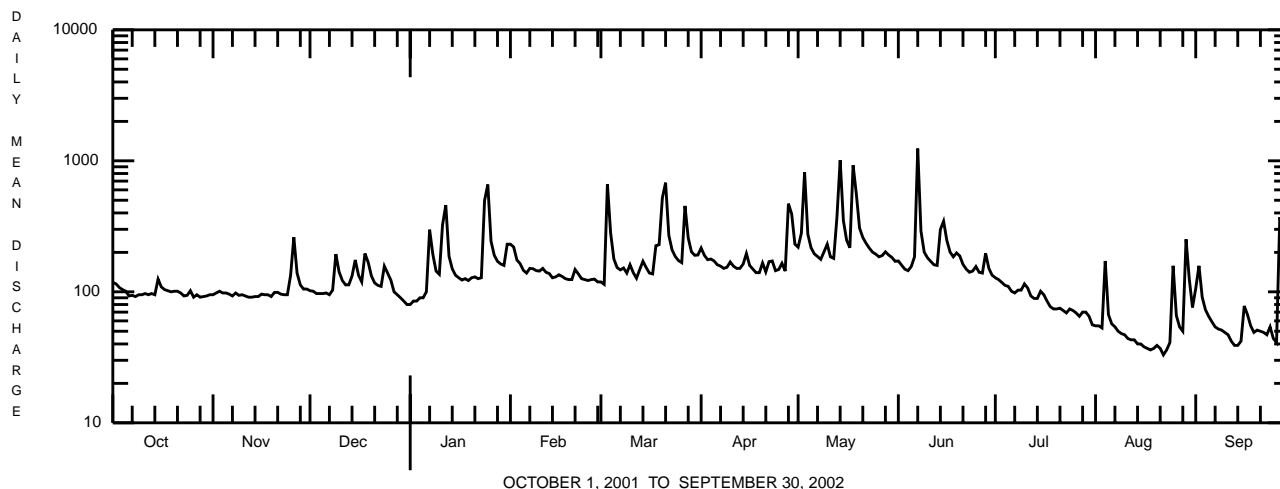
OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--
    SPECIFIC CONDUCTANCE: October 1965 to current year.
    pH: October 1965 to September 1966, December 1971 to current year.
    WATER TEMPERATURES: October 1964 to current year.
    DISSOLVED OXYGEN: October 1971 to current year.
    SUSPENDED-SEDIMENT DISCHARGE: October 1963 to September 1978.

INSTRUMENTATION.--Water-quality monitor since August 1971.

REMARKS.--Specific conductance record rated good except for period Nov. 21-27, May 1-9, and Sept. 23-27, which are fair. pH record rated good. Water
    temperature record rated fair. Dissolved oxygen record rated good, except for period Aug. 20 to Sept. 3, which is poor. 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, 689 microsiemens, Mar. 6, 2001; minimum, 42 microsiemens, Nov. 26, 1979.
    pH: Maximum, 9.8, Apr. 9, 1975; minimum, 6.1, Feb. 22, 1976.
    WATER TEMPERATURE: Maximum, 31.0°C, July 4, 2002; minimum, 0.0°C, many days during winters.
    DISSOLVED OXYGEN: Maximum, 17.1 mg/L, Dec. 5, 1976; minimum, 3.0 mg/L, June 21, 1984.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	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 WATER (DEG C) (00010)	COLI- FORM, FECAL, 0.7 µM-MF (COLS./ 100 ML) (31625)
MAR 2002									
05...	1515	1028	1028	171	13.2	7.7	284	5.2	31
18...	1520	1028	1028	244	11.4	7.7	319	7.7	155
APR									
23...	1700	1028	1028	159	11.0	7.7	331	14.8	24
MAY									
01...	1600	1028	1028	212	11.1	7.5	305	16.7	52
14...	1510	1028	1028	1045	8.5	7.2	180	16.9	4800
30...	1230	1028	1028	180	11.6	7.9	323	22.4	58
JUN									
10...	1036	1028	1028	182	7.2	7.3	305	21.3	212
17...	1500	1028	1028	191	9.3	7.4	298	21.7	78
25...	1540	1028	1028	180	9.7	8.1	330	27.3	85
JUL									
08...	1515	1028	1028	106	10.7	8.3	369	26.1	40
15...	1410	1028	1028	102	9.3	8.1	372	25.1	31
23...	1515	1028	1028	68	10.7	8.5	391	30.0	49
AUG									
06...	1500	1028	1028	56	9.5	7.7	319	27.8	55
14...	1450	1028	1028	38	10.5	8.3	421	28.1	28
20...	1540	1028	1028	39	9.5	8.1	437	28.6	29
SEP									
12...	1520	1028	1028	40	11.4	8.3	396	23.0	12
23...	1510	1028	1028	45	11.4	8.4	398	24.0	41

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued
(Pennsylvania Water-Quality Network Station)

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
APR 2002 29...	1110	9813	377	40	10.8	7.6	220	14.0	74	18.6	6.7	48	20.6
JUN 12...	1030	9813	162	40	7.7	7.5	308	23.8	100	25.2	10.2	66	31.0
AUG 20...	1330	9813	39	40	8.8	8.1	419	27.8	130	32.4	12.7	88	49.2

