SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA
(Swatara Creek Project)

LOCATION.--Lat 40°34'50", long 76°24'18", Schuylkill County, Hydrologic Unit 02050305, on right bank 800 ft downstream of Adam's Run, 1,000 ft downstream from State Highway 125 bridge crossing Swatara Creek and 0.4 mi north of Ravine.

DRAINAGE AREA.--43.3 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 590 ft above sea level, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Other data for this project presented in tables on pages 350-392.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 21	2000	*1,140	*3.31
Mar. 28	0330	620	2.60

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126	28	51	50	41	146	161	e60	80	69	91	48
2	87	41	49	49	41	144	147	e58	78	63	101	40
3	72	59	48	50	39	136	143	e54	68	62	63	26
4	76	39	47	55	39	117	231	e50	65	61	56	21
5	85	34	45	59	39	105	161	e48	65	57	47	17
6	65	31	53	49	37	93	141	e46	189	53	45	16
7	55	29	51	47	37	86	131	e43	105	48	46	17
8	50	29	45	44	36	83	157	e41	80	45	40	15
9	49	27	42	43	36	77	270	e40	72	43	35	15
10	96	27	45	94	36	73	198	e45	67	45	32	15
11	82	27	47	100	41	95	174	e58	65	41	31	15
12	62	25	42	72	41	194	159	e45	86	37	33	17
13	58	25	41	66	40	114	142	e52	87	36	33	83
14	55	26	129	60	86	102	130	e110	119	41	29	30
15	49	24	140	59	80	96	122	e80	89	90	28	25
16	47	24	97	58	67	95	117	e53	87	74	27	21
17	44	24	85	52	65	161	127	e47	74	48	23	19
18	42	23	79	50	62	112	128	e44	78	42	24	16
19	39	23	72	51	62	102	e100	e60	80	40	23	33
20	42	25	78	52	58	98	e90	e85	68	40	21	45
21	39	24	82	48	57	358	e100	e92	84	38	20	27
22	38	24	69	46	56	676	e110	e85	127	40	19	19
23	35	24	64	48	61	333	e100	99	78	35	20	18
24	34	24	62	46	72	250	e90	177	70	35	22	19
25	33	35	58	47	100	213	e84	152	77	33	20	18
26	32	62	58	45	129	188	e78	118	173	34	18	27
27	32	135	57	e40	128	181	e80	105	96	e35	19	24
28	30	71	55	e40	267	409	e74	99	83	e32	26	19
29	30	60	54	39	176	246	e71	90	79	e30	19	16
30	30	56	52	41	---	208	e64	81	78	e80	18	16
31	29	---	51	44	---	181	---	77	---	e72	18	---
TOTAL	1643	1105	1948	1644	2029	5472	3880	2294	2647	1499	1047	737
MEAN	53.0	36.8	62.8	53.0	70.0	177	129	74.0	88.2	48.4	33.8	24.6
MAX	126	135	140	100	267	676	270	177	189	90	101	83
MIN	29	23	41	39	36	73	64	40	65	30	18	15
CFSM	1.22	.85	1.45	1.22	1.62	4.08	2.99	1.71	2.04	1.12	.78	.57
IN.	1.41	.95	1.67	1.41	1.74	4.70	3.33	1.97	2.27	1.29	.90	.63

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2000, BY WATER YEAR (WY)

MEAN	57.8	58.7	101	98.7	112	146	108	90.6	73.5	42.7	30.1	35.5
MAX	135	143	284	177	196	196	144	181	110	64.2	39.9	70.7
(WY)	1997	1997	1997	1998	1998	1998	1998	1998	1998	1996	1996	1999
MIN	21.2	16.5	11.4	53.0	70.0	101	75.4	47.0	18.4	13.5	16.5	15.7
(WY)	1998	1999	1999	2000	2000	1999	1999	1999	1999	1999	1999	1998

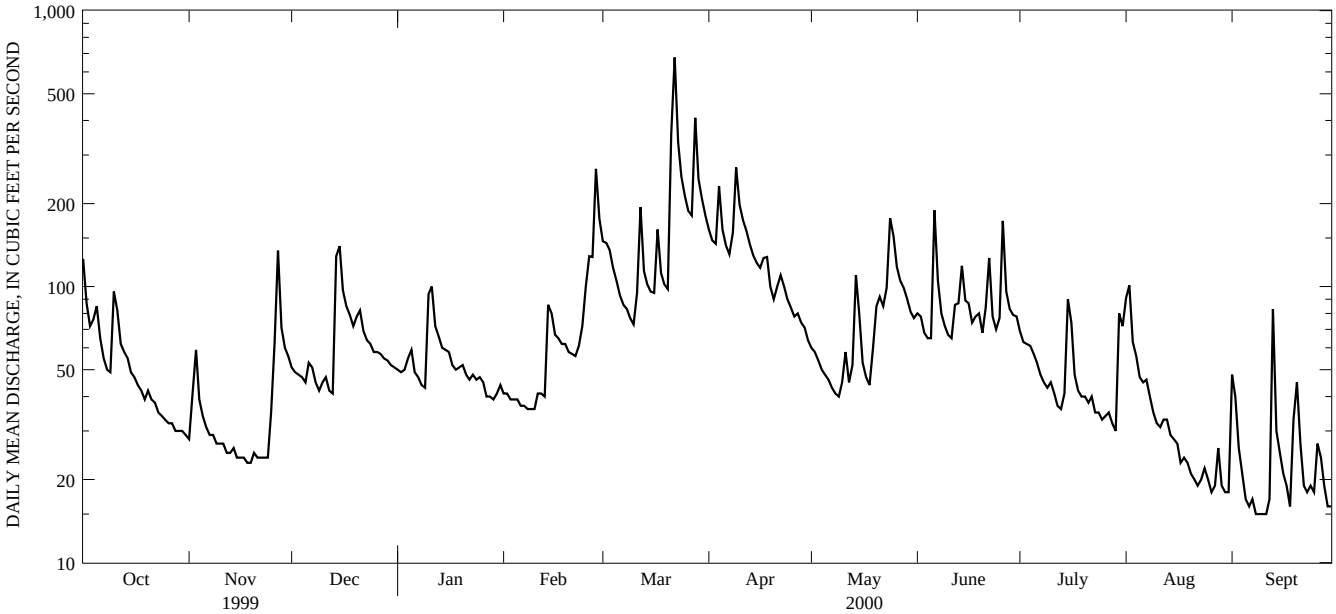
e Estimated.

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1996 - 2000	
ANNUAL TOTAL	20167.6		25945			
ANNUAL MEAN	55.3		70.9		78.7	
HIGHEST ANNUAL MEAN					98.7	1997
LOWEST ANNUAL MEAN					46.6	1999
HIGHEST DAILY MEAN	549	Jan 24	676	Mar 22	1180	Oct 19 1996
LOWEST DAILY MEAN	9.8	Aug 7,12	15	Sep 8-11	9.8	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	11	Aug 6	16	Sep 5	10	Dec 14 1998
INSTANTANEOUS PEAK FLOW			**a**1140	Mar 21	**a**1740	Oct 19 1996
INSTANTANEOUS PEAK STAGE			3.31	Mar 21	3.92	Oct 19 1996
INSTANTANEOUS LOW FLOW			14	Sep 10-12	9.6	Oct 2 1998
ANNUAL RUNOFF (CFSM)	1.28		1.64		1.82	
ANNUAL RUNOFF (INCHES)	17.33		22.29		24.68	
10 PERCENT EXCEEDS	98		132		150	
50 PERCENT EXCEEDS	45		54		53	
90 PERCENT EXCEEDS	13		24		15	

a From rating curve extended above 502 ft^3/s based on a straight line extension.



1-YEAR HYDROGRAPH
OCTOBER 1, 1999 TO SEPTEMBER 30, 2000

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued
(Swatara Creek Project)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1996 to current year.
pH: April 1996 to current year.
WATER TEMPERATURE: April 1996 to current year.

INSTRUMENTATION.--Water-quality monitor (in situ system). Automatic pumping sampler for stormflow samples since July 1996.

