



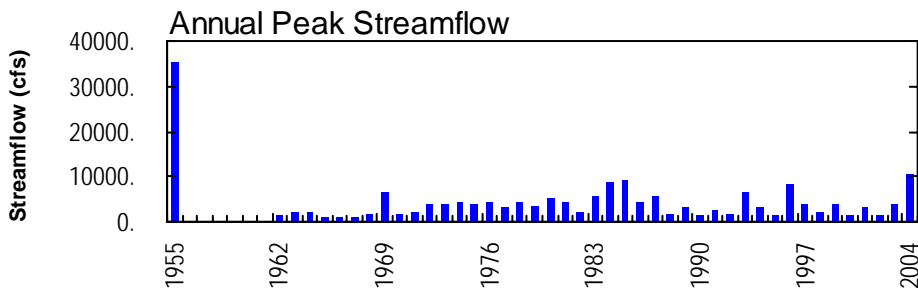
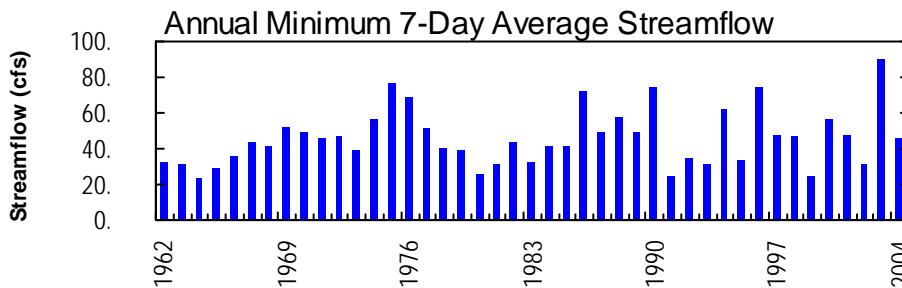
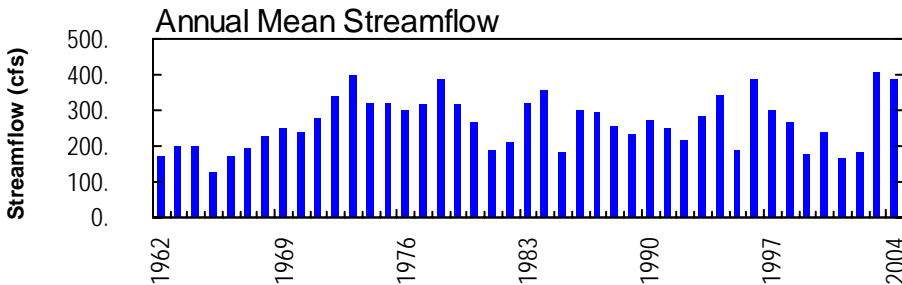