Date	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)
APR 2002 29...	15.8	186	<2	.100	2.20	.030	2.4	.037	.120	5.1	5.5	2.3	20
JUN 12...	23.7	226	<2	.070	2.83	.030	3.5	.099	.150	3.9	4.1	1.6	11
AUG 20...	31.3	302	2	<.020	1.52	.040	2.1	.102	.140	4.3	4.6	1.4	<10

Date	FECAL COLI- FORM, MFC MF, WATER (COL/ 100 ML) (31616)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	ARSENIC TOTAL (µG/L AS AS) (01002)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CHRO- MIUM, HEXA- VALENT, DIS. (µG/L AS CR) (01032)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)
APR 2002 29...	920	<4.0	<4	<.20	<.2	<1	<4	<4	<4	100	850	<1.0	1.7
JUN 12...	80	<4.0	<4	<.20	<.2	<1	<4	<4	<4	80	360	<1.0	<1.0
AUG 20...	50	<4.0	<4	<.20	<.2	<1	<4	<4	<4	80	140	<1.0	<1.0

Date	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MERCURY DIS- SOLVED (µG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (µG/L AS HG) (71900)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	SILVER, DIS- SOLVED (µG/L AS AG) (01075)	SILVER, TOTAL RECOV- ERABLE (µG/L AS AG) (01077)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)
APR 2002 29...	40	80	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	<5.0	<5.0
JUN 12...	50	60	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	8.7	7.7
AUG 20...	40	40	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	20	6.4

CHRISTINA RIVER BASI

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	374	333	351	370	353	358	336	329	331	---	---	---
2	377	371	374	---	---	---	335	328	332	---	---	---
3	383	372	376	383	348	361	---	---	---	---	---	---
4	387	377	382	359	345	350	---	---	---	---	---	---
5	383	361	373	365	346	353	---	---	---	---	---	---
6	372	360	364	374	342	351	---	---	---	---	---	---
7	364	345	354	360	342	355	---	---	---	---	---	---
8	364	345	356	371	354	360	---	---	---	---	---	---
9	371	362	367	377	367	371	---	---	---	---	---	---
10	367	353	361	383	365	371	---	---	---	---	---	---
11	357	350	353	376	366	371	---	---	---	---	---	---
12	358	349	354	374	359	367	---	---	---	---	---	---
13	349	338	343	377	358	365	---	---	---	---	---	---
14	350	342	346	381	356	361	---	---	---	---	---	---
15	348	338	343	361	348	355	---	---	---	---	---	---
16	351	333	343	364	347	353	---	---	---	---	---	---
17	350	333	340	369	347	354	---	---	---	---	---	---
18	349	329	337	387	353	366	---	---	---	---	---	---
19	360	337	345	358	342	351	---	---	---	---	---	---
20	343	326	334	350	343	346	---	---	---	---	---	---
21	349	340	344	355	343	347	---	---	---	---	---	---
22	352	342	348	352	341	346	---	---	---	---	---	---
23	364	351	354	350	340	345	---	---	---	---	---	---
24	358	342	349	352	341	347	---	---	---	---	---	---
25	377	347	359	397	340	347	---	---	---	---	---	---
26	373	358	366	406	324	365	---	---	---	---	---	---
27	377	361	367	334	285	296	---	---	---	---	---	---
28	379	366	372	316	289	304	---	---	---	---	---	---
29	384	367	376	326	316	323	---	---	---	---	---	---
30	368	357	362	330	324	326	---	---	---	---	---	---
31	366	355	360	---	---	---	---	---	---	---	---	---
MONTH	387	326	357	406	285	351	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	358	338	344	324	309	316	310	291	302
2	---	---	---	372	345	350	319	308	315	340	303	320
3	---	---	---	360	240	277	329	302	309	303	218	250
4	---	---	---	277	237	258	321	311	314	286	261	279
5	---	---	---	307	277	295	333	312	318	313	285	303
6	---	---	---	323	306	315	319	309	314	327	312	319
7	---	---	---	354	323	326	327	308	315	327	303	321
8	---	---	---	347	332	340	334	308	316	338	317	323
9	---	---	---	347	326	336	337	310	317	362	321	338
10	---	---	---	344	321	329	338	320	326	367	323	341
11	---	---	---	344	317	327	344	321	331	340	320	328
12	---	---	---	358	323	327	333	321	326	338	319	326
13	---	---	---	338	326	330	339	326	329	343	288	321
14	---	---	---	352	322	331	336	323	329	295	176	222
15	---	---	---	322	311	315	329	307	318	268	219	251
16	---	---	---	332	310	314	315	306	309	287	267	279
17	---	---	---	334	317	321	318	307	312	297	274	279
18	---	---	---	348	320	328	327	314	321	295	183	236
19	---	---	---	393	324	352	330	319	324	259	188	217
20	---	---	---	335	248	302	338	322	331	292	259	273
21	---	---	---	251	220	231	341	331	336	303	291	297
22	---	---	---	287	251	269	346	333	339	311	297	304
23	---	---	---	304	283	296	348	327	337	319	292	305
24	---	---	---	324	304	315	328	310	318	320	304	312
25	---	---	---	342	323	326	334	322	327	317	302	311
26	---	---	---	335	319	327	338	327	334	328	313	318
27	---	---	---	320	254	287	340	325	333	325	304	317
28	346	335	339	272	251	260	334	257	304	327	306	317
29	---	---	---	293	270	285	270	241	254	327	301	312
30	---	---	---	308	292	297	291	270	280	329	321	325
31	---	---	---	327	304	311	---	---	---	339	328	334
MONTH	---	---	---	393	220	310	348	241	318	367	176	299

