2004 Water Year

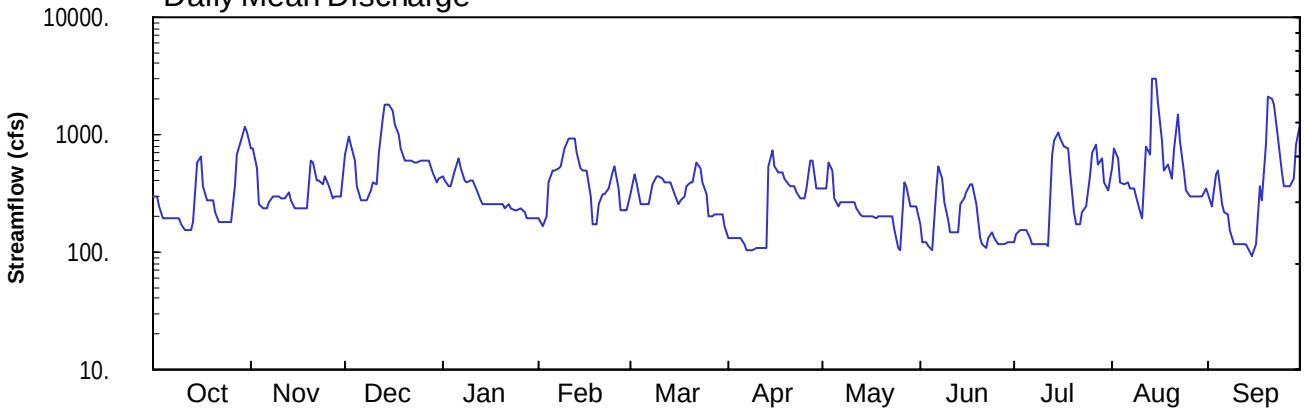
SCHUYLKILL RIVER BASIN

01470960 Tulpehocken Cr at Blue Marsh Damsite near Reading

Latitude: 40°22'14" Longitude: 076°01'32" Hydrologic Unit Code: 02040203

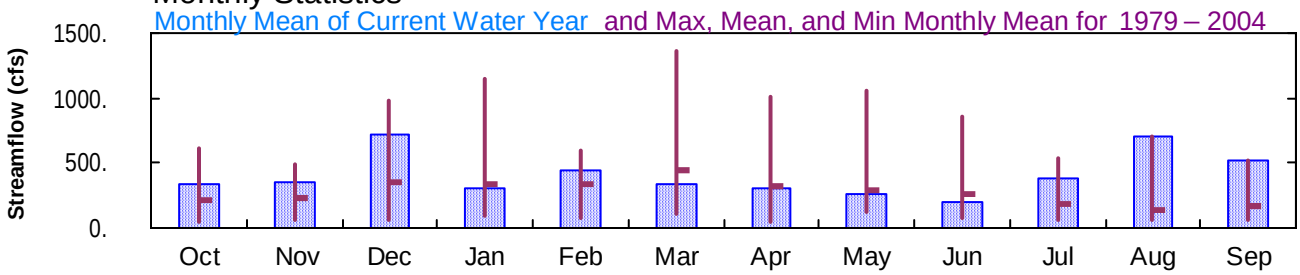
Berks County Datum: 230.06 feet Drainage Area: 175. mi^2

