2004 Water Year

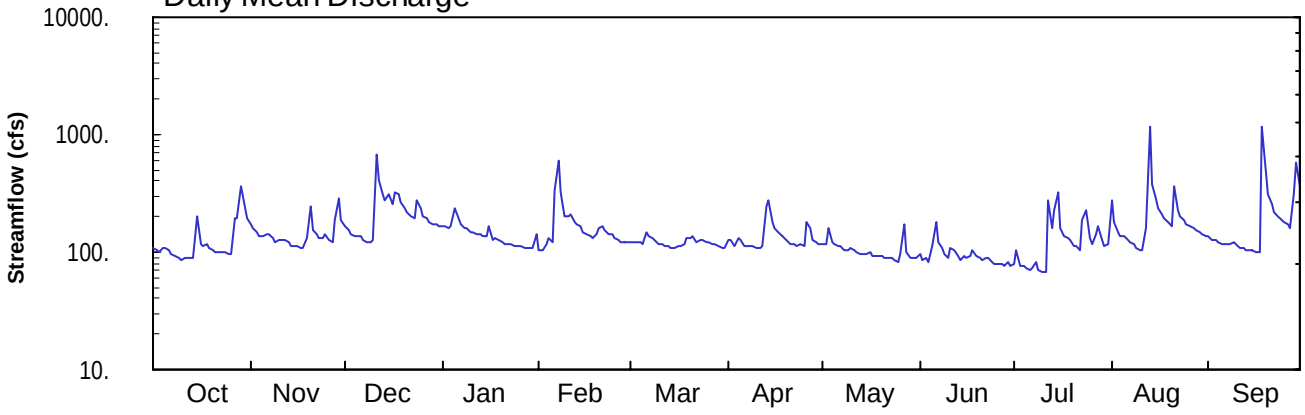
SCHUYLKILL RIVER BASIN

01470779 Tulpehocken Creek near Bernville, PA

Latitude: 40°24'48" Longitude: 076°10'19" Hydrologic Unit Code: 02040203

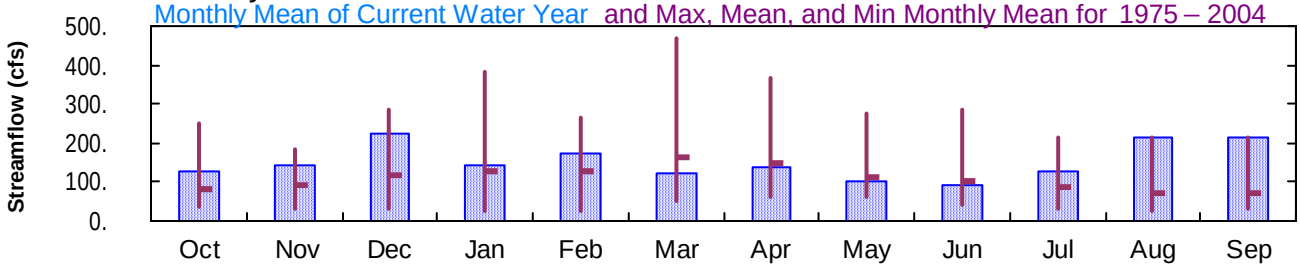
Berks County Datum: 311.26 feet Drainage Area: 66.5 mi^2