REMARKS.--Specific conductance records rated good except for period Mar. 29 to June 5, which is fair. pH records rated fair except for period May 23 to Sept. 13, which is poor. Water temperature records rated good. Interruptions in the record were due to malfunctions of the instrumentation. Some values for "*dissolved*" parameters exceed values for the corresponding "*total*" parameter. These results are within the limits of analytical precision and methods. Other data for this project presented in tables on pages 350-392. Figure 9 shows the location of sites sampled as part of the Swatara Creek Project. Abbreviations used: E, estimated.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 538 microsiemens, Jan. 9, 1999; minimum, 27 microsiemens, June 11, 1997.
pH: Maximum, 8.2, July 30, 1999; minimum, 4.7, June 13, 1998.
WATER TEMPERATURE: Maximum, 26.5°C, July 5, 6, 1999, Aug. 1, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 334, microsiemens, Feb. 14; minimum, 94, microsiemens, Mar. 21.
PH: Maximum, 7.8, Aug. 17, 18; minimum, 5.1, June 21.
WATER TEMPERATURE: Maximum, 21.5°C, Aug. 10, Sept. 2, 4; minimum, 0.0°C, several days during winter.

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	SPECIFIC CONDUCTANCE (µS/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	CALCIUM DISSOLVED (MG/L AS CA) (00915)
OCT											
01...	0001	80020	1028	225	--	--	7.2	--	181	--	9.10
01...	0400	80020	1028	152	--	--	6.6	--	179	12.7	9.73
18...	1145	80020	1028	42	96	10.3	6.9	6.5	231	12.1	16.7
20...	1515	9813	1028	46	100	11.0	7.0	--	262	11.1	--
DEC											
06...	1000	80020	1028	57	99	11.5	6.8	6.8	194	8.5	13.1
14...	1400	80020	1028	81	--	--	6.7	7.4	195	5.6	13.8
14...	1530	80020	1028	163	7	--	6.8	6.9	171	5.5	12.2
14...	1600	80020	1028	203	--	--	6.7	7.0	167	5.5	12.0
14...	1700	80020	1028	285	--	--	6.8	7.3	142	5.2	11.0
14...	1800	80020	1028	320	--	--	6.8	7.2	148	5.3	11.4
14...	2000	80020	1028	281	--	--	6.8	6.9	141	5.3	10.6
14...	2200	80020	1028	235	--	--	6.6	6.8	126	5.4	9.12
15...	0200	80020	1028	194	--	--	6.5	7.2	126	5.6	9.05
15...	0800	80020	1028	150	--	--	6.5	6.8	128	5.7	8.48
15...	1200	80020	1028	130	--	--	6.5	6.8	133	6.1	9.15
15...	2000	80020	1028	110	--	--	6.6	6.8	143	6.6	9.93
16...	1030	80020	1028	98	--	--	6.5	6.9	147	6.5	10.1
JAN											
19...	0900	9813	1028	50	102	14.6	6.6	--	219	.8	14.4
MAR											
01...	1030	9813	1028	145	105	13.3	6.5	--	153	5.1	9.15
17...	0001	9813	1028	130	--	--	6.7	--	170	9.0	11.7
17...	0200	9813	1028	142	--	--	6.7	--	160	8.9	11.5
17...	0600	9813	1028	182	--	--	6.7	--	158	7.8	11.1
17...	0800	9813	1028	197	--	--	6.7	--	149	7.3	10.7
17...	1000	9813	1028	191	--	--	6.7	--	145	7.0	10.4
17...	1400	9813	1028	171	--	--	6.6	--	141	7.4	9.65
17...	1800	9813	1028	147	--	--	6.6	--	140	6.3	9.07
18...	0200	9813	1028	128	--	--	6.6	--	146	4.6	10.4
22...	1500	9813	1028	562	--	--	6.3	--	114	7.6	7.53
27...	2200	9813	1028	213	--	--	6.3	6.0	158	9.3	9.36
27...	2300	9813	1028	312	--	--	6.4	6.1	153	9.4	9.06
28...	0001	9813	1028	446	--	--	6.6	6.0	136	9.3	7.98
28...	0200	9813	1028	562	--	--	6.5	6.0	118	8.8	7.61
28...	0400	9813	1028	597	--	--	6.3	5.9	111	8.3	7.44
28...	1000	9813	1028	417	--	--	6.3	5.9	119	8.2	8.07
28...	1800	9813	1028	308	--	--	6.3	5.9	131	9.3	8.86
28...	2200	9813	1028	293	--	--	6.2	5.9	137	8.8	9.07
29...	0800	9813	1028	252	--	--	6.2	5.9	145	7.7	9.46
APR											
04...	0430	9813	1028	222	--	--	6.6	6.0	170	11.8	9.30
04...	0600	9813	1028	249	--	--	6.7	6.1	163	11.7	10.0
04...	0800	9813	1028	281	--	--	6.5	6.0	162	11.3	9.21
04...	1000	9813	1028	281	--	--	6.5	6.0	155	11.1	9.03
04...	1200	9813	1028	270	--	--	6.4	6.0	150	11.1	8.64
04...	1400	9813	1028	256	--	--	6.4	6.0	153	11.2	9.19
04...	1600	9813	1028	239	--	--	6.4	6.0	149	11.1	9.55
04...	1800	9813	1028	222	--	--	6.4	6.2	149	10.7	7.02
17...	1030	9813	1028	123	100	11.1	6.5	6.2	195	10.5	12.2
MAY											
17...	0915	9813	1028	70	98	10.6	6.6	6.2	208	11.9	17.5
23...	2145	9813	1028	133	--	--	6.7	6.3	179	13.0	12.5
24...	0001	9813	1028	155	--	--	6.8	6.4	170	13.2	11.4
24...	0400	9813	1028	203	--	--	6.7	6.3	143	12.9	9.23
24...	0930	9813	1028	177	--	--	6.5	6.3	136	13.3	8.42
JUN											
06...	0145	9813	1028	104	--	--	7.1	6.0	215	12.9	11.4
06...	0400	9813	1028	126	--	--	7.2	6.0	189	12.8	10.9
06...	0800	9813	1028	274	--	--	7.1	6.0	152	12.7	8.81
06...	1000	9813	1028	281	--	--	7.1	6.0	143	12.8	8.85
06...	1400	9813	1028	225	--	--	7.0	6.0	139	13.0	8.35
06...	2000	9813	1028	163	--	--	6.9	5.9	144	12.8	8.32
07...	0800	9813	1028	110	--	--	6.8	--	167	12.2	--
13...	1500	9813	1028	79	99	10.0	6.8	6.2	194	15.1	13.7