Daily Mean Discharge

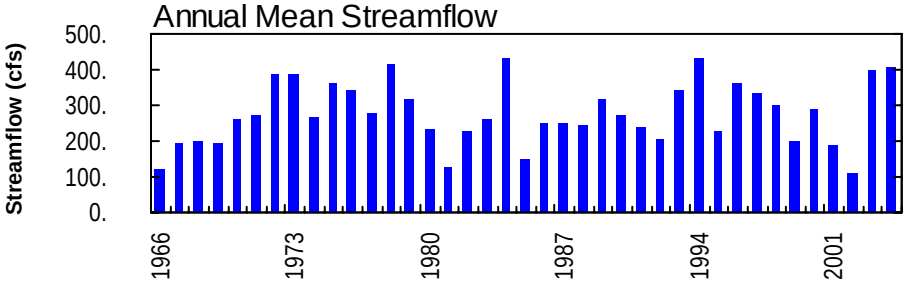


Monthly Statistics

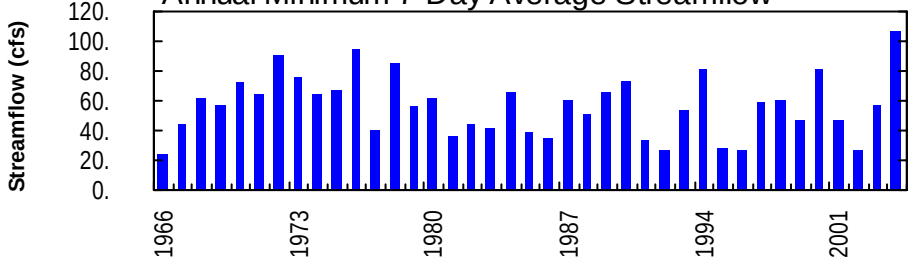
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1979 – 2004



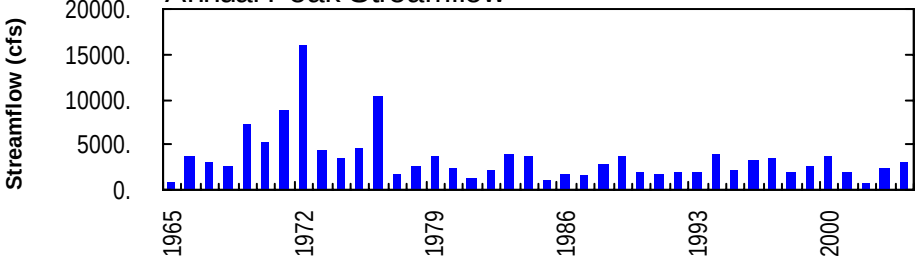
Annual Mean Streamflow

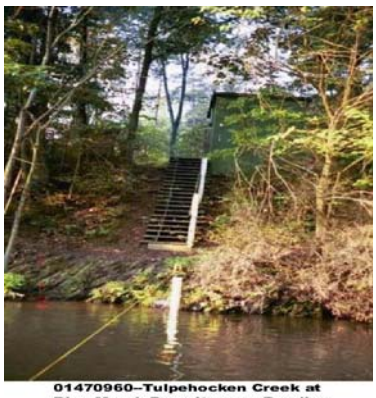


Annual Minimum 7-Day Average Streamflow



Annual Peak Streamflow





01470960–Tulpehocken Creek at Blue Marsh Damsite near Reading

SCHUYLKILL RIVER BASIN

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA

LOCATION.--Lat 40°22'14", long 76°01'32", Berks County, Hydrologic Unit 02040203, on right bank 1.0 mi upstream from Rebers Bridge and Plum Creek, 1.0 mi east of Blue Marsh, 3.0 mi north of Sinking Spring, and 5.5 mi northeast of Reading.

DRAINAGE AREA.--175 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1965 to current year.

REVISED RECORDS.--WDR PA-72-1: 1969-71 (M).

GAGE.--Water-stage recorder. Datum of gage is 230.06 ft above National Geodetic Vertical Datum of 1929 (Western Berks Water Authority datum). Prior to Nov. 25, 1974, water-stage recorder at site 0.3 mi downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since April 1979 by Blue Marsh Lake (station 01470870) 0.8 mi upstream. Satellite and landline telemetry at station.