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	344	330	337	345	321	334	420	356	392	329	303	314
2	344	332	339	352	336	346	401	358	386	380	324	343
3	349	336	343	361	351	354	417	382	396	333	316	321
4	358	342	352	363	348	353	422	265	363	346	325	332
5	366	354	360	367	344	354	297	260	272	385	346	365
6	376	297	350	384	359	365	353	297	321	389	381	384
7	330	167	204	375	357	365	391	353	373	401	383	390
8	260	201	232	385	359	371	412	391	402	404	394	400
9	295	260	279	394	373	382	417	402	411	---	---	---
10	311	295	303	393	364	374	431	399	416	---	---	---
11	327	309	316	382	359	372	437	312	397	430	400	412
12	337	325	329	378	357	369	430	330	412	416	395	405
13	334	325	328	379	358	369	436	327	393	423	404	410
14	327	308	319	382	358	368	433	335	412	420	411	416
15	310	262	283	381	362	368	443	422	430	433	413	420
16	290	262	278	390	368	379	455	426	439	430	413	418
17	302	286	294	395	377	385	442	419	430	443	412	432
18	307	295	299	388	368	377	440	427	432	412	369	385
19	316	282	304	392	375	382	445	429	436	403	384	392
20	321	291	301	391	377	384	460	431	439	404	365	384
21	306	295	301	405	386	393	448	435	441	410	382	392
22	314	306	310	410	393	399	460	436	443	412	387	403
23	322	311	319	436	388	401	460	432	439	413	396	405
24	340	319	332	408	388	397	450	414	430	416	398	410
25	338	327	334	406	380	393	423	348	386	414	399	406
26	337	331	334	416	384	395	348	306	321	420	313	399
27	363	314	329	397	386	391	358	318	333	320	251	283
28	334	308	321	394	373	386	390	357	372	285	236	259
29	334	317	324	391	370	384	395	295	344	281	236	260
30	325	317	321	400	375	390	305	269	282	312	277	291
31	---	---	---	413	380	397	331	304	316	---	---	---
MONTH	376	167	312	436	321	377	460	260	389	443	236	373

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.3	7.1	7.2	7.6	7.2	7.2	7.1	6.8	6.9	---	---	---
2	7.4	7.1	7.2	---	---	---	7.2	6.9	7.0	---	---	---
3	7.5	7.2	7.2	7.4	6.9	7.0	---	---	---	---	---	---
4	7.6	7.2	7.2	7.5	7.0	7.1	---	---	---	---	---	---
5	7.9	7.2	7.4	7.4	7.0	7.2	---	---	---	---	---	---
6	7.8	7.2	7.4	7.6	7.1	7.2	---	---	---	---	---	---
7	7.9	7.2	7.3	7.8	7.2	7.3	---	---	---	---	---	---
8	7.9	7.3	7.4	7.9	7.2	7.4	---	---	---	---	---	---
9	7.8	7.3	7.4	7.8	7.2	7.4	---	---	---	---	---	---
10	7.9	7.3	7.5	7.9	7.3	7.4	---	---	---	---	---	---
11	7.9	7.4	7.5	7.8	7.2	7.4	---	---	---	---	---	---
12	7.9	7.3	7.5	7.9	7.4	7.5	---	---	---	---	---	---
13	7.8	7.2	7.4	8.0	7.4	7.6	---	---	---	---	---	---
14	7.6	7.1	7.3	8.0	7.4	7.6	---	---	---	---	---	---
15	7.3	7.0	7.1	8.0	7.3	7.6	---	---	---	---	---	---
16	7.3	7.0	7.1	8.0	7.3	7.5	---	---	---	---	---	---
17	7.3	7.1	7.1	8.0	7.2	7.5	---	---	---	---	---	---
18	7.4	7.1	7.2	7.8	7.2	7.4	---	---	---	---	---	---
19	7.5	7.2	7.2	8.0	7.3	7.5	---	---	---	---	---	---
20	7.5	7.2	7.2	8.0	7.3	7.6	---	---	---	---	---	---
21	7.5	7.1	7.2	8.0	7.3	7.6	---	---	---	---	---	---
22	7.4	7.1	7.1	8.0	7.3	7.6	---	---	---	---	---	---
23	7.4	7.0	7.1	8.0	7.4	7.6	---	---	---	---	---	---
24	7.3	6.9	7.0	7.8	7.3	7.5	---	---	---	---	---	---
25	7.2	6.9	7.0	7.6	7.0	7.2	---	---	---	---	---	---
26	7.2	6.9	7.0	7.0	6.8	6.9	---	---	---	---	---	---
27	7.2	7.0	7.1	7.2	6.8	6.9	---	---	---	---	---	---
28	7.4	7.1	7.1	7.2	6.9	7.0	---	---	---	---	---	---
29	7.4	7.1	7.2	7.0	6.9	6.9	---	---	---	---	---	---
30	7.6	7.2	7.3	7.0	6.9	6.9	---	---	---	---	---	---
31	7.6	7.2	7.2	---	---	---	---	---	---	---	---	---
MAX	7.9	7.4	7.5	8.0	7.4	7.6	---	---	---	---	---	---
MIN	7.2	6.9	7.0	7.0	6.8	6.9	---	---	---	---	---	---