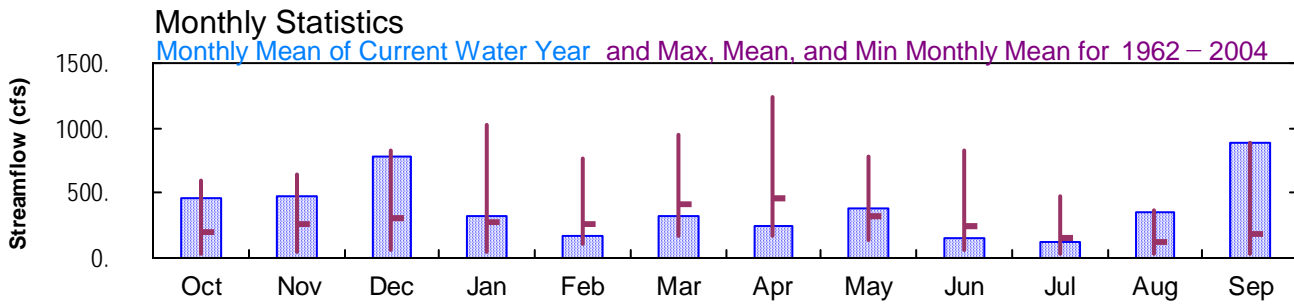
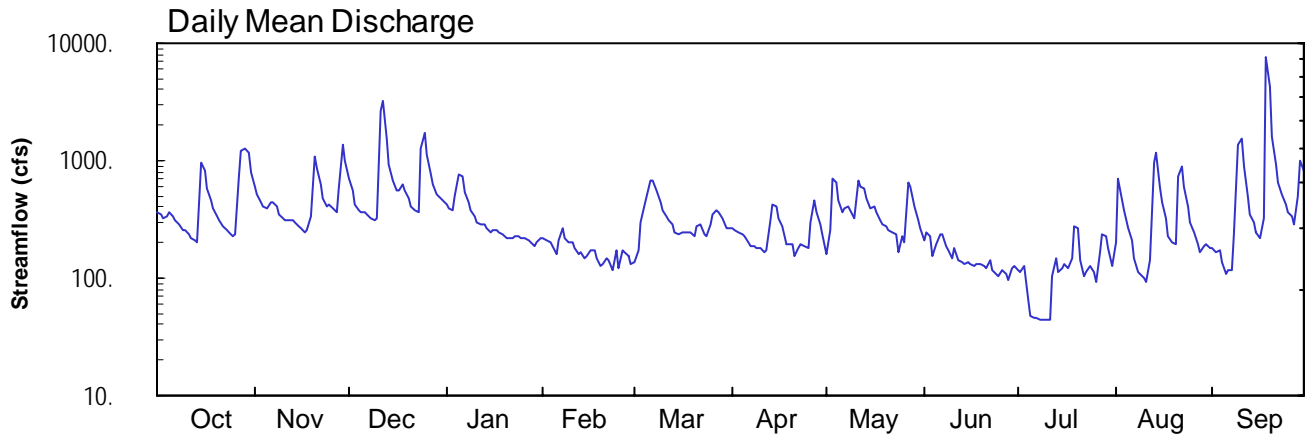
2004 Water Year LEHIGH RIVER BASIN