Daily Mean Discharge

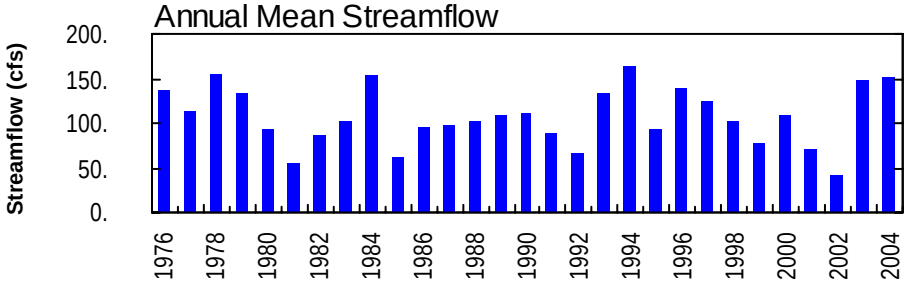


Monthly Statistics

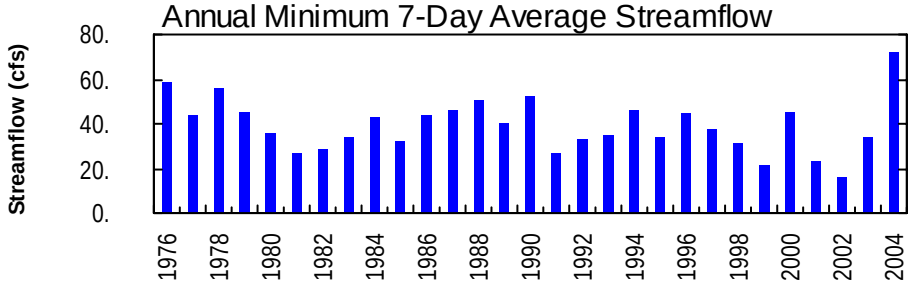
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1975 – 2004



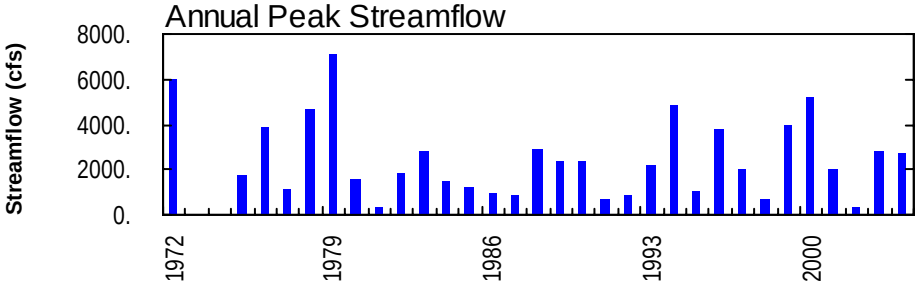
Annual Mean Streamflow



Annual Minimum 7-Day Average Streamflow



Annual Peak Streamflow



01470779–Tulpehocken Creek near Bernville

SCHUYLKILL RIVER BASIN

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA

LOCATION.--Lat 40°24'48", long 76°10'19", Berks County, Hydrologic Unit, 02040203, on left bank 30 ft downstream from Mill Road bridge at Kricks Mill, 0.4 mi upstream from Mill Creek, and 3.5 mi west of Bernville.

DRAINAGE AREA.--66.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1974 to current year.

REVISED RECORDS.--WDR PA-96-1: 1975-83(P), 1988(P), 1990(P), 1993-94(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 311.26 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Department of Transportation datum).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1972 reached a stage of about 9.5 ft, from information by local resident, discharge about 6,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 950 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 11	1700	1,130	5.91	Sept. 18	1500	2,150	7.52
Aug. 13	0830	*2,740	*8.11	Sept. 29	0200	962	5.48

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	173	169	164	105	120	127	115	97	79	275	134
2	104	158	154	163	105	122	128	115	86	103	181	128
3	100	147	143	160	117	121	113	163	88	75	149	125
4	108	139	135	165	134	119	130	122	81	76	139	122
5	107	137	135	235	120	117	126	117	112	73	135	119
6	102	140	135	192	338	145	114	114	180	71	127	117
7	97	139	126	170	596	134	114	111	120	74	123	115
8	93	132	121	161	324	134	115	104	108	82	117	115
9	88	122	119	159	204	123	114	105	97	71	110	120
10	85	125	126	149	200	119	107	107	90	68	106	114
11	90	124	673	145	208	115	108	102	107	68	104	109
12	90	127	409	144	181	112	111	99	105	275	160	107
13	87	120	310	144	174	114	243	97	91	160	1160	105
14	89	114	277	138	168	110	276	95	86	228	381	103
15	205	113	307	136	150	110	183	95	92	317	285	102
16	115	111	254	e165	140	113	158	99	88	161	237	101
17	112	110	329	128	134	113	145	93	91	135	209	101
18	117	107	307	131	132	115	136	91	103	133	191	1150
19	108	129	263	126	142	133	129	92	91	127	178	478
20	104	243	239	122	159	133	123	93	88	114	168	311
21	101	155	217	119	163	136	119	90	85	113	366	253
22	101	144	206	118	155	121	115	88	88	103	231	221
23	100	134	192	115	143	127	114	87	91	185	200	202
24	98	129	275	114	140	124	115	85	83	225	187	187
25	96	142	232	112	133	122	113	83	81	133	175	177
26	96	125	201	110	126	120	181	94	80	119	166	169
27	193	121	191	110	123	119	163	171	78	144	160	163
28	197	184	182	110	121	115	129	100	76	167	153	311
29	356	289	176	108	120	110	120	88	81	125	148	580
30	242	185	173	109	---	108	115	87	77	112	144	361
31	195	---	165	e142	---	108	---	90	---	116	139	---
TOTAL	3886	4318	6941	4364	5055	3732	4084	3192	2821	4032	6604	6500
MEAN	125	144	224	141	174	120	136	103	94.0	130	213	217
MAX	356	289	673	235	596	145	276	171	180	317	1160	1150
MIN	85	107	119	108	105	108	107	83	76	68	104	101
CFSM	1.89	2.16	3.37	2.12	2.62	1.81	2.05	1.55	1.41	1.96	3.20	3.26
IN.	2.17	2.42	3.88	2.44	2.83	2.09	2.28	1.79	1.58	2.26	3.69	3.64