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	8.8	7.8	8.3	8.1	7.6	7.8	7.7	7.2	7.4
2	---	---	---	8.6	7.7	8.1	8.4	7.7	8.0	7.4	7.3	7.3
3	---	---	---	8.0	7.5	7.6	8.5	7.7	7.9	7.4	7.2	7.2
4	---	---	---	7.6	7.4	7.5	8.6	7.7	8.1	7.3	7.2	7.2
5	---	---	---	7.7	7.4	7.6	8.8	7.9	8.3	7.3	7.2	7.2
6	---	---	---	7.8	7.6	7.7	8.9	7.9	8.5	7.3	7.2	7.3
7	---	---	---	7.9	7.6	7.7	9.0	8.0	8.7	7.4	7.2	7.2
8	---	---	---	7.9	7.6	7.7	9.1	8.0	8.7	7.3	7.2	7.2
9	---	---	---	8.0	7.6	7.7	9.0	7.9	8.6	7.3	7.2	7.2
10	---	---	---	8.0	7.6	7.8	8.9	7.8	8.3	7.5	7.3	7.3
11	---	---	---	8.1	7.7	7.8	8.9	7.8	8.4	7.5	7.3	7.3
12	---	---	---	8.1	7.7	7.8	8.6	7.7	8.1	7.5	7.3	7.3
13	---	---	---	7.9	7.6	7.7	8.5	7.5	7.9	7.3	7.2	7.3
14	---	---	---	7.9	7.6	7.8	8.6	7.5	8.0	7.3	7.2	7.3
15	---	---	---	8.1	7.7	7.8	8.3	7.5	7.8	7.3	7.2	7.3
16	---	---	---	8.0	7.6	7.7	8.3	7.3	7.5	7.4	7.3	7.3
17	---	---	---	7.8	7.6	7.7	8.2	7.3	7.5	7.4	7.2	7.3
18	---	---	---	7.8	7.6	7.7	7.9	7.2	7.3	7.3	7.2	7.3
19	---	---	---	7.9	7.7	7.7	7.6	7.2	7.2	7.3	7.2	7.3
20	---	---	---	7.7	7.6	7.7	7.3	7.1	7.2	7.3	7.2	7.3
21	---	---	---	7.6	7.5	7.5	7.3	7.1	7.2	7.4	7.3	7.3
22	---	---	---	7.7	7.5	7.6	7.4	7.2	7.3	7.4	7.3	7.4
23	---	---	---	7.8	7.6	7.7	7.7	7.3	7.4	7.5	7.3	7.4
24	---	---	---	7.9	7.7	7.8	7.9	7.4	7.5	7.6	7.3	7.4
25	---	---	---	7.9	7.7	7.8	7.5	7.4	7.4	7.8	7.3	7.5
26	---	---	---	7.8	7.6	7.7	7.8	7.3	7.5	8.0	7.3	7.4
27	---	---	---	7.7	7.6	7.6	8.0	7.4	7.6	7.8	7.3	7.4
28	8.8	7.7	8.4	7.8	7.6	7.7	7.5	7.3	7.4	7.9	7.3	7.5
29	---	---	---	8.0	7.6	7.8	7.3	7.2	7.3	8.3	7.3	7.6
30	---	---	---	8.0	7.6	7.7	7.5	7.3	7.3	8.5	7.3	7.7
31	---	---	---	7.8	7.6	7.7	---	---	---	8.6	7.3	7.6
MAX	---	---	---	8.8	7.8	8.3	9.1	8.0	8.7	8.6	7.3	7.7
MIN	---	---	---	7.6	7.4	7.5	7.3	7.1	7.2	7.3	7.2	7.2