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	ACIDITY (MG/L AS CACO3) (00435)	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC WATER UNFLTRD FET FIELD MG/L AS CACO3 (00410)
OCT										
01...	9.55	5.37	5.86	--	--	5.1	5.3	.0	6.0	--
01...	9.82	5.94	6.16	--	--	5.4	5.5	--	7.4	--
18...	--	11.8	--	--	--	6.8	--	.0	--	--
20...	--	--	--	--	--	--	--	--	--	--
DEC										
06...	--	8.82	--	--	--	5.5	--	6.8	--	10
14...	--	8.42	--	--	--	5.9	--	--	--	--
14...	--	7.05	--	--	--	6.2	--	--	--	--
14...	--	7.03	--	--	--	6.2	--	--	--	--
14...	--	5.41	--	--	--	5.3	--	--	--	--
14...	--	5.56	--	--	--	5.4	--	--	--	--
14...	--	4.85	--	--	--	5.6	--	--	--	--
14...	--	4.48	--	--	--	4.8	--	--	--	--
15...	--	4.70	--	--	--	4.6	--	--	--	--
15...	--	4.88	--	--	--	4.4	--	--	--	--
15...	--	5.21	--	--	--	4.6	--	--	--	--
15...	--	5.75	--	--	--	5.0	--	--	--	--
16...	--	6.27	--	--	--	5.0	--	--	--	--
JAN										
19...	14.4	9.67	10.2	1.1	1.1	5.5	5.8	--	.00	--
MAR										
01...	9.13	6.24	6.25	<1.0	<1.0	6.6	6.6	--	1.6	--
17...	11.5	8.24	8.12	--	--	6.8	6.7	--	2.8	--
17...	11.8	7.61	7.62	--	--	7.4	7.4	--	3.4	--
17...	11.0	7.24	7.19	--	--	7.8	7.8	--	.80	--
17...	10.7	6.91	6.74	--	--	7.6	7.3	--	2.0	--
17...	9.94	6.57	6.29	--	--	7.2	7.3	--	2.8	--
17...	9.92	6.19	6.43	--	--	6.7	6.8	--	2.8	--
17...	8.92	5.76	5.66	--	--	6.8	6.7	--	1.6	--
18...	10.4	6.93	7.06	--	--	7.8	6.8	--	1.6	--
22...	7.26	4.80	4.69	--	--	5.2	5.4	--	4.6	--
27...	10.1	7.20	7.78	--	--	4.8	5.1	--	5.4	--
27...	9.98	6.25	6.89	--	--	5.1	5.4	.0	4.2	--
28...	8.32	4.97	5.24	--	--	5.7	5.7	.0	9.0	--
28...	7.69	4.83	4.89	--	--	5.4	5.2	--	7.0	--
28...	7.73	5.20	5.28	--	--	5.0	5.0	--	5.4	--
28...	8.10	5.76	5.80	--	--	5.1	5.1	--	5.6	--
28...	8.85	6.31	6.30	--	--	5.2	5.2	--	4.6	--
28...	9.13	6.58	6.62	--	--	5.1	5.4	--	4.2	--
29...	9.56	6.60	6.66	--	--	5.4	5.3	--	4.4	--
APR										
04...	9.75	7.38	7.77	--	--	4.9	5.0	--	3.8	--
04...	10.7	7.05	7.66	--	--	4.8	5.1	--	1.2	--
04...	9.86	6.76	7.29	--	--	5.2	5.4	--	.40	--
04...	9.25	6.63	6.79	--	--	5.1	5.2	--	4.0	--
04...	9.03	6.50	6.83	--	--	5.0	5.1	--	6.0	--
04...	9.03	6.94	6.85	--	--	5.2	5.1	--	6.0	--
04...	8.81	6.90	6.81	--	--	5.2	5.0	--	5.2	--
04...	7.37	4.27	4.50	--	--	4.3	4.6	--	.00	--
17...	12.6	10.1	10.5	1.3	1.2	4.9	5.1	--	8.0	--
MAY										
17...	17.5	15.2	15.2	--	--	6.1	6.3	--	1.6	--
23...	13.3	8.07	8.76	--	--	5.5	5.5	--	3.4	--
24...	11.6	7.36	7.46	--	--	5.6	5.5	--	2.0	--
24...	9.28	6.05	6.12	--	--	5.1	5.2	--	6.0	--
24...	8.73	5.50	5.74	--	--	4.7	4.9	--	4.6	--
JUN										
06...	12.1	8.75	9.68	--	--	4.8	4.8	--	3.0	--
06...	10.7	7.76	7.97	--	--	4.8	4.7	--	.80	--
06...	9.48	5.74	6.31	--	--	4.8	5.1	--	8.6	--
06...	8.93	5.56	5.69	--	--	5.1	5.0	--	5.2	--
06...	8.48	5.36	5.52	--	--	4.6	4.6	--	4.8	--
06...	8.32	5.54	5.59	--	--	4.2	4.2	--	2.0	--
07...	--	--	--	--	--	--	--	--	--	--
13...	13.8	9.69	9.69	1.2	1.2	5.5	5.5	--	2.0	--

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	ANC WATER UNFLTRD FET LAB MG/L AS CACO3 (00417)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	OXID-ATION RED-UCTION POTEN-TIAL (MV) (00090)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	ALUM-INUM, DIS-SOLVED (µG/L AS AL) (01106)
OCT										
01...	5	7.6	46.7	--	--	--	--	--	14	<200
01...	4	8.2	50.9	--	--	--	--	--	<2	<200
18...	--	9.5	81.8	--	--	--	--	306	--	31
20...	--	--	--	--	--	--	--	406	--	--
DEC										
06...	--	8.0	63.2	--	--	--	--	388	--	12
14...	--	8.3	55.7	--	--	--	--	--	--	27
14...	--	8.3	51.4	--	--	--	--	--	--	24
14...	--	8.6	51.2	--	--	--	--	--	--	23
14...	--	7.3	40.6	--	--	--	--	--	--	33
14...	--	7.6	41.2	--	--	--	--	--	--	44
14...	--	7.8	37.0	--	--	--	--	--	--	53
14...	--	8.0	32.9	--	--	--	--	--	--	75
15...	--	7.0	35.3	--	--	--	--	--	--	83
15...	--	6.7	36.1	--	--	--	--	--	--	86
15...	--	6.4	37.8	--	--	--	--	--	--	63
15...	--	6.8	41.5	--	--	--	--	--	--	42
16...	--	7.4	44.0	--	--	--	--	--	--	37
JAN										
19...	9	7.4	70.6	--	--	--	--	335	<2	<200
MAR										
01...	6	11.1	42.9	--	--	--	--	304	<2	<200
17...	7	10.2	54.2	--	--	--	--	--	10	<200
17...	7	11.8	49.2	--	--	--	--	--	10	<200
17...	7	11.9	46.3	--	--	--	--	--	8	<200
17...	7	12.3	43.9	--	--	--	--	--	14	<200
17...	7	11.9	41.4	--	--	--	--	--	12	<200
17...	7	11.1	41.0	--	--	--	--	--	6	<200
17...	6	10.0	39.7	--	--	--	--	--	8	<200
18...	7	10.4	44.0	--	--	--	--	--	8	<200
22...	4	8.6	34.6	--	--	--	--	403	26	<200
27...	6	7.6	52.9	--	--	--	--	--	38	<200
27...	7	8.0	45.9	--	--	--	--	--	98	<200
28...	6	8.1	34.1	--	--	--	--	--	100	<200
28...	5	7.8	33.1	--	--	--	--	--	58	<200
28...	4	6.9	36.1	--	--	--	--	--	42	<200
28...	4	7.3	39.3	--	--	--	--	--	26	<200
28...	4	8.5	42.4	--	--	--	--	--	16	<200
28...	4	8.3	44.5	--	--	--	--	--	24	<200
29...	4	9.8	46.8	--	--	--	--	--	14	<200
APR										
04...	5	6.4	55.1	.02	.42	--	.020	--	18	<200
04...	8	6.3	51.4	.05	.50	--	.040	--	14	<200
04...	6	6.7	50.3	.05	.44	--	.040	--	26	<200
04...	6	6.6	48.5	.04	.45	--	.020	--	24	<200
04...	5	6.2	46.7	.04	.36	--	.020	--	30	<200
04...	5	6.3	47.3	.02	.36	--	.020	--	40	<200
04...	4	6.3	47.1	.03	.32	--	.020	--	58	<200
04...	9	6.4	26.0	.02	1.2	--	.020	--	<2	<200
17...	6	7.0	68.3	--	--	--	--	346	22	<200
MAY										
17...	8	7.3	82.6	<.02	.22	.14	.010	95	10	<200
23...	8	6.6	57.6	.06	.53	.23	.040	--	36	<200
24...	9	7.0	49.8	.07	.68	.30	.050	--	50	<200
24...	8	6.5	40.8	.03	.65	.23	.060	--	82	<200
24...	7	6.0	38.8	.02	.47	.19	.040	--	34	<200
JUN										
06...	8	7.2	70.0	.02	.53	.21	.050	--	48	<200
06...	10	6.8	58.0	.03	.62	.26	.070	--	62	<200
06...	8	6.8	44.4	.02	.77	.24	.180	--	280	<200
06...	8	7.2	41.4	.05	.76	.24	.230	--	110	<200
06...	7	6.5	41.3	.03	.63	.20	.080	--	60	<200
06...	7	6.6	43.6	.03	.49	.17	.040	--	28	<200
07...	--	--	--	--	--	--	--	--	--	--
13...	8	7.3	70.3	--	--	--	--	304	16	<200