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	297	766	678	446	195	313	130	352	171	123	515	312
2	297	760	962	413	164	464	130	351	120	140	775	241
3	245	505	837	361	205	387	132	576	121	156	636	459
4	196	256	600	362	389	251	133	501	110	156	385	500
5	195	236	362	495	498	254	134	286	104	156	374	258
6	195	238	280	628	500	255	118	247	349	134	386	220
7	195	261	280	510	517	257	105	265	545	117	354	207
8	195	293	280	402	527	374	105	267	417	117	354	154
9	195	293	342	399	776	449	105	267	268	117	297	115
10	172	293	385	402	935	446	107	267	189	117	217	115
11	156	291	372	401	927	431	107	267	147	117	193	115
12	156	291	697	341	917	399	109	238	148	113	795	115
13	156	321	1360	275	701	399	109	209	148	665	679	115
14	181	279	1800	254	506	398	544	202	250	899	2930	102
15	578	232	1770	254	503	311	735	201	282	1030	2970	93
16	649	232	1610	254	499	251	532	201	320	921	1830	118
17	359	232	1200	254	295	281	484	201	382	781	881	357
18	280	232	1010	254	175	304	480	195	380	773	502	276
19	279	233	767	254	176	357	421	201	252	480	552	827
20	278	600	604	254	256	395	372	201	131	219	425	2080
21	218	586	606	233	309	395	368	201	118	172	775	2040
22	178	406	603	254	310	575	368	200	109	174	1460	1820
23	180	406	569	237	347	514	317	199	131	215	896	964
24	180	370	586	226	475	391	283	153	149	244	477	475
25	180	433	608	226	526	305	282	109	133	437	339	362
26	180	368	610	237	353	204	346	104	119	699	301	361
27	366	290	608	218	225	204	596	395	119	813	300	361
28	686	293	608	195	225	207	600	368	119	559	301	424
29	872	296	474	195	226	208	354	249	121	622	303	808
30	1150	298	387	195	---	208	354	247	123	398	304	1230
31	1020	---	423	195	---	164	---	248	---	340	344	---
TOTAL	10464	10590	22278	9624	12657	10351	8960	7968	6075	12004	21850	15624
MEAN	338	353	719	310	436	334	299	257	202	387	705	521
MAX	1150	766	1800	628	935	575	735	576	545	1030	2970	2080
MIN	156	232	280	195	164	164	105	104	104	113	193	93

SCHUYLKILL RIVER BASIN

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2004, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	211	231	346	339	343	446	326	294	254	190	143	161
MAX	612	484	986	1151	596	1365	1016	1058	863	543	705	521
(WY)	1980	1997	1997	1979	1979	1994	1993	1989	2003	1984	2004	2004
MIN	51.4	61.7	61.3	84.5	75.2	106	49.8	123	69.9	64.9	55.4	54.0
(WY)	1996	2002	1999	2002	2002	2002	1985	1999	1979	2002	1981	1983

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1979 - 2004	
ANNUAL TOTAL	154642		148445			
ANNUAL MEAN	424		406		274	
HIGHEST ANNUAL MEAN					435	1994
LOWEST ANNUAL MEAN					111	2002
HIGHEST DAILY MEAN	2300	Jun 26	2970	Aug 15	3950	Apr 18 1983
LOWEST DAILY MEAN	72	Jun 21	93	Sep 15	25	Oct 7 1995
ANNUAL SEVEN-DAY MINIMUM	82	Sep 8	107	Apr 7	26	Oct 6 1995
MAXIMUM PEAK FLOW			3140	Aug 14	**a**4060	Dec 6 1993
MAXIMUM PEAK STAGE			7.42	Aug 14	8.02	Jun 26 2000
10 PERCENT EXCEEDS	869		774		544	
50 PERCENT EXCEEDS	291		298		177	
90 PERCENT EXCEEDS	136		128		63	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1978, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	180	236	333	333	373	423	363	261	285	233	175	150
MAX	701	464	827	761	790	832	706	423	1244	523	350	536
(WY)	1977	1976	1978	1978	1971	1978	1970	1973	1972	1969	1969	1975
MIN	56.2	58.3	69.9	100	146	163	144	89.2	60.4	45.0	31.9	43.4
(WY)	1967	1966	1966	1966	1969	1969	1966	1965	1965	1966	1966	1966