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

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.0	13.5	14.0	11.5	9.0	10.0	14.0	12.5	13.5	---	---	---
2	15.5	13.0	14.0	---	---	---	13.0	10.0	11.5	---	---	---
3	17.0	14.0	15.5	14.5	13.0	13.5	---	---	---	---	---	---
4	18.0	15.5	17.0	13.5	12.0	12.5	---	---	---	---	---	---
5	18.5	16.0	17.5	12.5	10.0	11.0	---	---	---	---	---	---
6	18.0	16.0	17.5	10.5	9.0	9.5	---	---	---	---	---	---
7	16.0	14.0	15.0	10.0	8.5	9.0	---	---	---	---	---	---
8	14.0	12.0	13.0	10.0	8.5	9.0	---	---	---	---	---	---
9	12.5	10.5	11.5	10.0	9.0	9.5	---	---	---	---	---	---
10	12.5	10.5	11.5	9.5	7.5	8.5	---	---	---	---	---	---
11	14.0	11.0	12.5	9.0	7.5	8.0	---	---	---	---	---	---
12	15.0	13.0	14.0	7.5	6.0	7.0	---	---	---	---	---	---
13	17.0	14.5	15.5	6.5	5.0	6.0	---	---	---	---	---	---
14	17.5	16.0	17.0	6.5	4.5	5.5	---	---	---	---	---	---
15	18.0	16.5	17.5	7.5	5.5	6.5	---	---	---	---	---	---
16	17.0	14.5	15.5	9.0	7.0	8.0	---	---	---	---	---	---
17	15.0	13.0	14.0	9.0	8.0	8.5	---	---	---	---	---	---
18	13.5	11.5	12.5	8.5	7.0	8.0	---	---	---	---	---	---
19	12.0	10.0	11.0	8.0	7.0	7.5	---	---	---	---	---	---
20	13.0	10.5	11.5	8.5	7.0	8.0	---	---	---	---	---	---
21	13.5	11.0	12.5	7.5	6.0	6.5	---	---	---	---	---	---
22	15.0	13.0	14.0	6.0	4.5	5.5	---	---	---	---	---	---
23	16.0	14.5	15.0	6.0	4.5	5.0	---	---	---	---	---	---
24	17.5	15.5	16.5	8.0	5.5	6.5	---	---	---	---	---	---
25	17.5	16.0	16.5	11.0	8.0	9.5	---	---	---	---	---	---
26	16.0	13.0	14.5	12.5	11.0	12.0	---	---	---	---	---	---
27	13.0	10.5	11.5	11.5	10.5	11.0	---	---	---	---	---	---
28	11.0	9.0	10.0	12.0	10.5	11.5	---	---	---	---	---	---
29	10.0	8.0	9.0	12.5	12.0	12.0	---	---	---	---	---	---
30	10.5	8.5	9.5	13.5	12.5	13.0	---	---	---	---	---	---
31	10.0	9.0	9.5	---	---	---	---	---	---	---	---	---
MONTH	18.5	8.0	13.7	14.5	4.5	8.9	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	5.5	2.5	4.0	13.0	11.5	12.0	16.5	13.5	15.0
2	---	---	---	5.5	3.0	4.5	13.0	10.5	12.0	17.0	15.5	16.5
3	---	---	---	8.0	5.5	7.0	15.5	12.0	13.5	17.0	16.0	16.5
4	---	---	---	7.5	4.5	6.0	13.0	11.0	12.0	16.5	14.0	15.5
5	---	---	---	4.5	3.0	3.5	11.5	9.5	10.5	17.5	15.0	16.5
6	---	---	---	5.0	2.5	3.5	10.0	8.0	9.0	18.5	16.0	17.0
7	---	---	---	7.0	3.5	5.5	10.5	7.0	8.5	20.0	17.0	18.5
8	---	---	---	9.0	5.5	7.5	12.0	8.0	10.0	20.5	18.5	19.5
9	---	---	---	11.0	7.5	9.5	14.5	11.0	13.0	19.5	16.5	18.0
10	---	---	---	11.5	8.5	10.0	17.0	13.5	15.0	19.0	16.0	17.5
11	---	---	---	8.5	6.0	7.5	17.0	13.5	15.5	19.5	17.0	18.5
12	---	---	---	7.5	5.5	6.5	15.5	13.5	14.0	20.0	17.5	18.5
13	---	---	---	7.5	6.5	7.0	16.5	13.0	14.5	19.5	18.5	19.0
14	---	---	---	10.5	7.0	9.0	18.5	15.5	17.0	19.5	15.5	17.0
15	---	---	---	13.0	9.5	11.5	21.0	18.0	19.5	17.0	14.5	15.5
16	---	---	---	14.0	12.0	13.0	23.0	19.5	21.0	18.0	15.0	16.5
17	---	---	---	12.0	8.0	9.5	24.5	20.5	22.5	20.0	17.5	18.5
18	---	---	---	8.0	7.0	7.0	25.0	21.5	23.5	19.0	14.0	16.0
19	---	---	---	8.0	7.0	7.5	25.0	21.5	23.0	14.5	12.5	13.5
20	---	---	---	8.0	7.0	7.5	23.5	20.5	22.0	14.0	12.5	13.5
21	---	---	---	9.0	6.5	8.0	20.5	16.0	18.0	13.5	12.0	13.0
22	---	---	---	8.5	5.5	7.0	16.0	14.0	15.0	15.5	12.0	13.5
23	---	---	---	7.0	4.5	5.5	14.5	12.0	13.5	17.0	14.0	15.5
24	---	---	---	7.5	5.0	6.5	15.5	12.0	14.0	19.0	15.5	17.5
25	---	---	---	8.5	6.0	7.0	14.5	12.5	13.0	21.0	18.0	19.5
26	---	---	---	7.5	7.0	7.5	14.0	10.5	12.5	20.0	18.5	19.0
27	---	---	---	8.0	7.0	7.5	15.5	11.5	13.5	20.0	18.5	19.0
28	6.0	3.5	5.0	9.5	6.5	8.0	15.0	13.5	14.5	20.0	18.5	19.5
29	---	---	---	11.0	8.5	9.5	14.5	13.0	14.0	22.0	19.0	20.5
30	---	---	---	13.0	10.0	11.5	14.5	11.5	13.0	23.0	20.5	22.0
31	---	---	---	13.0	12.0	12.5	---	---	---	25.0	21.0	23.0
MONTH	---	---	---	14.0	2.5	7.7	25.0	7.0	15.0	25.0	12.0	17.4