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2004, BY WATER YEAR (WY)

MEAN	80.3	94.0	116	129	128	165	146	111	104	87.4	70.4	71.9
MAX	250	181	288	385	264	468	367	277	284	216	213	217
(WY)	1977	1997	1997	1979	1979	1994	1993	1989	2003	1984	2004	2004
MIN	35.1	31.4	29.1	26.5	27.4	51.7	58.8	59.5	41.4	32.1	27.5	29.7
(WY)	2002	2002	2002	2002	2002	2002	1985	1999	1999	1999	2002	2002

e Estimated.

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1975 - 2004	
ANNUAL TOTAL	59743		55529			
ANNUAL MEAN	164		152		108	
HIGHEST ANNUAL MEAN					164	1994
LOWEST ANNUAL MEAN					42.7	2002
HIGHEST DAILY MEAN	1750	Jun 21	1160	Aug 13	2140	Jan 26 1978
LOWEST DAILY MEAN	60	Sep 8-10	68	Jul 10,11	15	Sep 8 2002
ANNUAL SEVEN-DAY MINIMUM	62	Sep 6	72	Jul 5	16	Sep 7 2002
MAXIMUM PEAK FLOW			**a**2740	Aug 13	**a**7140	Jan 24 1979
MAXIMUM PEAK STAGE			8.11	Aug 13	10.16	Jan 24 1979
INSTANTANEOUS LOW FLOW			63	Jul 11	14	Sep 8 2002
ANNUAL RUNOFF (CFSM)	2.46		2.28		1.62	
ANNUAL RUNOFF (INCHES)	33.42		31.06		22.00	
10 PERCENT EXCEEDS	290		233		181	
50 PERCENT EXCEEDS	130		123		84	
90 PERCENT EXCEEDS	78		90		41	

a From rating curve extended above 2,600 ft^3/s on basis of contracted-opening measurement at 3,900 ft^3/s, gage height 8.01 ft.

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Water years 1978 to current year.

INSTRUMENTATION.--Temperature recorder since October 1977. Temperature probe interfaced with a data collection platform since 1986 water year.