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (µG/L AS AL) (01105)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (µG/L AS CR) (01030)	COBALT, DIS-SOLVED (µG/L AS CO) (01035)	COBALT, TOTAL RECOV-ERABLE (µG/L AS CO) (01037)	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)
OCT										
01...	1780	--	--	--	<50	<50	<10	11	50	2730
01...	1500	--	--	--	<50	<50	<10	<10	60	2350
18...	--	--	--	--	--	--	--	--	390	--
20...	--	--	--	--	--	--	--	--	--	--
DEC										
06...	--	--	--	--	--	--	--	--	340	--
14...	--	29	<8.0	<14.0	E10	--	<10	--	20	--
14...	--	22	<8.0	<14.0	E7	--	<10	--	10	--
14...	--	21	<8.0	<14.0	E10	--	<10	--	20	--
14...	--	19	<8.0	<14.0	<13	--	<10	--	30	--
14...	--	19	<8.0	<14.0	<13	--	<10	--	30	--
14...	--	19	<8.0	<14.0	E7	--	<10	--	50	--
14...	--	18	<8.0	<14.0	E6	--	<10	--	70	--
15...	--	20	<8.0	<14.0	<13	--	<10	--	90	--
15...	--	22	<8.0	<14.0	<13	--	<10	--	110	--
15...	--	22	<8.0	<14.0	E8	--	<10	--	110	--
15...	--	23	<8.0	<14.0	E7	--	<10	--	150	--
16...	--	24	<8.0	<14.0	<13	--	<10	--	190	--
JAN										
19...	259	--	--	--	--	--	--	--	760	1170
MAR										
01...	427	--	--	--	--	--	--	--	530	1070
17...	792	--	--	--	<50	<50	<10	13	230	2170
17...	1050	--	--	--	<50	<50	17	14	220	2400
17...	771	--	--	--	<50	<50	10	13	200	1840
17...	751	--	--	--	<50	<50	<10	11	240	1830
17...	684	--	--	--	<50	<50	<10	16	200	1730
17...	593	--	--	--	<50	<50	11	24	280	1520
17...	458	--	--	--	<50	<50	11	25	370	940
18...	324	--	--	--	<50	<50	<10	<10	460	790
22...	1460	--	--	--	<50	<50	<10	<10	260	2520
27...	1580	--	--	--	<50	<50	<10	26	140	3940
27...	3230	--	--	--	<50	<50	<10	18	250	5910
28...	3220	--	--	--	<50	<50	10	33	220	6670
28...	2830	--	--	--	<50	<50	10	34	240	4120
28...	1830	--	--	--	<50	<50	10	23	220	2740
28...	1110	--	--	--	<50	<50	<10	24	280	1970
28...	800	--	--	--	<50	<50	<10	20	200	1630
28...	611	--	--	--	<50	<50	13	<10	240	1210
29...	539	--	--	--	<50	<50	<10	38	220	1450
APR										
04...	1090	--	--	--	<50	<50	<10	<10	130	1940
04...	2530	--	--	--	<50	<50	<10	<10	150	3780
04...	2570	--	--	--	<50	<50	<10	<10	100	3870
04...	1240	--	--	--	<50	<50	<10	<10	120	2170
04...	1260	--	--	--	<50	<50	<10	<10	130	2030
04...	1170	--	--	--	<50	<50	<10	14	140	1750
04...	888	--	--	--	<50	<50	10	13	150	1570
04...	592	--	--	--	<50	<50	<10	<10	120	950
17...	442	--	--	--	--	--	--	--	570	1530
MAY										
17...	241	--	--	--	<50	<50	<10	<10	450	1080
23...	1530	--	--	--	<50	<50	<10	<10	50	3440
24...	1630	--	--	--	<50	<50	48	25	60	3430
24...	3880	--	--	--	<50	<50	<10	26	70	5820
24...	2360	--	--	--	<50	<50	<10	<10	100	3350
JUN										
06...	1780	--	--	--	<50	<50	<10	<10	50	4800
06...	2170	--	--	--	<50	<50	<10	<10	50	4990
06...	9090	--	--	--	<50	<50	<10	12	50	16900
06...	6150	--	--	--	<50	<50	<10	15	60	10000
06...	3130	--	--	--	<50	<50	<10	<10	70	5040
06...	1320	--	--	--	<50	<50	<10	<10	110	2110
07...	--	--	--	--	--	--	--	--	--	--
13...	391	--	--	--	--	--	--	--	340	1230

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	STRON-TIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
OCT										
01...	<1	2	--	416	674	<50	52	--	41	80
01...	<1	2	--	452	638	<50	<50	--	43	84
18...	--	--	--	689	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
DEC										
06...	--	--	--	542	--	--	--	--	--	--
14...	<100	--	7.4	523	--	E29	--	58.9	39	--
14...	<100	--	7.2	454	--	<40	--	51.6	33	--
14...	<100	--	6.8	451	--	<40	--	51.6	30	--
14...	<100	--	5.2	346	--	<40	--	46.4	23	--
14...	<100	--	5.9	346	--	E22	--	49.8	E15	--
14...	<100	--	5.3	318	--	E22	--	45.7	22	--
14...	<100	--	4.3	304	--	E27	--	38.5	23	--
15...	<100	--	4.8	345	--	E27	--	38.1	27	--
15...	<100	--	4.2	354	--	<40	--	38.9	29	--
15...	<100	--	4.9	378	--	<40	--	39.3	29	--
15...	<100	--	5.8	417	--	E18	--	43.5	38	--
16...	<100	--	5.5	434	--	E34	--	46.3	37	--
JAN										
19...	--	--	--	638	680	--	--	--	--	--
MAR										
01...	--	--	--	419	433	--	--	--	--	--
17...	<1	2	--	584	633	<50	<50	--	72	83
17...	<1	2	--	552	600	<50	<50	--	66	77
17...	<1	1	--	496	557	<50	<50	--	56	61
17...	<1	2	--	486	507	<50	<50	--	51	62
17...	<1	<1	--	463	467	85	107	--	53	57
17...	<1	<1	--	421	455	104	111	--	54	57
17...	<1	<1	--	429	428	<50	<50	--	51	56
18...	<1	<1	--	483	496	<50	61	--	54	52
22...	<1	3	--	396	472	<50	<50	--	66	51
27...	1	3	--	504	634	<50	<50	--	61	85
27...	<1	9	--	414	677	<50	<50	--	43	101
28...	<1	6	--	361	856	60	90	--	38	84
28...	<1	4	--	385	503	<50	62	--	49	92
28...	<1	2	--	411	744	<50	<50	--	55	76
28...	<1	2	--	445	497	<50	<50	--	74	93
28...	<1	1	--	473	536	<50	76	--	69	79
28...	<1	<1	--	479	501	<50	<50	--	67	72
29...	<1	<1	--	544	563	187	232	--	72	82
APR										
04...	<1	2	--	490	552	<50	<50	--	71	55
04...	<1	6	--	459	556	<50	<50	--	39	74
04...	<1	3	--	465	561	<50	<50	--	47	70
04...	1	2	--	458	514	<50	<50	--	52	67
04...	<1	2	--	444	489	<50	<50	--	57	72
04...	<1	1	--	476	491	<50	<50	--	69	80
04...	<1	<1	--	475	480	<50	<50	--	67	74
04...	<1	1	--	198	239	<50	<50	--	25	34
17...	--	--	--	620	657	--	--	--	--	--
MAY										
17...	<1	<1	--	727	769	<50	<50	--	58	59
23...	<1	2	--	519	637	<50	<50	--	46	67
24...	<1	4	--	481	578	<50	<50	--	36	64
24...	<1	4	--	416	550	<50	<50	--	34	105
24...	<1	2	--	377	459	<50	<50	--	34	50
JUN										
06...	<1	3	--	510	703	<50	<50	--	40	75
06...	<1	4	--	465	551	<50	<50	--	32	64
06...	<1	12	--	347	751	<50	<50	--	18000	105
06...	<1	7	--	335	628	<50	<50	--	41	139
06...	<1	4	--	337	499	<50	<50	--	30	63
06...	<1	2	--	367	428	<50	<50	--	32	53
07...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	646	669	--	--	--	--	--