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	25.5	22.5	24.0	27.5	24.5	26.0	30.5	26.0	28.0	20.5	20.0	20.0
2	24.5	22.0	23.5	28.5	25.5	27.0	31.0	26.0	28.0	20.5	19.0	20.0
3	24.0	21.0	22.5	30.5	27.0	28.0	31.0	26.5	28.5	23.5	20.0	21.5
4	22.5	20.5	21.5	31.0	28.0	29.0	28.5	26.5	27.5	25.5	22.0	23.5
5	23.5	20.5	22.0	30.5	27.0	29.0	28.0	26.0	27.0	25.5	22.5	23.5
6	25.0	22.5	23.5	28.0	25.0	26.5	28.5	25.0	26.5	25.0	21.5	23.0
7	22.5	19.5	20.0	26.0	23.5	24.5	27.0	23.0	25.0	25.0	20.5	22.5
8	21.0	18.5	19.5	26.5	23.0	24.5	26.5	22.0	24.0	25.0	20.5	22.5
9	22.0	19.0	20.5	27.5	24.0	25.5	27.0	21.0	24.0	---	---	---
10	23.5	20.0	22.0	28.0	25.5	26.0	27.5	22.0	24.5	---	---	---
11	25.0	21.0	23.0	27.0	23.5	25.0	28.0	22.5	25.0	25.0	22.0	23.0
12	25.5	23.0	24.5	26.5	22.5	24.0	28.5	23.5	26.0	23.5	19.5	21.5
13	25.0	22.0	23.5	25.5	22.5	23.5	29.5	25.0	27.0	23.0	18.5	21.0
14	22.0	18.5	20.0	24.0	23.0	23.0	29.5	25.5	27.5	23.0	19.5	21.0
15	18.5	18.0	18.5	26.0	22.5	24.0	29.5	26.0	28.0	23.0	21.5	22.0
16	20.5	17.5	19.0	27.5	24.0	25.0	29.5	27.0	28.5	24.0	22.0	23.0
17	21.5	19.0	20.5	28.0	24.0	25.5	29.5	26.5	28.0	24.5	22.0	23.0
18	23.0	19.5	21.0	28.5	25.0	26.5	30.0	26.5	28.5	24.0	21.0	22.5
19	23.5	20.5	21.5	29.5	26.0	27.5	30.0	27.0	28.5	24.0	20.0	22.0
20	23.5	20.5	22.0	29.5	26.0	27.0	29.0	27.0	28.0	24.5	20.5	22.5
21	24.5	21.0	23.0	29.5	26.0	27.5	28.5	25.0	27.0	25.0	21.0	23.0
22	25.5	21.5	23.5	29.5	25.5	27.5	27.5	24.5	26.0	25.5	22.5	23.5
23	26.0	22.5	24.0	30.5	26.5	28.0	27.0	25.5	26.5	24.5	22.0	23.5
24	26.5	23.5	25.0	27.5	26.0	27.0	26.5	25.0	25.5	23.0	19.5	21.5
25	27.5	24.5	26.0	27.5	24.5	26.0	26.0	24.0	25.0	21.5	19.5	20.5
26	28.5	25.5	27.0	25.0	23.5	24.5	26.0	23.5	24.5	20.0	18.5	19.5
27	29.0	26.5	27.5	24.5	23.0	23.5	26.5	23.0	24.5	18.5	17.5	18.0
28	27.5	25.5	26.5	27.0	23.0	24.5	24.5	22.5	24.0	20.0	18.5	19.5
29	27.0	24.0	25.5	29.0	25.0	26.5	22.5	19.5	21.0	20.0	18.0	19.0
30	27.5	24.5	26.0	30.0	26.5	28.0	20.0	19.5	19.5	20.0	17.5	19.0
31	---	---	---	30.5	26.0	28.0	22.5	19.0	20.5	---	---	---
MONTH	29.0	17.5	22.9	31.0	22.5	26.1	31.0	19.0	25.9	25.5	17.5	21.6