SUMMARY STATISTICS	WATER YEARS 1965 - 1978	
ANNUAL MEAN	283	
HIGHEST ANNUAL MEAN	416	1978
LOWEST ANNUAL MEAN	122	1966
HIGHEST DAILY MEAN	11000	Jun 23 1972
LOWEST DAILY MEAN	23	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	25	Sep 7 1966
MAXIMUM PEAK FLOW	**a**16100	Jun 22 1972
MAXIMUM PEAK STAGE	**b**18.70	Jun 22 1972
ANNUAL RUNOFF (CFSM)	1.62	
ANNUAL RUNOFF (INCHES)	22.00	
10 PERCENT EXCEEDS	551	
50 PERCENT EXCEEDS	178	
90 PERCENT EXCEEDS	69	

a From rating curve extended above 3,540 ft^3/s on basis of runoff comparison with downstream station.
b From floodmark.

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to 1980.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Water years 1969 to current year.
SUSPENDED-SEDIMENT DISCHARGE.--May 1973 to May 1976.

INSTRUMENTATION.--Temperature recorder since October 1968. Temperature probe interfaced with a data collection platform since 1986 water year.

REMARKS.--Water temperature records rated good except for Oct. 1 to Jan. 21, which are fair. Temperature records collected at streamgage. Water-quality samples and suspended sediment samples collected at Rebers Bridge 1.0 mi downstream.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 34.0°C, Oct. 2, 1968; minimum, 0.0°C, on several days during December 1970, January and March 1971, and February 1979.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,400 mg/L, June 22, 1973; minimum daily mean, 2 mg/L on many days.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 8,570 tons, Jan. 27, 1976; minimum daily, 0.45 tons, July 13.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 22.5°C, July 14, 24, Sept. 7; minimum, 1.0°C, Jan. 18, 20, 21.

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	19.0	18.5	18.5	13.0	12.5	12.5	8.5	8.0	8.5	3.5	3.5	3.5
2	18.5	18.0	18.5	13.0	11.5	12.5	8.0	7.5	8.0	3.5	3.5	3.5
3	18.0	17.5	18.0	12.5	11.5	12.0	7.5	7.0	7.5	4.0	3.5	4.0
4	17.5	17.0	17.0	12.5	11.5	12.0	7.0	7.0	7.0	4.0	4.0	4.0
5	17.0	16.0	16.5	12.5	11.5	12.0	7.0	6.5	6.5	4.0	4.0	4.0
6	16.0	15.5	16.0	12.5	12.0	12.5	6.5	5.0	5.5	4.0	3.5	3.5
7	16.0	15.0	15.5	13.5	12.0	12.5	6.0	5.0	5.5	3.5	3.0	3.0
8	15.5	15.0	15.0	13.5	12.0	12.5	5.5	5.0	5.5	3.0	2.5	2.5
9	15.5	14.5	15.0	13.0	12.0	12.5	5.5	5.0	5.0	2.5	2.0	2.5
10	15.0	14.5	14.5	12.5	12.0	12.0	5.0	5.0	5.0	2.0	1.5	2.0
11	15.0	14.5	15.0	12.0	11.5	12.0	5.5	4.5	5.0	2.0	2.0	2.0
12	15.5	14.5	15.0	11.5	11.0	11.5	5.0	4.5	4.5	2.5	2.0	2.5
13	15.5	14.5	15.0	12.0	11.0	11.5	4.5	3.5	4.0	2.5	2.0	2.5
14	15.5	14.5	15.0	11.0	10.0	10.0	3.5	3.0	3.5	2.5	2.0	2.0
15	16.5	15.0	16.0	10.0	9.5	10.0	3.0	3.0	3.0	2.0	1.5	2.0
16	16.0	15.0	15.5	10.0	9.5	10.0	3.5	3.0	3.5	1.5	1.5	1.5
17	15.5	15.0	15.5	10.0	9.5	10.0	3.5	3.5	3.5	1.5	1.5	1.5
18	15.5	15.0	15.0	9.5	9.0	9.5	3.5	3.0	3.5	1.5	1.0	1.5
19	15.0	14.0	14.5	10.0	8.5	9.0	3.0	3.0	3.0	1.5	1.5	1.5
20	14.5	14.0	14.5	10.0	9.5	9.5	3.0	3.0	3.0	1.5	1.0	1.5
21	14.5	14.0	14.0	10.0	9.5	9.5	3.0	2.5	2.5	2.0	1.0	1.5
22	14.0	13.0	13.5	10.0	9.5	9.5	3.0	2.5	3.0	2.0	2.0	2.0
23	14.0	13.0	13.5	9.5	9.5	9.5	3.0	3.0	3.0	2.0	1.5	2.0
24	13.5	13.0	13.5	9.5	9.5	9.5	3.5	3.0	3.0	2.0	2.0	2.0
25	13.5	13.0	13.0	10.0	9.5	9.5	3.5	3.0	3.0	2.0	2.0	2.0
26	13.5	12.5	13.0	9.5	9.0	9.5	3.0	3.0	3.0	2.0	2.0	2.0
27	13.0	12.5	12.5	9.5	9.0	9.0	3.5	3.0	3.0	2.0	2.0	2.0
28	13.0	12.5	12.5	9.0	9.0	9.0	3.0	3.0	3.0	2.5	2.0	2.0
29	13.0	12.5	13.0	9.0	8.5	9.0	3.5	3.0	3.5	2.5	2.0	2.0
30	13.0	12.5	13.0	8.5	8.5	8.5	3.5	3.0	3.5	2.5	2.0	2.0
31	13.0	12.5	12.5	---	---	---	3.5	3.0	3.5	2.5	2.0	2.0
MONTH	19.0	12.5	14.8	13.5	8.5	10.6	8.5	2.5	4.3	4.0	1.0	2.3