REMARKS.--Water temperature records rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 28.5°C, July 6, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 22.0°C, July 5, 6; minimum, 0.0°C, Jan. 16, 25, 31, Feb. 1.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.0	13.0	13.5	14.0	11.0	12.5	8.0	7.0	7.5	6.5	5.5	6.0
2	13.0	11.5	12.0	14.5	13.0	13.5	7.0	4.5	6.0	7.5	6.5	7.0
3	12.0	10.0	11.0	14.5	13.0	14.0	5.0	4.0	4.5	9.5	7.5	8.5
4	12.0	11.0	11.5	14.5	13.0	14.0	5.5	4.0	5.0	9.5	8.5	9.0
5	12.0	10.5	11.0	14.5	13.0	13.5	6.0	4.0	5.5	8.5	7.0	7.5
6	11.5	10.0	11.0	13.5	13.0	13.0	4.5	3.0	4.0	7.0	4.0	6.0
7	12.0	10.0	11.0	13.0	12.0	12.5	4.5	3.5	4.0	4.0	2.5	3.0
8	13.5	12.0	12.5	12.0	8.5	10.0	5.0	3.0	4.0	4.0	2.0	3.0
9	14.0	13.0	13.5	8.5	6.5	7.5	6.0	4.0	5.0	4.0	2.5	4.0
10	14.5	13.5	14.0	8.0	6.0	7.0	6.5	5.5	6.0	2.5	1.0	1.5
11	15.0	13.5	14.5	9.0	7.0	8.0	8.5	6.5	7.5	3.5	1.0	2.0
12	14.5	13.0	14.0	11.0	9.0	10.0	7.0	6.5	6.5	5.5	3.5	4.5
13	14.5	13.5	14.0	11.5	7.0	10.0	6.5	5.5	6.0	6.0	4.5	5.5
14	14.0	13.0	13.5	7.5	5.5	6.5	6.5	4.5	5.5	4.5	2.5	3.0
15	13.5	12.5	13.5	8.5	7.0	8.0	6.0	5.0	5.5	2.5	1.5	2.0
16	12.5	10.5	11.5	9.0	8.0	8.5	6.5	5.0	6.0	1.5	0.0	0.5
17	12.0	11.5	12.0	10.5	9.0	9.5	6.5	5.0	6.0	2.5	0.5	1.5
18	12.0	10.5	11.5	10.0	9.5	9.5	5.5	4.5	5.0	3.5	2.5	3.0
19	12.5	11.5	12.0	13.0	10.0	11.5	6.5	5.5	6.0	3.5	2.0	2.5
20	12.0	10.0	11.0	12.5	9.5	11.0	6.5	5.5	6.0	2.5	2.0	2.5
21	13.5	11.5	12.5	10.0	8.0	9.5	5.5	5.0	5.5	2.5	1.0	2.0
22	13.5	11.0	12.5	10.0	9.0	9.5	7.0	4.5	5.5	3.5	2.0	3.0
23	11.0	8.5	9.5	10.0	8.5	9.5	8.0	7.0	7.5	3.0	0.5	1.0
24	9.0	7.5	8.5	11.0	9.0	10.0	9.5	8.0	9.0	2.0	0.5	1.5
25	11.0	8.0	9.0	10.5	7.5	8.5	8.5	6.0	6.5	1.5	0.0	0.5
26	13.5	11.0	12.5	8.0	6.5	7.0	6.0	5.0	5.5	1.5	0.5	1.0
27	14.0	12.5	13.5	9.0	7.0	8.0	6.5	5.0	6.0	1.5	1.0	1.0
28	12.5	10.5	11.5	10.5	9.0	10.0	6.5	5.0	6.0	2.5	1.0	1.5
29	12.0	11.0	11.5	10.5	7.0	8.0	7.0	5.5	6.0	2.0	1.0	1.5
30	12.0	10.0	11.0	8.0	6.5	7.5	7.0	6.5	6.5	2.0	1.0	1.5
31	12.5	10.5	11.5	---	---	---	7.0	5.5	6.0	1.5	0.0	0.5
MONTH	15.0	7.5	12.0	14.5	5.5	9.9	9.5	3.0	5.9	9.5	0.0	3.1