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	SPECIFIC CONDUCTANCE (µS/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	CALCIUM DISSOLVED (MG/L AS CA) (00915)
JUL											
14...	2100	9813	1028	--	--	--	--	6.1	--	--	17.5
14...	2200	9813	1028	--	--	--	--	6.1	--	--	17.9
15...	0400	9813	1028	--	--	--	--	6.1	--	--	16.5
15...	1600	9813	1028	--	--	--	--	6.2	--	--	17.8
15...	1800	9813	1028	--	--	--	--	6.1	--	--	15.0
15...	2000	9813	1028	--	--	--	--	6.1	--	--	14.6
16...	0001	9813	1028	--	--	--	--	6.1	--	--	11.9
16...	0600	9813	1028	--	--	--	--	6.1	--	--	12.3
16...	1000	9813	1028	--	--	--	--	6.1	--	--	12.5
AUG											
01...	1745	9813	1028	98	--	--	6.5	6.3	135	20.2	11.4
01...	1800	9813	1028	147	--	--	6.9	6.4	137	20.2	10.7
01...	2000	9813	1028	252	--	--	6.9	6.3	133	19.3	10.6
01...	2200	9813	1028	191	--	--	7.1	6.3	133	19.0	10.9
02...	0200	9813	1028	147	--	--	6.9	6.2	126	18.4	10.9
02...	0600	9813	1028	117	--	--	6.8	6.2	134	18.0	10.5
02...	1115	9813	1028	96	96	9.0	6.9	6.2	141	18.8	10.2
02...	1200	9813	1028	94	--	--	6.8	6.2	140	19.2	10.6
02...	2000	9813	1028	72	--	--	6.9	6.2	156	19.3	11.1
SEP											
13...	1030	9813	1028	96	99	9.4	6.9	6.4	193	18.0	16.7

DATE	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	ACIDITY (MG/L AS CACO3) (00435)	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC WATER UNFLTRD FET LAB MG/L AS CACO3 (00417)
JUL										
14...	18.1	13.4	15.1	--	--	5.8	6.1	--	2.6	11
14...	19.4	14.1	15.5	--	--	5.5	5.9	--	4.2	11
15...	16.5	10.4	10.3	--	--	5.5	5.4	--	.40	11
15...	18.0	10.3	10.5	--	--	5.5	5.5	--	.00	15
15...	15.5	8.89	9.49	--	--	5.3	5.5	--	7.2	11
15...	15.4	8.51	9.28	--	--	5.4	5.5	--	6.4	12
16...	11.8	7.08	7.02	--	--	4.9	4.7	--	6.6	8
16...	12.9	7.34	7.85	--	--	4.5	4.5	--	5.0	7
16...	12.7	7.82	8.28	--	--	4.5	4.6	--	2.4	7
AUG										
01...	12.0	7.21	7.53	--	--	4.4	4.3	--	8.2	10
01...	11.5	6.67	7.36	--	--	4.6	4.4	--	5.6	12
01...	11.1	6.21	6.59	--	--	4.7	4.8	--	16	10
01...	12.4	5.67	5.99	--	--	4.7	4.8	--	5.4	11
02...	9.96	5.72	5.89	--	--	4.5	4.3	--	6.6	8
02...	10.9	6.28	6.78	--	--	4.4	4.4	--	6.0	7
02...	9.94	6.67	6.56	1.2	1.3	4.3	3.9	--	12	7
02...	10.6	6.75	6.95	--	--	4.5	4.5	--	5.2	7
02...	11.9	7.28	8.24	--	--	4.6	5.1	--	3.2	7
SEP										
13...	18.0	7.13	7.45	2.1	2.3	4.4	4.3	.0	3.0	11

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	OXIDATION REDUCTION POTENTIAL (MV) (00090)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	ALUMINUM, DISSOLVED (µG/L AS AL) (01106)	ALUMINUM, TOTAL RECOVERABLE (µG/L AS AL) (01105)	COBALT, DISSOLVED (µG/L AS CO) (01035)	COBALT, TOTAL RECOVERABLE (µG/L AS CO) (01037)	COPPER, DISSOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOVERABLE (µG/L AS CU) (01042)
JUL										
14...	8.5	86.1	--	40	<200	2550	<50	<50	<10	<10
14...	8.3	86.3	--	108	<200	3670	<50	<50	<10	16
15...	8.0	67.3	--	154	<200	3520	<50	<50	<10	11
15...	8.8	69.0	--	142	<200	3200	<50	<50	<10	14
15...	7.2	61.4	--	294	<200	7490	<50	51	<10	30
15...	7.5	59.8	--	320	<200	9790	<50	51	<10	40
16...	6.2	45.7	--	122	<200	4060	<50	<50	<10	14
16...	6.0	54.3	--	62	<200	4670	<50	<50	<10	13
16...	6.4	58.0	--	24	<200	1490	<50	<50	<10	<10
AUG										
01...	5.2	48.7	--	--	<200	3400	<50	<50	<10	30
01...	5.3	42.2	--	246	<200	6080	<50	<50	<10	19
01...	5.8	43.3	--	316	<200	7200	<50	<50	<10	25
01...	5.5	40.4	--	168	<200	5660	<50	<50	<10	15
02...	5.4	42.1	--	70	<200	4040	<50	<50	<10	<10
02...	5.6	47.3	--	26	<200	1650	<50	<50	<10	<10
02...	5.4	48.2	351	34	<200	886	--	--	--	--
02...	5.8	49.9	--	36	<200	821	<50	<50	<10	<10
02...	6.7	56.9	--	20	<200	727	<50	<50	<10	<10
SEP										
13...	29.9	55.3	414	112	1290	3690	--	--	--	--

DATE	IRON, DISSOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOVERABLE (µG/L AS FE) (01045)	LEAD, DISSOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOVERABLE (µG/L AS PB) (01051)	MANGANESE, DISSOLVED (µG/L AS MN) (01056)	MANGANESE, TOTAL RECOVERABLE (µG/L AS MN) (01055)	NICKEL, DISSOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOVERABLE (µG/L AS NI) (01067)	ZINC, DISSOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOVERABLE (µG/L AS ZN) (01092)
JUL										
14...	80	8670	<1	8	466	1510	<50	<50	99	102
14...	70	14700	<1	7	357	1020	<50	<50	105	110
15...	50	9790	<1	6	339	674	<50	<50	116	152
15...	60	6980	<1	6	335	636	<50	<50	111	173
15...	60	29100	<1	18	245	1670	<50	61	85	306
15...	60	36600	<1	26	218	1800	<50	64	85	330
16...	220	9810	<1	8	235	721	<50	<50	338	402
16...	110	5850	<1	4	373	690	<50	<50	344	415
16...	220	2220	<1	2	464	660	<50	<50	349	393
AUG										
01...	40	6140	<1	7	99	562	<50	<50	10	83
01...	90	13000	<1	20	10	749	<50	<50	<10	126
01...	90	19000	<1	18	18	780	<50	<50	<10	129
01...	90	9520	<1	8	39	555	<50	<50	<10	76
02...	100	3740	<1	3	75	403	<50	<50	<10	49
02...	140	1970	<1	2	204	470	<50	<50	15	53
02...	360	1370	--	--	459	485	--	--	--	--
02...	340	1260	<1	<1	284	432	<50	<50	22	44
02...	170	1120	<1	<1	300	475	<50	<50	29	47
SEP										
13...	2060	6790	--	--	513	679	--	--	--	--

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	205	161	188	276	249	263	194	178	187	223	210	216
2	229	199	212	279	207	260	199	180	189	225	211	219
3	236	163	215	238	177	194	205	186	196	231	209	218
4	---	---	---	233	197	211	206	189	196	226	190	214
5	---	---	---	247	225	237	202	188	195	203	186	195
6	---	---	---	248	232	239	207	187	195	227	191	210
7	228	198	213	248	232	240	204	184	194	235	217	225
8	237	220	229	259	236	250	211	185	200	235	218	226
9	241	226	233	257	238	248	217	201	208	236	218	227
10	241	160	198	253	237	247	221	204	212	243	139	207
11	190	159	173	265	245	257	216	198	208	174	139	157
12	212	187	202	262	242	253	219	202	210	192	173	183
13	218	204	211	264	243	252	224	203	213	193	184	188
14	217	200	208	273	251	263	218	125	183	200	185	192
15	231	208	219	269	245	257	144	126	134	210	197	203
16	238	222	231	277	251	261	152	141	148	205	198	202
17	237	218	228	280	262	271	165	150	157	221	200	208
18	242	224	233	277	256	263	172	160	166	227	217	222
19	254	227	241	276	252	262	173	164	169	224	204	215
20	269	223	243	279	254	268	178	166	173	222	203	211
21	256	234	246	269	247	257	173	163	168	223	205	215
22	255	238	246	268	244	254	180	168	174	235	207	217
23	253	234	242	274	251	264	197	178	186	230	209	221
24	267	234	249	272	244	255	203	189	195	224	209	216
25	263	240	254	253	210	228	205	193	198	227	209	217
26	265	243	255	231	148	213	207	196	201	227	212	219
27	270	251	260	148	124	134	209	194	202	231	184	219
28	269	244	259	174	145	159	207	196	201	247	218	233
29	275	244	260	187	165	175	212	197	205	247	225	234
30	280	255	268	192	178	185	218	199	207	246	227	235
31	277	255	263	---	---	---	218	202	211	242	215	229
MONTH	280	159	231	280	124	237	224	125	190	247	139	213