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	2.5	2.0	2.0	4.0	3.5	4.0	8.0	7.0	7.5	14.5	13.0	13.5
2	2.5	2.0	2.0	4.5	3.5	4.0	8.0	7.0	7.5	15.0	13.0	14.0
3	2.0	2.0	2.0	5.0	4.0	4.5	8.5	8.0	8.5	14.5	13.0	13.5
4	2.5	2.0	2.0	5.0	4.5	4.5	9.0	8.0	8.5	15.0	12.5	14.0
5	2.5	2.0	2.5	5.0	4.5	4.5	8.5	7.5	8.0	15.0	14.0	14.5
6	2.5	2.5	2.5	6.0	4.5	5.0	9.0	7.5	8.0	15.5	14.0	14.5
7	2.5	2.0	2.5	6.0	5.5	5.5	9.5	7.5	8.5	15.5	14.5	15.0
8	2.5	2.0	2.5	6.5	5.5	6.0	9.0	8.0	8.5	15.5	14.5	15.0
9	2.5	2.0	2.0	6.0	5.5	5.5	10.5	8.5	9.0	15.5	14.5	15.0
10	2.0	2.0	2.0	6.0	5.5	5.5	10.5	8.5	9.5	16.5	15.0	15.5
11	2.0	2.0	2.0	6.5	5.5	6.0	9.5	9.0	9.0	16.5	15.5	16.0
12	2.0	2.0	2.0	6.5	6.0	6.0	9.5	8.0	9.0	17.0	16.0	16.5
13	2.0	2.0	2.0	6.0	5.5	6.0	9.0	8.0	8.5	17.5	16.0	16.5
14	2.0	2.0	2.0	6.0	5.5	6.0	9.5	9.0	9.0	18.0	16.0	16.5
15	2.5	2.0	2.0	6.5	6.0	6.0	9.5	9.0	9.0	18.5	16.0	17.5
16	2.5	2.0	2.5	6.5	5.5	6.0	10.0	9.0	9.5	18.5	16.5	17.5
17	2.5	2.5	2.5	6.0	5.5	6.0	11.0	9.5	10.0	18.0	16.5	17.5
18	3.0	2.5	2.5	6.5	5.5	6.0	11.0	9.5	10.0	20.0	16.5	18.0
19	3.5	2.5	3.0	6.5	6.0	6.0	12.5	10.0	11.0	18.5	17.5	18.0
20	3.0	2.5	3.0	6.5	6.0	6.0	12.5	10.5	12.0	18.0	17.5	17.5
21	3.5	3.0	3.0	6.5	6.0	6.5	12.0	10.5	11.5	18.5	17.5	18.0
22	3.5	3.0	3.0	6.5	6.0	6.0	13.0	10.5	12.0	19.0	17.5	18.5
23	3.5	3.0	3.5	6.5	6.0	6.0	13.0	12.0	12.5	20.0	18.0	18.5
24	3.5	3.0	3.5	6.5	6.0	6.5	14.0	12.0	13.0	21.0	18.5	19.5
25	3.5	3.0	3.5	7.0	6.5	6.5	13.5	12.0	12.5	20.5	18.5	19.5
26	4.0	3.5	3.5	7.5	6.5	6.5	13.0	12.0	12.5	20.5	17.5	19.0
27	4.0	3.5	3.5	8.5	7.0	7.5	13.0	12.0	12.5	19.5	16.5	18.0
28	4.0	3.0	3.5	8.0	6.5	7.0	14.0	12.0	13.0	20.0	17.5	19.0
29	4.0	3.5	4.0	8.0	6.5	7.5	13.5	12.5	13.0	20.0	19.0	19.5
30	---	---	---	8.0	7.0	7.5	14.5	12.5	13.5	19.5	18.5	19.0
31	---	---	---	8.0	7.5	7.5	---	---	---	19.0	18.5	18.5
MONTH	4.0	2.0	2.6	8.5	3.5	5.9	14.5	7.0	10.2	21.0	12.5	16.9