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	10.4	9.1	9.6	13.3	10.2	11.3	10.7	8.4	9.2	---	---	---
2	11.0	9.2	9.9	---	---	---	11.3	8.8	9.8	---	---	---
3	11.2	9.1	9.9	12.0	8.5	9.7	---	---	---	---	---	---
4	11.5	8.8	9.8	12.4	8.6	10	---	---	---	---	---	---
5	12.1	8.6	9.9	12.5	9.0	10.4	---	---	---	---	---	---
6	11.6	8.3	9.6	13.1	9.8	11.0	---	---	---	---	---	---
7	12.2	8.8	10.2	14.0	10.3	11.7	---	---	---	---	---	---
8	12.8	9.7	10.8	14.2	10.6	11.9	---	---	---	---	---	---
9	13.1	10.5	11.4	14.0	10.3	11.7	---	---	---	---	---	---
10	13.4	10.7	11.6	14.1	10.5	11.8	---	---	---	---	---	---
11	13.1	10.4	11.3	13.9	10.6	11.8	---	---	---	---	---	---
12	12.8	9.6	10.8	14.2	11.2	12.3	---	---	---	---	---	---
13	11.9	9.0	10.1	14.7	11.7	12.8	---	---	---	---	---	---
14	11.3	8.1	9.3	14.8	11.9	13.0	---	---	---	---	---	---
15	9.7	7.6	8.5	14.9	11.5	12.8	---	---	---	---	---	---
16	10.0	7.5	8.5	14.4	11.1	12.3	---	---	---	---	---	---
17	10.2	8.0	8.9	14.0	10.4	11.8	---	---	---	---	---	---
18	10.9	8.6	9.5	13.8	10.4	11.8	---	---	---	---	---	---
19	11.9	9.2	10.2	---	---	---	---	---	---	---	---	---
20	11.8	9.5	10.4	---	---	---	---	---	---	---	---	---
21	11.7	9.3	10.2	---	---	---	---	---	---	---	---	---
22	11.6	8.8	9.8	13.4	10.3	11.6	---	---	---	---	---	---
23	11.5	8.3	9.4	13.3	10.9	11.9	---	---	---	---	---	---
24	11.0	8.0	8.9	13.2	10.8	11.7	---	---	---	---	---	---
25	10.2	7.2	8.3	12.1	9.5	10.7	---	---	---	---	---	---
26	10.6	7.4	8.6	9.6	8.8	9.2	---	---	---	---	---	---
27	11.0	8.3	9.3	10.5	9.0	9.6	---	---	---	---	---	---
28	12.1	9.2	10.3	11.2	8.9	9.7	---	---	---	---	---	---
29	12.4	10.0	11.0	10.0	8.6	9.1	---	---	---	---	---	---
30	13.0	10.4	11.3	10.1	8.5	9.0	---	---	---	---	---	---
31	12.9	10.3	11.2	---	---	---	---	---	---	---	---	---
MONTH	13.4	7.2	10.0	14.9	8.5	11.2	---	---	---	---	---	---