01447720 Tobyhanna Creek near Blakeslee, PA

Latitude: 41°05'05"
Carbon County

Longitude: 075°36'21"
Datum: 1511.23 feet

Hydrologic Unit Code: 02040106
Drainage Area: 118. mi²



LEHIGH RIVER BASIN

**01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA
(Pennsylvania Water-Quality Network Station)**

LOCATION.--Lat 41°05'05", long 75°36'21", Carbon County, Hydrologic Unit 02040106, on left bank 50 ft downstream from bridge on State Highway 940, 500 ft downstream from Shingle Mill Run, and 1.5 mi southwest of Blakeslee.

DRAINAGE AREA.--118 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,511.23 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 16, 1962, nonrecording gage at site 50 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Power generation at Pocono Lake about 5.0 mi upstream since 1985 and minor diversion from Tunkhannock Creek Basin into Wild Creek Basin. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 19, 1955, reached a stage of 19.41 ft, from floodmark, discharge, 35,300 ft³/s, by slope-area measurement.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Dec. 11	2330	4,480	8.86	Sept. 9	2000	1,960	6.24
Dec. 24	2330	1,980	6.27	Sept. 18	1245	*10,400	*12.71

**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	360	613	714	416	e220	134	264	160	210	118	205	183
2	348	507	556	389	e210	173	252	254	250	111	700	166
3	324	446	425	383	205	300	245	691	229	126	455	172
4	333	406	384	488	185	427	240	644	152	69	380	139
5	356	397	363	767	e160	505	229	458	195	48	268	110
6	342	447	357	734	e210	666	199	365	239	46	211	115
7	315	443	344	535	260	687	189	399	236	45	145	117
8	285	400	326	435	e220	559	186	404	186	45	113	228
9	260	354	312	375	e200	443	181	344	174	44	108	1390
10	250	322	327	e340	201	374	176	327	146	44	99	1550
11	236	307	2620	e300	182	331	168	665	179	43	93	887
12	220	308	3230	283	e160	310	174	601	142	104	144	490
13	213	314	1560	289	166	284	312	572	135	149	953	351
14	201	297	914	e270	147	244	429	483	133	114	1150	296
15	955	271	673	e250	153	239	403	388	134	121	611	243
16	836	260	567	e260	e170	249	323	404	130	129	437	219
17	589	248	563	e260	e170	246	273	365	129	119	321	318
18	460	253	618	249	146	242	193	311	133	145	227	7740
19	385	342	550	e240	126	242	192	291	133	274	201	4310
20	336	1070	472	e220	131	226	197	281	127	262	192	1590
21	306	852	413	e220	145	274	156	258	122	141	719	928
22	279	615	375	216	141	285	177	248	139	104	883	661
23	259	478	369	e230	117	236	191	238	116	115	594	510
24	243	408	1250	e230	171	229	189	168	107	128	410	423
25	231	418	1740	e220	e120	292	183	224	105	114	300	369
26	232	387	1140	e220	174	343	294	201	119	92	247	334
27	723	358	762	e210	165	371	450	650	107	167	197	286
28	1220	571	618	e200	152	358	360	595	97	240	169	501
29	1280	1370	511	e190	130	316	286	415	120	223	190	989
30	1170	994	478	e200	---	270	237	307	127	177	194	838
31	800	---	455	e220	---	262	---	266	---	125	182	---
TOTAL	14347	14456	23986	9839	4937	10117	7348	11977	4551	3782	11098	26453
MEAN	463	482	774	317	170	326	245	386	152	122	358	882
MAX	1280	1370	3230	767	260	687	450	691	250	274	1150	7740
MIN	201	248	312	190	117	134	156	160	97	43	93	110
CFSM	3.92	4.08	6.56	2.69	1.44	2.77	2.08	3.27	1.29	1.03	3.03	7.47
IN.	4.52	4.56	7.56	3.10	1.56	3.19	2.32	3.78	1.43	1.19	3.50	8.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2004, BY WATER YEAR (WY)

MEAN	196	265	304	273	268	414	459	323	237	149	126	187
MAX	598	644	827	1019	768	948	1247	784	826	481	372	882
(WY)	1977	1973	1997	1996	1981	1977	1993	1989	2003	1969	1969	2004
MIN	31.2	48.1	58.0	40.6	100	172	162	134	64.1	30.3	34.3	28.0
(WY)	1964	1965	1981	1981	1980	1989	1985	1999	1999	1999	1964	1964

e Estimated.

LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA--Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1962 - 2004	
ANNUAL TOTAL	168302		142891			
ANNUAL MEAN	461		390		266	
HIGHEST ANNUAL MEAN					406	
LOWEST ANNUAL MEAN					129	
HIGHEST DAILY MEAN	3490	Jun 22	7740	Sep 18	7740	Sep 18 2004
LOWEST DAILY MEAN	103	Aug 29	43	Jul 11	21	Aug 12 1999 ^a
ANNUAL SEVEN-DAY MINIMUM	115	Aug 24	45	Jul 5	23	Sep 21 1964
MAXIMUM PEAK FLOW			10400	Sep 18	10400	Sep 18 2004
MAXIMUM PEAK STAGE			12.71	Sep 18	12.71	Sep 18 2004
INSTANTANEOUS LOW FLOW					16	Aug 8 1991
ANNUAL RUNOFF (CFSM)	3.91		3.31		2.26	
ANNUAL RUNOFF (INCHES)	53.06		45.05		30.69	
10 PERCENT EXCEEDS	917		694		533	
50 PERCENT EXCEEDS	307		260		180	
90 PERCENT EXCEEDS	154		126		58	

^a Also Sept. 3, 4, 1999.

LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1930 to 1982, 2002 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water year 1980 to September 30, 2004. (discontinued)

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform.