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	20.5	18.5	19.0	20.5	19.5	19.5	22.0	21.0	21.5	20.5	20.0	20.0
2	20.5	18.5	19.5	20.5	19.5	20.0	22.0	21.5	21.5	20.5	20.0	20.0
3	20.0	18.5	19.5	20.5	19.5	20.0	22.0	21.0	21.5	20.5	20.0	20.5
4	20.0	18.5	19.0	21.0	19.5	20.0	21.5	20.0	21.0	21.0	20.0	20.5
5	19.0	18.0	18.5	21.5	19.5	20.5	22.0	20.5	21.0	20.5	19.5	20.0
6	19.0	17.0	18.0	21.5	20.0	20.5	21.5	21.0	21.0	20.5	19.5	20.0
7	18.0	17.0	17.5	21.5	20.0	20.5	21.5	20.5	21.0	22.5	20.0	20.0
8	19.5	17.5	18.5	21.5	20.0	20.5	21.5	20.5	21.0	20.5	20.0	20.0
9	20.0	18.5	19.0	21.5	20.0	20.5	21.0	20.0	20.5	21.0	20.0	20.0
10	20.0	19.0	19.5	22.0	20.0	20.5	21.0	20.0	20.5	21.5	20.0	20.5
11	19.5	19.0	19.0	22.0	20.0	21.0	21.0	20.0	20.0	21.0	20.0	20.5
12	20.0	19.0	19.5	20.5	19.0	20.0	22.0	20.0	21.0	21.0	20.0	20.5
13	19.5	18.5	19.0	20.5	19.0	20.0	22.0	20.5	21.5	21.0	20.0	20.5
14	19.0	18.5	19.0	22.5	20.0	20.5	22.0	21.5	21.5	20.5	19.5	20.0
15	19.5	18.5	19.0	21.0	20.5	21.0	21.5	20.5	21.0	20.5	19.5	20.0
16	19.5	18.5	19.5	21.5	20.5	21.0	21.0	20.0	20.5	20.5	20.0	20.0
17	20.0	19.5	19.5	21.0	20.5	21.0	20.5	19.5	20.0	20.5	20.0	20.0
18	21.0	19.5	20.0	21.0	20.5	21.0	20.0	19.5	19.5	20.5	19.5	20.0
19	22.0	20.0	20.5	21.5	20.5	21.0	20.0	19.5	20.0	21.0	19.0	20.0
20	21.5	19.5	20.5	21.5	20.5	21.0	20.0	19.5	19.5	20.5	19.5	20.0
21	21.5	19.5	20.5	21.5	20.5	20.5	21.0	19.0	20.0	19.5	19.0	19.0
22	21.5	19.5	20.5	21.5	20.5	21.0	21.0	20.0	20.5	19.0	18.5	18.5
23	21.0	18.5	19.5	22.0	20.5	21.0	20.5	20.0	20.0	18.5	18.0	18.0
24	20.0	18.5	19.0	22.5	20.5	21.5	20.0	19.5	20.0	18.5	18.0	18.0
25	20.0	18.5	19.5	21.5	21.0	21.0	20.0	19.5	19.5	19.0	18.0	18.5
26	20.0	18.5	19.5	21.5	21.0	21.0	20.0	19.5	19.5	18.5	18.0	18.5
27	21.0	19.0	19.5	21.5	20.5	21.0	20.0	19.5	20.0	18.5	18.0	18.5
28	20.5	19.0	19.5	21.5	20.0	21.0	20.0	19.5	20.0	18.5	18.0	18.0
29	21.0	19.0	20.0	22.0	21.0	21.5	20.5	19.5	20.0	18.5	18.0	18.0
30	21.0	19.0	20.0	21.5	20.5	21.0	20.5	19.5	20.0	18.5	18.0	18.0
31	---	---	---	22.0	20.5	21.0	20.5	20.0	20.0	---	---	---
MONTH	22.0	17.0	19.4	22.5	19.0	20.7	22.0	19.0	20.5	22.5	18.0	19.5
YEAR	22.5	1.0	12.3									