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	231	216	223	155	147	152	187	173	179	---	---	---
2	245	219	232	176	146	153	191	174	185	---	---	---
3	245	216	232	161	152	157	197	177	190	---	---	---
4	245	219	227	162	156	159	180	147	159	---	---	---
5	250	227	237	167	156	162	183	160	172	---	---	---
6	245	219	228	174	161	167	190	175	185	---	---	---
7	235	221	228	169	160	164	200	184	193	---	---	---
8	250	222	234	179	159	169	203	158	194	---	---	---
9	255	228	242	174	162	167	174	145	159	---	---	---
10	247	224	233	175	162	170	171	160	165	---	---	---
11	262	239	250	183	160	173	171	163	167	---	---	---
12	259	233	247	161	139	150	180	166	172	---	---	---
13	263	237	245	171	154	163	188	176	182	---	---	---
14	334	222	284	176	164	170	195	179	186	---	---	---
15	226	197	212	172	163	167	200	183	193	---	---	---
16	215	194	205	177	165	170	198	188	194	---	---	---
17	213	191	198	175	139	149	197	181	190	---	---	---
18	198	188	194	161	145	154	195	176	185	---	---	---
19	222	194	209	166	156	160	---	---	---	---	---	---
20	217	201	208	167	158	163	---	---	---	---	---	---
21	230	203	214	164	94	142	---	---	---	---	---	---
22	235	214	223	125	96	108	---	---	---	---	---	---
23	235	217	226	136	120	129	---	---	---	182	159	171
24	226	207	217	148	131	139	---	---	---	170	134	145
25	220	161	201	157	143	150	---	---	---	166	145	155
26	161	151	155	161	141	153	---	---	---	176	164	170
27	159	146	154	171	136	162	---	---	---	180	165	173
28	161	141	148	139	110	124	---	---	---	183	168	175
29	155	147	151	154	136	146	---	---	---	189	177	183
30	---	---	---	165	150	157	---	---	---	197	181	190
31	---	---	---	179	160	170	---	---	---	206	187	197
MONTH	334	141	216	183	94	155	203	145	181	206	134	173

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	214	193	206	194	177	185	197	110	167	285	183	227
2	215	189	206	194	179	187	159	118	139	223	192	207
3	222	203	213	201	184	194	193	156	171	256	218	234
4	238	212	223	201	181	191	195	175	187	268	250	259
5	238	209	225	200	185	193	221	188	204	271	247	259
6	216	136	158	219	189	205	222	192	204	279	256	265
7	187	149	171	217	199	207	208	186	196	298	264	282
8	198	178	188	215	201	208	237	196	215	293	265	274
9	210	187	198	219	206	211	236	207	222	279	265	272
10	221	197	211	223	200	213	236	216	225	310	269	282
11	223	200	216	228	213	221	246	223	233	317	273	291
12	210	182	194	225	210	217	255	200	239	291	188	273
13	197	171	190	228	209	217	240	221	228	224	145	191
14	177	148	161	230	182	217	240	220	230	269	210	243
15	184	165	176	203	129	178	253	233	243	254	230	244
16	193	172	182	180	141	161	245	221	232	276	243	259
17	207	184	193	201	173	187	252	227	239	303	265	283
18	208	163	190	227	192	208	271	242	258	304	268	287
19	196	164	183	230	208	218	263	238	247	299	189	258
20	204	183	194	235	212	221	260	239	247	234	187	205
21	208	139	194	243	211	230	276	244	256	259	224	245
22	167	137	151	229	197	217	278	245	259	271	242	256
23	191	163	177	245	216	228	260	240	252	277	256	266
24	203	182	191	248	227	241	260	227	246	291	257	280
25	208	141	193	239	225	232	273	249	261	282	251	269
26	144	97	116	247	229	237	270	251	259	258	216	236
27	166	134	152	---	---	---	267	224	257	262	223	242
28	173	158	167	---	---	---	263	210	241	271	245	257
29	182	165	173	---	---	---	260	235	247	269	250	262
30	189	169	177	---	---	---	257	234	246	285	258	268
31	---	---	---	---	---	---	284	243	260	---	---	---
MONTH	238	97	186	248	129	209	284	110	229	317	145	256
YEAR	334	94	209									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	6.8	6.6	6.7	7.0	6.8	6.9	6.7	6.5	6.6	6.8	6.7	6.8
2	6.7	6.5	6.7	6.9	6.7	6.8	6.7	6.6	6.7	6.9	6.7	6.8
3	6.7	6.5	6.6	7.0	6.8	6.9	6.7	6.6	6.6	6.9	6.8	6.8
4	6.9	6.5	6.8	7.0	6.8	6.9	6.8	6.6	6.7	7.0	6.8	6.9
5	6.9	6.7	6.8	6.9	6.8	6.9	6.8	6.7	6.8	6.9	6.8	6.9
6	6.9	6.6	6.8	7.0	6.8	6.9	6.9	6.7	6.8	6.8	6.7	6.8
7	6.9	6.8	6.9	7.0	6.9	7.0	6.9	6.8	6.8	6.9	6.7	6.7
8	6.9	6.7	6.8	6.9	6.7	6.8	6.8	6.8	6.8	6.8	6.7	6.8
9	6.8	6.6	6.7	6.8	6.7	6.7	6.8	6.5	6.7	6.8	6.7	6.7
10	6.9	6.6	6.7	6.9	6.7	6.8	6.7	6.6	6.7	6.8	6.6	6.7
11	6.7	6.6	6.6	6.8	6.7	6.8	6.7	6.6	6.6	6.7	6.5	6.6
12	6.7	6.6	6.7	6.9	6.8	6.8	6.7	6.5	6.6	6.7	6.6	6.6
13	6.7	6.6	6.7	6.9	6.8	6.9	6.8	6.6	6.7	6.7	6.6	6.6
14	6.7	6.5	6.7	6.9	6.8	6.8	6.9	6.6	6.7	6.6	6.5	6.5
15	6.7	6.5	6.7	7.0	6.7	6.9	6.6	6.5	6.5	6.6	6.5	6.5
16	6.6	6.5	6.6	7.0	6.8	7.0	6.6	6.5	6.5	6.7	6.6	6.6
17	6.6	6.6	6.6	7.0	6.9	6.9	6.5	6.3	6.4	6.6	6.4	6.5
18	7.1	6.6	6.8	7.0	6.9	6.9	6.5	6.4	6.5	6.6	6.4	6.5
19	7.1	6.9	7.0	6.9	6.8	6.9	6.6	6.5	6.6	6.7	6.5	6.6
20	7.1	6.9	7.0	6.8	6.7	6.8	6.7	6.6	6.6	6.7	6.6	6.7
21	7.0	6.9	6.9	6.9	6.8	6.8	6.6	6.6	6.6	6.8	6.7	6.7
22	6.9	6.8	6.9	7.0	6.8	6.9	6.7	6.6	6.7	6.8	6.7	6.7
23	7.0	6.9	6.9	6.9	6.7	6.8	6.8	6.6	6.7	6.7	6.6	6.7
24	7.0	6.7	6.9	7.0	6.8	7.0	6.8	6.6	6.7	6.7	6.6	6.7
25	6.9	6.7	6.8	7.0	6.8	6.9	6.8	6.7	6.7	6.7	6.5	6.6
26	6.9	6.8	6.9	6.9	6.7	6.8	6.8	6.7	6.7	6.6	6.5	6.6
27	6.9	6.6	6.8	6.8	6.6	6.6	6.8	6.7	6.8	6.6	6.5	6.6
28	6.9	6.7	6.8	6.7	6.4	6.7	6.8	6.7	6.8	6.6	6.5	6.5
29	6.9	6.8	6.9	6.7	6.4	6.6	6.9	6.7	6.8	6.7	6.5	6.5
30	6.9	6.7	6.8	6.6	6.5	6.6	6.9	6.8	6.8	6.7	6.6	6.6
31	6.9	6.7	6.9	---	---	---	6.8	6.7	6.8	6.7	6.6	6.6
MAX	7.1	6.9	7.0	7.0	6.9	7.0	6.9	6.8	6.8	7.0	6.8	6.9
MIN	6.6	6.5	6.6	6.6	6.4	6.6	6.5	6.3	6.4	6.6	6.4	6.5