REMARKS.--Water temperature records rated good. Interruption in record from Mar. 21 to May 22 was due to malfunctioning temperature probe. Other interruptions in the record were due to malfunctions of the recording instrument. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 28.5°C, July 5, 6, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR--

WATER TEMPERATURE: Maximum, 23.5°C, Aug. 3; minimum, 0.0°C, many days during winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unfltrd lab, µS/cm 25 degC (90095)	Specif. conductance, wat unfltrd lab, µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)
OCT 2003													
08...	1250	1028	9813	265	10.7	6.3	6.3	59	57	11.3	12	3.2	3.3
DEC													
16...	1120	1028	9813	564	14.8	5.8	6.1	61	56	.7	10	2.8	2.8
FEB 2004													
24...	1030	1028	9813	109	15.9	6.7	6.9	94	88	1.3	16	4.4	4.6
APR													
20...	1200	1028	9813	185	12.0	6.8	6.7	96	80	12.2	14	4.0	4.0
JUN													
22...	1120	1028	9813	137	8.9	6.8	6.4	84	80	18.6	16	4.8	4.5
AUG													
18...	1300	1028	9813	233	9.1	6.2	6.3	72	72	19.4	13	3.6	3.8

Date	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (00417)	Acidity water, unfltrd heated, mg/L as CaCO3 (70508)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water, unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)
OCT 2003													
08...	.83	.85	4	26	3.4	26	2	<.020	.11	<.040	<.01	.012	.45
DEC													
16...	.71	.69	3	20	3.9	42	<2	<.020	.17	<.040	.01	.012	.32
FEB 2004													
24...	1.2	1.2	6	17	4.4	40	<2	.030	.35	<.040	<.01	.016	.54
APR													
20...	.99	.99	5	8.4	4.5	60	<2	<.020	.21	<.040	.01	.017	.57
JUN													
22...	1.2	1.1	11	21	3.9	62	<2	<.020	.12	<.040	<.01	.015	.14
AUG													
18...	.85	.89	7	27	4.1	74	2	.020	.09	<.040	<.01	.015	.40

LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)
OCT 2003 08...	.8	120	170	<4	<4	250	380	<1.0	<1.0	40	50	<4.0	<4.0
DEC 16...	1.8	150	190	<4	<4	180	200	<1.0	<1.0	70	70	<4.0	<4.0
FEB 2004 24...	1.6	60	80	<4	<4	90	130	<1.0	<1.0	30	50	<4.0	10
APR 20...	1.6	60	110	<4	<4	90	160	<1.0	<1.0	20	40	<4.0	<4.0
JUN 22...	.9	40	90	<4	<4	130	310	<1.0	<1.0	20	70	<4.0	<4.0
AUG 18...	1.1	140	200	<4	<4	280	450	<1.0	<1.0	40	70	<4.0	<4.0

Date	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT 2003 08...	10	10
DEC 16...	20	20
FEB 2004 24...	10	20
APR 20...	10	10
JUN 22...	5	7
AUG 18...	10	20

LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	08/21/03
Benthic macroinvertebrate	Count
Mollusca	
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
<i>Sphaerium</i>	2
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Acentrella</i>	1
<i>Baetis</i>	5
<i>Heterocloeon</i>	4
Ephemerellidae	
<i>Dannella</i>	4
Heptageniidae	2
Isonychiidae	
<i>Isonychia</i>	1
Leptophlebiidae	
<i>Paraleptophlebia</i>	4
Odonata	
Gomphidae (DRAGONFLIES)	1
Plecoptera (STONEFLIES)	
Capniidae	1
Perlidae	
<i>Acroneuria</i>	1
<i>Paragnetina</i>	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<i>Cheumatopsyche</i>	51
<i>Hydropsyche</i>	14
Rhyacophilidae	
<i>Rhyacophila</i>	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Oulimnius</i>	7
<i>Stenelmis</i>	10
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	24
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	1
Total Organisms	135
Total Taxa	19

LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, 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
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	13.0	11.5	12.5	11.0	9.0	10.0	4.5	3.5	4.5	3.0	2.5	3.0
2	12.0	10.5	11.5	11.0	10.0	10.5	3.5	2.0	3.0	4.0	3.0	3.5
3	11.5	9.5	10.5	12.0	10.0	11.0	2.5	1.5	2.0	5.5	4.0	4.5
4	10.5	10.0	10.5	12.0	10.5	11.5	3.0	1.0	2.0	5.5	4.0	5.0
5	10.5	9.5	10.0	12.0	11.5	11.5	2.5	1.0	2.0	4.0	3.0	3.5
6	10.5	8.5	9.5	12.0	11.0	11.5	2.0	1.0	1.5	3.0	1.5	2.5
7	11.0	8.0	9.5	11.0	9.5	10.0	2.0	1.0	1.5	1.5	1.0	1.0
8	12.0	9.0	10.5	9.5	7.0	8.5	2.5	1.5	2.0	1.5	1.0	1.0
9	13.0	10.0	11.0	7.0	6.0	6.5	3.0	2.0	2.5	1.5	0.0	0.5
10	13.5	11.0	12.0	7.0	5.0	6.0	5.0	2.5	3.5	0.5	0.0	0.5
11	13.5	10.5	12.0	7.0	5.5	6.5	4.5	2.0	3.5	1.0	0.0	0.5
12	13.5	10.5	12.0	8.5	7.0	8.0	2.0	1.5	2.0	2.0	1.0	1.5
13	13.0	11.0	12.0	8.5	5.5	7.0	1.5	1.5	1.5	2.0	0.5	1.5
14	12.5	10.0	11.5	5.5	4.5	5.0	1.5	0.0	0.5	1.0	0.0	0.5
15	12.5	11.5	12.0	6.0	4.5	5.0	1.5	0.5	1.0	1.0	0.0	0.5
16	11.5	10.5	11.0	6.5	4.5	5.5	2.0	1.0	1.5	0.5	0.0	0.5
17	10.5	10.0	10.0	7.0	6.0	6.5	2.5	1.5	2.0	1.5	0.0	1.0
18	10.0	9.0	9.5	7.0	5.5	6.5	1.5	1.0	1.5	2.0	1.0	1.5
19	10.0	9.0	9.5	10.5	7.0	8.5	2.0	1.5	1.5	1.5	0.5	1.0
20	10.0	8.0	9.0	9.0	6.0	7.0	2.0	1.5	1.5	1.0	0.5	0.5
21	11.0	9.5	10.0	7.0	5.5	6.0	2.0	1.0	1.5	1.0	0.0	0.5
22	10.5	8.0	9.5	7.0	6.0	6.5	3.0	1.5	2.5	2.0	0.5	1.0
23	8.0	6.5	7.5	7.5	6.0	6.5	4.0	3.0	3.0	0.5	0.0	0.0
24	8.0	6.0	7.0	7.5	6.0	7.0	4.5	2.0	3.0	0.5	0.0	0.5
25	8.5	6.0	7.0	6.0	5.0	5.5	2.0	2.0	2.0	0.5	0.0	0.0
26	10.0	8.5	9.5	6.0	5.0	5.5	2.0	1.5	2.0	0.5	0.5	0.5
27	11.5	9.0	10.5	6.5	5.0	5.5	2.5	1.5	2.0	1.0	0.0	0.5
28	9.0	8.5	9.0	8.5	6.0	7.0	3.0	1.5	2.0	1.0	0.5	0.5
29	9.5	8.5	9.0	7.0	5.0	5.5	3.5	2.0	2.5	1.0	0.5	0.5
30	9.0	8.0	8.5	5.0	4.5	4.5	3.5	2.5	3.0	0.5	0.0	0.5
31	9.5	8.0	9.0	---	---	---	3.5	2.5	3.0	0.5	0.0	0.5
MONTH	13.5	6.0	10.1	12.0	4.5	7.4	5.0	0.0	2.2	5.5	0.0	1.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	0.5	0.0	0.5	4.5	1.5	3.0	6.0	5.5	5.5	17.0	12.5	14.5
2	1.0	0.0	0.5	5.5	2.5	4.0	6.0	5.0	5.5	15.0	13.5	14.5
3	1.5	0.5	1.0	3.5	2.0	2.5	5.5	5.0	5.0	13.5	12.0	12.5