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, 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)	Sampling depth, feet (00003)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
JUL 2004							
19...	0830	1028	1028	--	.0	--	103
19...	0832	1028	1028	--	.5	20.6	100
19...	0834	1028	1028	--	.5	20.7	96
19...	0836	1028	1028	--	.5	20.7	88
19...	0838	1028	1028	--	.5	20.7	76
19...	0840	1028	1028	--	.5	20.7	68
19...	0842	1028	1028	--	.5	20.7	60
19...	0845	1028	1028	--	.5	20.7	52
19...	0846	1028	1028	--	.5	20.7	44
19...	0847	1028	1028	--	.5	20.7	36
19...	0848	1028	1028	--	.5	20.7	28
19...	0849	1028	1028	--	.5	20.7	16
19...	0850	1028	1028	--	.5	20.7	8
19...	0851	1028	1028	--	.5	20.6	0
19...	0852	1028	1028	771	.0	--	0
AUG							
24...	1327	1028	1028	--	--	--	112
24...	1334	1028	1028	--	1.2	19.8	99
24...	1337	1028	1028	--	1.3	19.8	94
24...	1340	1028	1028	--	1.3	19.8	89
24...	1343	1028	1028	--	1.3	19.8	81
24...	1348	1028	1028	--	1.5	19.8	74
24...	1351	1028	1028	--	1.4	19.8	69
24...	1353	1028	1028	--	1.5	19.8	64
24...	1356	1028	1028	--	1.4	19.8	59
24...	1359	1028	1028	--	1.4	19.9	50
24...	1402	1028	1028	--	1.3	20.0	42
24...	1404	1028	1028	--	1.3	20.1	34
24...	1406	1028	1028	--	1.2	20.2	26
24...	1414	1028	1028	--	.7	20.5	16
24...	1430	1028	1028	--	.7	20.7	8
24...	1431	1028	1028	406	.0	--	0