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	6.7	6.6	6.7	6.7	6.3	6.7	6.6	6.4	6.5	---	---	---
2	6.7	6.6	6.6	6.9	6.6	6.7	6.6	6.5	6.6	---	---	---
3	6.8	6.6	6.7	6.9	6.8	6.9	6.7	6.4	6.6	---	---	---
4	6.8	6.7	6.8	6.9	6.8	6.9	6.7	6.3	6.4	---	---	---
5	6.8	6.7	6.7	6.9	6.8	6.8	6.4	6.3	6.4	---	---	---
6	6.8	6.7	6.8	6.9	6.7	6.8	6.4	6.3	6.4	---	---	---
7	6.8	6.7	6.8	6.8	6.7	6.8	6.4	6.3	6.4	---	---	---
8	6.8	6.7	6.7	6.8	6.6	6.7	6.6	6.3	6.4	---	---	---
9	6.7	6.6	6.7	6.9	6.6	6.8	6.6	6.3	6.4	---	---	---
10	6.8	6.7	6.7	6.9	6.8	6.8	6.4	6.2	6.3	---	---	---
11	6.8	6.7	6.7	6.8	6.7	6.8	6.4	6.3	6.3	---	---	---
12	6.8	6.7	6.8	6.8	6.6	6.6	6.4	6.2	6.3	---	---	---
13	6.8	6.7	6.7	6.7	6.4	6.6	6.4	6.2	6.4	---	---	---
14	6.7	6.6	6.7	6.7	6.5	6.6	6.5	6.4	6.5	---	---	---
15	6.6	6.5	6.6	6.8	6.6	6.7	6.5	6.3	6.4	---	---	---
16	6.6	6.4	6.5	6.8	6.4	6.7	6.6	6.3	6.5	---	---	---
17	6.5	6.4	6.5	6.7	6.5	6.6	6.7	6.4	6.6	---	---	---
18	6.5	6.4	6.4	6.7	6.5	6.6	6.7	6.5	6.6	---	---	---
19	6.6	6.4	6.4	6.7	6.6	6.7	---	---	---	---	---	---
20	6.7	6.6	6.6	6.7	6.6	6.6	---	---	---	---	---	---
21	6.7	6.6	6.6	6.7	6.2	6.7	---	---	---	---	---	---
22	6.8	6.5	6.6	6.4	5.9	6.2	---	---	---	---	---	---
23	6.9	6.7	6.8	6.4	6.2	6.3	---	---	---	6.8	6.5	6.7
24	6.9	6.7	6.8	6.9	6.3	6.4	---	---	---	6.8	6.4	6.7
25	6.9	6.5	6.8	6.4	6.2	6.3	---	---	---	6.8	6.5	6.7
26	6.8	6.6	6.7	6.3	6.2	6.2	---	---	---	6.7	6.3	6.6
27	6.6	6.5	6.6	6.6	6.2	6.3	---	---	---	6.6	6.5	6.6
28	6.7	6.3	6.5	6.6	6.2	6.3	---	---	---	6.6	6.5	6.6
29	6.5	6.3	6.3	6.4	6.1	6.3	---	---	---	6.6	6.4	6.5
30	---	---	---	6.5	6.3	6.4	---	---	---	6.8	6.5	6.7
31	---	---	---	6.4	6.3	6.4	---	---	---	6.8	6.5	6.7
MAX	6.9	6.7	6.8	6.9	6.8	6.9	6.7	6.5	6.6	6.8	6.5	6.7
MIN	6.5	6.3	6.3	6.3	5.9	6.2	6.4	6.2	6.3	6.6	6.3	6.5

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	7.1	6.1	6.7	6.9	6.7	6.9	7.2	6.5	7.1	7.3	6.4	6.9
2	6.8	6.3	6.7	6.9	6.8	6.9	6.9	6.5	6.8	7.1	6.4	6.9
3	6.8	6.6	6.8	6.9	6.5	6.8	7.0	6.4	6.8	7.1	6.4	7.0
4	6.8	6.4	6.8	7.0	6.6	6.9	7.1	6.5	7.0	7.0	6.6	6.8
5	7.2	6.6	7.0	7.1	6.6	6.9	7.0	6.5	6.9	7.0	6.1	6.9
6	7.2	6.8	7.0	7.0	6.7	6.9	7.0	6.7	6.9	7.0	6.5	6.9
7	7.0	6.6	6.9	7.1	6.7	7.0	7.1	6.3	7.0	7.0	6.4	6.8
8	7.0	6.7	6.9	7.2	6.9	7.1	7.0	6.3	6.9	6.9	6.5	6.8
9	7.0	6.3	6.9	7.0	6.8	7.0	7.0	6.3	6.8	6.9	6.6	6.8
10	7.0	6.7	6.9	7.0	6.5	6.9	7.0	6.5	6.9	6.9	6.6	6.8
11	7.1	6.7	6.9	7.0	6.5	6.9	7.0	6.6	7.0	6.9	6.3	6.7
12	7.1	6.4	7.0	7.1	6.5	7.0	7.1	6.6	6.9	6.8	6.1	6.8
13	7.1	6.7	7.0	7.1	6.3	7.0	7.1	6.8	7.0	7.2	6.3	6.8
14	6.9	6.6	6.8	7.3	6.3	7.0	7.0	6.6	7.0	6.8	6.3	6.7
15	6.9	6.5	6.8	7.4	6.8	7.1	7.0	6.3	6.9	6.9	6.4	6.8
16	6.8	6.4	6.7	7.0	6.7	6.9	7.6	5.3	7.5	6.9	6.6	6.8
17	6.7	6.3	6.6	7.1	6.5	6.9	7.8	7.1	7.6	6.9	6.5	6.7
18	6.7	6.5	6.7	7.2	6.6	7.0	7.8	7.3	7.6	6.9	6.5	6.7
19	6.7	6.4	6.6	7.1	6.8	7.0	7.7	7.4	7.6	7.1	6.4	6.9
20	6.7	6.3	6.6	7.2	6.3	7.0	7.7	7.4	7.6	7.0	6.3	6.9
21	7.0	5.1	6.5	7.1	6.6	6.9	7.7	7.3	7.6	6.9	6.4	6.7
22	6.6	6.2	6.5	7.2	6.8	7.1	7.5	6.9	7.5	6.9	6.4	6.8
23	6.7	6.5	6.6	7.2	6.9	7.1	7.6	7.1	7.5	6.8	6.5	6.8
24	6.6	6.4	6.5	7.1	6.7	7.0	7.7	6.9	7.5	6.8	6.4	6.6
25	6.7	5.8	6.4	7.2	6.7	7.0	7.5	6.6	7.3	6.9	6.5	6.8
26	6.7	6.2	6.3	7.3	6.8	7.2	7.4	6.8	7.3	7.0	6.6	6.9
27	6.5	6.2	6.4	---	---	---	7.4	7.1	7.3	6.9	6.5	6.8
28	6.5	6.2	6.4	---	---	---	7.3	6.5	7.2	6.8	6.3	6.7
29	7.0	6.3	6.6	---	---	---	7.2	6.4	7.1	6.9	6.3	6.8
30	7.0	6.8	7.0	---	---	---	7.3	6.6	7.1	6.9	6.8	6.9
31	---	---	---	---	---	---	7.2	6.3	7.1	---	---	---
MAX	7.2	6.8	7.0	7.4	6.9	7.2	7.8	7.4	7.6	7.3	6.8	7.0
MIN	6.5	5.1	6.3	6.9	6.3	6.8	6.9	5.3	6.8	6.8	6.1	6.6