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

	FEBRUARY			MARCH			APRIL			MAY		
1	2.0	0.0	1.0	8.5	6.5	7.5	9.5	9.0	9.0	18.0	15.0	16.5
2	2.5	0.5	2.0	10.0	7.5	8.5	9.0	8.5	9.0	18.0	16.0	17.0
3	3.5	2.0	2.5	10.0	8.0	9.0	9.0	8.5	8.5	17.5	12.5	14.5
4	4.5	3.0	4.0	9.5	8.5	9.0	9.0	7.0	8.0	14.5	10.5	12.5
5	4.5	2.5	3.5	9.5	9.0	9.0	8.5	5.0	7.0	14.0	11.5	13.0
6	3.5	1.0	2.5	10.5	9.0	9.5	10.0	5.5	7.5	16.0	12.0	14.0
7	4.0	1.0	2.5	10.0	8.0	9.5	13.0	9.0	11.0	16.5	14.5	15.5
8	4.0	2.0	3.0	10.0	8.0	8.5	12.5	9.0	10.0	16.5	14.0	15.0
9	5.5	2.5	4.0	8.5	6.5	7.5	12.0	8.5	10.0	16.5	13.0	15.0
10	6.5	4.5	5.5	8.0	6.5	7.5	12.5	9.0	11.0	19.0	15.5	17.0
11	6.0	4.0	5.0	9.0	5.5	7.5	12.0	9.0	10.0	19.0	17.0	18.5
12	6.0	4.0	5.0	9.0	6.5	7.5	9.0	8.5	9.0	19.5	17.0	18.5
13	6.0	4.5	5.5	7.5	4.5	6.0	9.0	8.0	8.0	20.0	18.0	19.0
14	5.5	4.0	5.0	7.0	5.0	6.0	10.0	9.0	9.5	20.5	18.0	19.0
15	5.0	4.0	4.5	9.5	6.5	8.0	12.5	8.0	10.0	20.0	17.5	19.0
16	4.0	2.0	3.5	9.0	3.5	6.0	13.0	8.5	11.0	20.0	18.0	19.0
17	5.0	3.0	4.0	7.0	3.5	5.0	15.0	10.0	12.5	19.0	17.0	18.0
18	6.0	4.0	5.0	9.0	6.0	7.5	16.5	12.5	14.5	19.0	17.5	18.5
19	7.0	4.5	6.0	8.5	6.0	7.0	17.0	13.5	15.5	19.0	16.5	17.5
20	7.0	5.0	6.0	9.5	5.0	7.5	17.0	14.0	15.5	16.5	15.5	16.0
21	7.0	6.0	6.5	9.5	7.5	8.5	16.0	13.5	15.0	17.5	16.0	16.5
22	6.5	5.0	6.0	7.5	5.0	6.5	16.0	14.0	15.0	20.0	17.5	18.5
23	7.0	5.0	6.0	8.0	4.5	6.5	15.0	13.5	14.5	21.0	19.0	20.0
24	7.0	5.0	6.0	9.5	6.0	8.0	16.5	13.0	15.0	21.0	20.0	20.5
25	6.0	3.5	5.0	9.5	9.0	9.5	16.0	11.5	13.0	21.0	19.5	20.0
26	6.0	4.0	5.0	13.0	9.0	11.0	11.5	10.5	11.0	20.5	18.5	19.0
27	7.0	4.5	6.0	13.0	12.0	12.5	14.0	10.5	12.0	19.0	17.5	18.5
28	7.5	5.0	6.5	14.0	10.5	12.5	13.0	9.5	12.0	19.0	18.0	18.5
29	8.5	5.5	7.0	13.0	10.0	12.0	16.0	11.0	13.5	18.5	16.5	17.0
30	---	---	---	11.5	9.0	9.5	17.0	13.5	15.5	17.0	15.0	16.0
31	---	---	---	9.5	8.5	9.0	---	---	---	17.5	15.0	16.0
MONTH	8.5	0.0	4.6	14.0	3.5	8.4	17.0	5.0	11.4	21.0	10.5	17.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.0	14.5	15.5	19.5	18.0	19.0	21.0	19.0	20.0	18.5	16.0	17.5
2	18.0	16.0	17.0	21.0	18.0	19.5	20.5	18.0	19.5	18.5	16.0	17.5
3	18.5	16.5	18.0	21.0	19.5	20.5	20.5	17.5	19.0	18.0	16.0	17.5
4	18.5	17.0	17.5	20.5	19.5	20.0	20.5	17.5	19.0	18.5	16.0	17.5
5	17.5	14.0	16.0	22.0	20.0	21.0	20.0	17.5	18.5	18.5	16.5	17.0
6	15.0	14.0	14.0	22.0	20.5	21.5	18.5	15.5	16.5	18.0	15.0	16.5
7	18.0	14.0	15.5	21.5	20.0	20.5	16.5	15.0	15.5	18.5	17.0	18.0
8	19.5	16.5	18.0	21.5	19.5	20.5	18.0	14.0	16.0	18.5	17.0	17.5
9	21.0	18.0	19.5	21.0	19.5	20.0	19.0	16.0	17.5	20.0	17.5	18.5
10	21.0	19.0	20.0	20.5	18.0	19.5	19.5	17.0	18.5	19.0	17.0	18.0
11	19.0	16.0	17.5	21.5	19.5	20.5	19.5	17.5	18.5	18.5	16.5	17.5
12	18.0	14.5	16.0	21.5	19.5	20.5	19.5	17.5	18.5	18.0	16.0	17.0
13	18.0	16.0	16.5	19.5	18.0	18.5	19.5	18.0	19.0	18.5	16.0	17.5
14	17.5	15.5	16.0	19.0	17.5	18.0	18.0	16.0	17.0	18.5	16.5	17.5
15	20.0	17.5	18.5	18.5	17.0	18.0	18.0	16.0	16.5	17.5	16.0	17.0
16	20.0	19.0	19.5	18.5	16.5	17.5	18.0	15.5	17.0	17.5	16.5	17.0
17	20.0	19.5	20.0	19.0	17.0	18.0	18.0	15.5	17.0	17.5	16.0	16.5
18	21.0	18.5	20.0	19.0	17.0	17.5	18.0	16.0	17.0	18.0	17.0	17.5
19	21.0	19.0	20.0	18.0	16.5	17.0	18.0	16.5	17.5	17.0	14.0	15.5
20	19.0	16.5	17.5	20.0	17.0	18.0	19.5	16.5	18.0	15.5	13.0	14.5
21	19.0	16.5	17.5	20.0	17.5	19.0	19.5	18.0	18.5	16.0	14.0	15.0
22	19.0	18.0	18.5	20.5	18.0	19.5	18.5	15.5	17.0	17.0	14.0	15.5
23	20.0	17.0	18.5	20.5	18.5	19.5	18.5	15.0	17.0	17.5	15.0	16.0
24	21.0	19.0	20.0	20.5	18.5	19.5	18.5	16.5	17.5	17.5	15.5	16.5
25	20.5	19.5	20.0	19.5	17.0	18.0	18.5	17.0	17.5	17.0	15.0	16.0
26	20.5	19.0	19.5	18.5	16.5	17.5	18.5	16.0	17.5	17.0	15.5	16.0
27	19.5	17.0	18.5	18.5	17.0	17.5	19.0	17.0	18.0	16.5	15.0	16.0
28	18.5	17.5	18.0	19.0	17.5	18.5	19.5	17.0	18.5	17.5	16.0	16.5
29	19.0	17.0	18.0	19.5	17.0	18.5	20.0	17.5	19.0	17.5	16.0	16.5
30	20.0	17.5	18.5	20.0	17.5	18.5	20.0	18.0	18.5	16.0	15.0	15.5
31	---	---	---	20.5	18.5	19.5	18.5	17.5	18.0	---	---	---
MONTH	21.0	14.0	18.0	22.0	16.5	19.1	21.0	14.0	17.8	20.0	13.0	16.8
YEAR	22.0	0.0	12.0									