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	14.6	12.3	13.3	11.8	9.4	10.3	11.1	8.5	9.5
2	---	---	---	14.6	12.3	13.2	12.5	9.7	10.9	9.6	7.9	8.6
3	---	---	---	12.3	10.5	11.0	12.1	9.4	10.4	8.4	7.8	8.2
4	---	---	---	11.9	10.5	11.2	12.8	9.2	10.9	9.5	8.2	8.8
5	---	---	---	13.2	11.6	12.4	13.3	10.1	11.6	9.7	8.3	8.8
6	---	---	---	13.5	12.3	12.8	13.7	10.8	12.3	9.6	7.9	8.6
7	---	---	---	13.2	11.5	12.4	14.3	11.1	12.6	9.4	7.6	8.4
8	---	---	---	12.7	10.9	11.7	14.2	11.0	12.4	9.4	7.2	7.9
9	---	---	---	12.0	9.9	10.9	13.2	9.9	11.3	8.0	7.1	7.6
10	---	---	---	11.5	9.5	10.4	12.9	8.8	10.6	9.7	8.0	8.7
11	---	---	---	12.6	10.4	11.4	12.8	8.7	10.6	9.8	7.9	8.7
12	---	---	---	12.7	11.0	11.6	11.2	8.8	10	9.8	7.9	8.5
13	---	---	---	11.6	10.6	11.1	12.5	8.9	10.5	8.4	7.7	8.0
14	---	---	---	11.9	10.3	11.0	12.1	8.2	9.9	8.9	7.7	8.4
15	---	---	---	11.4	9.5	10.5	10.9	7.7	9.1	9.4	8.7	9.0
16	---	---	---	10.6	9.0	9.6	11.4	6.9	8.8	9.9	8.6	9.1
17	---	---	---	10.5	9.1	9.9	11.2	6.5	8.4	9.3	8.1	8.6
18	---	---	---	11.6	10.3	11.0	10.7	6.0	7.8	9.5	7.9	8.7
19	---	---	---	12.1	11.0	11.4	10.2	5.8	7.4	10.1	9.5	9.8
20	---	---	---	11.2	10.7	10.9	8.5	5.8	6.9	10.5	9.5	10.0
21	---	---	---	11.2	10.4	10.9	8.3	6.3	7.2	11.0	9.9	10.3
22	---	---	---	11.8	10.4	11.2	9.8	7.4	8.4	11.3	9.9	10.4
23	---	---	---	12.6	11.4	11.9	11.0	8.7	9.7	11.2	9.5	10.2
24	---	---	---	12.4	11.4	11.9	11.7	9.1	10.2	11.3	8.9	9.9
25	---	---	---	12.3	11.2	11.6	10.2	8.8	9.2	11.5	8.2	9.7
26	---	---	---	11.4	10.8	11.1	12.1	9.1	10.5	12.0	8.0	9.5
27	---	---	---	11.2	10.8	11.0	12.5	9.3	10.7	11.6	8.1	9.8
28	14.1	11.4	12.6	12.1	10.8	11.3	9.7	8.7	9.0	12.2	8.1	10
29	---	---	---	11.9	10.4	11.1	9.5	8.5	9.0	13.0	7.9	10.1
30	---	---	---	11.5	9.8	10.5	11.1	8.9	9.7	12.3	7.4	9.6
31	---	---	---	10.7	9.2	10	---	---	---	12.6	6.8	9.3
MONTH	---	---	---	14.6	9.0	11.3	14.3	5.8	9.9	13.0	6.8	9.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11.9	6.3	8.8	9.7	5.9	7.4	9.3	4.7	6.6	9.1	7.7	8.2
2	11.8	6.2	8.6	9.8	5.8	7.3	9.1	4.5	6.4	9.5	8.2	8.8
3	10.6	6.4	8.3	9.7	5.4	7.0	9.5	4.1	6.4	10.5	7.4	8.9
4	10.8	6.6	8.5	9.5	5.0	6.6	8.2	4.6	6.6	10.4	6.7	8.1
5	11.0	6.8	8.6	9.4	4.9	6.5	7.7	4.9	6.1	10.2	6.5	7.9
6	10.0	6.3	7.5	9.4	5.2	6.9	9.7	4.6	6.5	10.6	6.4	7.9
7	7.5	6.2	7.0	9.9	5.6	7.3	9.8	5.4	7.3	11.0	6.4	8.1
8	7.4	6.8	7.2	10.9	6.0	7.8	10.2	5.8	7.7	11.1	6.5	8.3
9	7.8	6.7	7.2	10.0	6.0	7.4	10.7	5.9	8.1	---	---	---
10	8.4	6.6	7.3	9.7	5.6	7.1	10.9	6.1	8.3	---	---	---
11	8.3	6.6	7.4	9.9	5.7	7.2	11.0	6.1	8.3	11.2	5.9	8.0
12	8.0	6.3	7.0	10.2	5.8	7.4	11.4	5.9	8.4	11.6	6.1	8.3
13	7.4	6.2	6.6	9.4	5.9	7.4	11.4	5.8	8.4	11.7	6.1	8.5
14	7.8	6.7	7.3	8.9	5.8	7.0	11.9	5.6	8.5	11.6	6.0	8.5
15	8.5	7.7	8.0	10.4	5.8	7.5	11.0	4.9	7.8	10.5	5.8	7.8
16	9.0	7.9	8.4	10.1	5.9	7.5	10.6	4.6	7.6	9.9	5.8	7.5
17	9.3	7.6	8.2	10.1	6.0	7.6	9.8	4.6	7.2	11.0	6.4	7.9
18	9.4	7.6	8.3	10.0	5.7	7.6	10.0	4.5	7.2	11.9	6.3	8.4
19	9.4	7.5	8.2	10.1	5.7	7.5	10.2	4.3	7.2	12.6	6.3	8.8
20	9.4	7.5	8.3	10.2	5.6	7.6	10.5	4.3	7.1	12.6	6.1	8.7
21	9.7	7.3	8.2	10.4	6.0	7.8	10.4	4.6	7.3	12.1	6.1	8.4
22	9.9	7.1	8.2	10.6	6.3	8.1	10.6	4.8	7.6	12.0	5.8	8.1
23	10.1	6.8	8.1	10.7	5.6	7.8	9.5	4.8	7.3	12.1	5.6	8.2
24	9.9	6.5	7.8	8.2	4.9	6.4	9.3	5.0	6.8	11.8	5.8	8.1
25	9.7	6.2	7.6	10.4	5.2	7.4	8.7	5.8	7.2	11.9	7.0	8.9
26	9.7	6.0	7.3	8.9	5.8	7.1	9.8	6.2	7.7	10.0	6.4	8.0
27	9.3	5.6	7.0	9.0	5.7	7.1	10.4	6.0	7.9	8.8	7.5	8.2
28	8.2	5.7	6.7	9.9	5.7	7.4	9.1	6.0	7.4	8.8	7.8	8.2
29	9.1	6.0	7.2	9.5	5.5	7.2	8.3	6.5	7.6	9.5	7.7	8.4
30	9.4	6.0	7.3	9.3	5.2	6.9	9.0	7.7	8.2	10.2	7.9	8.7
31	---	---	---	9.4	4.9	6.8	9.9	7.9	8.6	---	---	---
MONTH	11.9	5.6	7.7	10.9	4.9	7.3	11.9	4.1	7.5	12.6	5.6	8.3

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING DEPTH (FEET) (00003)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (μS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)
SEP
27...	1117	603	0	--	--	--	--	0
27...	1118	--	1	8.6	7.6	307	17.1	3
27...	1124	--	1	8.7	7.6	302	17.1	13
27...	1126	--	1	8.8	7.6	301	17.1	23
27...	1129	--	1	8.8	7.6	299	17.1	33
27...	1133	--	1	8.9	7.6	298	17.1	43
27...	1136	--	1	8.7	7.6	300	17.1	53
27...	1138	--	1	8.9	7.6	296	17.1	63
27...	1141	--	1	8.9	7.6	295	17.1	73
27...	1143	--	1	8.8	7.6	296	17.1	83
27...	1145	577	1	8.8	7.6	300	17.1	93