4	2.0	1.0	1.5	3.0	2.0	2.5	5.5	3.5	5.0	13.5	11.0	12.0
5	1.5	0.5	1.0	3.0	2.0	2.5	5.5	2.0	3.5	12.5	11.0	11.5
6	2.0	0.5	1.0	3.5	2.0	3.0	6.5	1.5	3.5	15.0	10.5	12.5
7	2.0	1.0	2.0	3.5	2.0	2.5	8.5	4.0	5.5	15.0	11.5	13.5
8	1.0	0.0	0.5	3.0	2.5	3.0	6.5	4.5	5.5	14.5	12.0	13.0
9	1.5	0.0	1.0	3.0	2.5	2.5	8.0	4.5	6.0	15.0	11.5	13.0
10	2.5	1.0	2.0	4.0	2.5	3.0	9.0	4.5	6.5	17.0	13.0	15.0
11	2.5	1.0	1.5	5.0	2.0	3.5	7.0	5.0	6.0	17.5	14.0	16.0
12	2.0	0.0	1.0	3.5	2.5	3.0	7.5	5.5	6.5	18.0	16.5	17.0
13	2.5	1.5	2.0	4.0	1.5	2.5	7.0	6.0	6.5	20.0	16.5	18.0
14	2.0	0.5	1.5	3.5	1.5	2.5	7.0	6.5	7.0	20.5	17.0	18.5
15	1.5	0.0	0.5	6.0	3.0	4.0	9.0	5.5	7.0	19.5	16.5	18.0
16	0.5	0.0	0.0	3.5	1.5	2.5	10.0	5.5	7.5	19.0	16.5	17.5
17	0.5	0.0	0.5	3.5	1.5	2.5	12.0	7.0	9.5	19.5	16.0	17.5
18	1.0	0.5	1.0	4.5	2.0	3.0	13.5	9.0	11.0	19.0	17.0	18.0
19	2.5	0.5	1.5	3.5	2.0	3.0	15.0	10.5	12.5	17.5	16.0	17.0
20	3.0	1.0	2.0	5.0	1.0	3.0	14.0	10.5	12.0	18.0	15.0	16.5
21	3.5	2.0	3.0	4.0	2.0	3.5	14.5	10.5	12.0	18.5	16.0	17.0
22	2.5	1.5	2.0	3.5	1.0	2.0	15.5	12.0	13.5	20.0	16.5	18.0
23	3.0	0.5	2.0	4.5	0.5	2.0	13.0	11.5	12.0	21.0	17.5	19.0
24	2.0	1.0	1.5	6.5	2.0	4.0	15.0	11.0	12.5	21.0	18.0	19.5
25	1.5	0.0	0.5	6.0	4.0	4.5	11.5	9.5	10.0	21.0	17.0	19.0
26	2.5	0.5	1.5	7.0	4.0	5.5	10.5	8.5	9.5	18.5	14.5	17.0
27	3.5	0.5	1.5	6.5	5.5	6.0	12.5	10.0	11.0	20.5	14.5	18.5
28	4.0	0.5	2.0	8.0	5.0	6.0	12.5	9.0	10.5	19.5	17.5	19.0
29	4.0	0.5	2.5	8.0	4.5	6.0	15.0	9.5	12.0	18.0	15.5	17.0
30	---	---	---	6.0	4.5	5.0	16.0	11.0	13.0	18.5	14.0	16.0
31	---	---	---	6.5	5.0	5.5	---	---	---	15.5	14.5	15.0
MONTH	4.0	0.0	1.3	8.0	0.5	3.5	16.0	1.5	8.4	21.0	10.5	16.2

LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA--Continued

CROSS-SECTION ANALYSES, OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instan- taneous dis- charge, cfs (00061)	Sample loc- ation, cross section ft from rt bank (72103)	Sam- pling depth, feet (00003)	Temper- ature, water, deg C (00010)
JUL 2004					
01...	1455	403	0	--	--
01...	1500	--	11	0.95	21.3
01...	1511	--	65	1.05	21.2
01...	1522	--	76	1.70	21.2
01...	1530	--	88	--	--