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sample location, cross section ft from rt bank (72103)	Sampling depth, feet (00003)	Temperature, water, deg C (00010)
JUL 2004							
19...	0943	1028	1028	121	62	.0	--
19...	0944	1028	1028	--	60	.5	16.4
19...	0945	1028	1028	--	56	.5	16.4
19...	0946	1028	1028	--	50	.5	16.4
19...	0947	1028	1028	--	46	.5	16.4
19...	0948	1028	1028	--	44	.5	16.4
19...	0949	1028	1028	--	40	.5	16.4
19...	0950	1028	1028	--	36	.5	16.4
19...	0951	1028	1028	--	30	.5	16.4
19...	0952	1028	1028	--	26	.5	16.4
19...	0953	1028	1028	--	20	.5	16.4
19...	0954	1028	1028	--	16	.5	16.4
19...	0955	1028	1028	--	10	.5	16.4
19...	0956	1028	1028	--	4	.5	16.4
19...	0957	1028	1028	--	0	.0	--
AUG							
24...	0841	1028	1028	183	62	.0	--
24...	0842	1028	1028	--	58	1.1	16.7
24...	0845	1028	1028	--	51	1.1	16.2
24...	0850	1028	1028	--	45	1.1	16.2
24...	0854	1028	1028	--	41	1.2	16.2
24...	0900	1028	1028	--	35	1.3	16.2
24...	0904	1028	1028	--	30	1.2	16.2
24...	0908	1028	1028	--	25	1.2	16.2
24...	0912	1028	1028	--	20	1.3	16.2
24...	0915	1028	1028	--	16	1.3	16.2
24...	0920	1028	1028	--	10	1.5	16.2
24...	0926	1028	1028	--	6	1.5	16.2
24...	0929	1028	1028	--	2	1.0	16.3
24...	0930	1028	1028	--	0	.0	--