YEAR			
	MAX	MAXIMUM 7.8	MINIMUM 6.3
	MIN	MAXIMUM 7.4	MINIMUM 5.1
	MEDIAN	MAXIMUM 7.6	MINIMUM 6.2

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	14.0	12.0	13.0	12.5	10.0	11.5	4.0	2.5	3.0	4.5	2.5	4.0
2	14.5	12.0	13.5	13.5	11.0	12.0	5.0	2.5	3.5	6.5	4.0	5.0
3	15.0	13.0	13.5	12.5	7.5	10.0	6.5	4.0	5.0	8.0	6.0	7.0
4	14.0	12.5	13.5	8.5	6.5	7.5	8.0	5.5	7.0	9.0	7.5	8.5
5	12.5	10.5	12.0	8.5	5.0	7.0	9.0	7.0	8.0	7.5	3.5	5.0
6	12.0	9.0	10.5	10.5	7.0	9.0	9.5	8.0	8.5	4.0	2.0	3.0
7	11.0	9.0	10.0	8.5	6.5	7.5	8.5	6.0	7.5	5.0	3.5	4.0
8	11.0	7.5	9.5	8.0	6.0	6.5	6.0	4.5	5.5	4.0	2.5	3.5
9	13.5	11.0	12.0	9.0	5.5	7.0	6.0	4.0	5.0	5.5	3.5	4.5
10	13.5	13.0	13.5	11.0	8.0	10.0	6.5	4.5	5.5	6.0	5.0	5.5
11	14.5	12.0	13.5	11.0	7.0	10.0	5.5	4.5	5.0	5.5	4.5	5.0
12	12.5	10.5	11.5	7.5	6.0	6.5	5.5	4.0	4.5	5.0	4.5	4.5
13	13.0	10.0	11.5	9.5	7.5	8.5	5.5	3.5	4.5	5.0	2.0	4.0
14	13.0	9.5	11.5	9.5	7.0	8.0	6.0	5.0	5.5	2.0	.0	1.0
15	10.5	8.0	9.5	8.0	6.0	7.0	6.5	5.5	6.0	2.5	1.0	1.5
16	11.5	8.5	10.0	6.0	4.0	5.0	7.0	5.5	6.5	4.0	1.5	3.0
17	12.5	10.5	11.5	5.5	3.5	4.5	5.5	5.0	5.5	1.5	.0	.5
18	12.5	10.0	11.5	5.5	2.5	4.0	6.0	5.5	5.5	1.0	.0	.5
19	10.5	8.5	9.5	7.0	4.0	5.5	5.5	4.5	5.0	1.5	.5	1.0
20	11.0	10.0	10.5	8.0	5.5	7.0	6.0	5.0	5.5	2.0	1.0	1.5
21	11.0	8.5	9.5	10.0	8.0	9.0	6.0	5.0	5.5	1.0	.0	.5
22	10.0	7.5	9.0	10.5	8.5	9.5	5.0	3.5	4.5	1.0	.0	.5
23	10.5	9.0	9.5	11.5	10.5	11.0	4.5	2.5	3.5	1.5	1.0	1.0
24	10.0	8.0	9.0	13.0	11.0	12.0	3.5	1.5	2.5	3.0	1.0	2.0
25	10.0	8.0	9.0	12.0	9.5	10.5	2.5	1.0	1.5	1.5	.5	1.0
26	10.0	7.0	8.5	12.0	9.5	10.5	3.5	1.5	2.5	2.0	.5	1.0
27	9.5	7.5	8.5	11.0	9.0	10.0	4.0	3.0	3.5	1.0	.0	.5
28	9.5	6.5	8.0	9.0	7.0	8.0	3.0	2.0	2.5	1.0	.0	.5
29	10.5	6.5	8.5	7.0	5.5	6.0	3.5	2.5	3.0	1.5	.5	.5
30	11.5	8.0	9.5	5.5	4.0	5.0	4.5	2.0	3.5	1.0	.0	.5
31	12.0	8.5	10.5	---	---	---	5.5	4.0	4.5	1.5	.5	1.0
MONTH	15.0	6.5	10.7	13.5	2.5	8.2	9.5	1.0	4.8	9.0	.0	2.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	1.5	.5	1.0	6.5	4.5	5.5	10.5	6.5	8.5	---	---	---
2	1.5	.5	1.0	7.0	5.5	6.0	10.5	8.5	9.5	---	---	---
3	1.0	.5	1.0	7.5	5.5	6.5	12.5	10.0	11.0	---	---	---
4	2.0	1.0	1.0	7.5	5.0	6.5	12.0	9.0	11.0	---	---	---
5	3.0	1.5	2.0	8.5	5.5	7.0	9.0	7.5	8.5	---	---	---
6	3.0	1.0	1.5	8.5	5.5	7.0	11.0	7.0	9.0	---	---	---
7	3.0	1.0	2.0	9.0	5.0	7.0	10.5	8.5	9.5	---	---	---
8	2.0	.0	1.0	11.5	7.0	9.0	12.0	9.0	10.0	---	---	---
9	2.0	.0	1.0	11.0	8.0	9.5	9.0	6.0	7.5	---	---	---
10	4.0	.5	2.5	11.0	8.5	9.5	10.0	7.0	8.5	---	---	---
11	5.0	2.5	3.5	8.5	7.0	7.5	8.5	7.5	8.0	---	---	---
12	3.0	1.0	2.0	7.0	5.0	6.5	10.0	8.0	8.5	---	---	---
13	2.0	.0	1.0	7.5	4.5	6.0	10.0	6.5	8.0	---	---	---
14	2.5	2.0	2.5	8.0	5.0	6.5	10.5	7.0	9.0	---	---	---
15	3.5	2.0	2.5	9.5	5.5	7.5	11.0	9.0	10.0	---	---	---
16	4.5	2.0	3.5	9.5	7.0	8.5	14.5	10.5	12.0	---	---	---
17	3.5	1.5	2.5	9.0	5.0	7.0	12.0	9.0	10.5	---	---	---
18	2.0	.0	1.5	6.5	4.0	5.0	9.0	8.5	8.5	---	---	---
19	3.5	2.0	3.0	7.0	4.5	6.0	---	---	---	---	---	---
20	4.0	2.0	3.0	8.0	6.0	7.0	---	---	---	---	---	---
21	4.5	1.5	3.0	7.0	5.5	6.5	---	---	---	---	---	---
22	5.0	1.5	3.0	8.0	5.5	6.5	---	---	---	---	---	---
23	6.0	3.0	4.5	9.5	7.0	8.5	---	---	---	13.0	12.0	12.5
24	6.5	3.5	5.0	10.5	7.0	9.0	---	---	---	15.5	12.5	14.0
25	7.0	4.5	5.5	10.5	8.0	9.0	---	---	---	15.0	13.0	14.0
26	5.5	4.5	5.0	10.5	8.5	9.5	---	---	---	15.0	12.0	13.5
27	6.0	5.0	5.5	9.5	7.0	8.5	---	---	---	13.0	12.0	12.5
28	6.0	4.5	5.5	9.5	8.0	9.0	---	---	---	13.0	11.5	12.5
29	6.5	4.5	5.5	8.5	7.5	8.0	---	---	---	13.5	12.0	12.5
30	---	---	---	9.0	6.5	8.0	---	---	---	14.5	11.0	12.5
31	---	---	---	10.0	6.5	8.0	---	---	---	14.0	11.0	12.5
MONTH	7.0	.0	2.8	11.5	4.0	7.5	14.5	6.0	9.3	15.5	11.0	12.9

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	16.5	12.5	14.5	18.0	14.5	16.0	20.5	18.5	19.0	20.0	18.0	19.0
2	17.5	14.5	16.0	18.5	14.5	16.0	20.0	18.0	19.0	21.5	19.0	20.0
3	16.5	13.5	15.0	17.0	15.0	16.0	19.5	18.0	19.0	21.0	19.0	19.5
4	15.0	12.0	14.0	18.0	15.5	16.5	19.0	17.0	18.0	21.5	17.5	19.5
5	14.0	13.0	13.5	19.5	16.0	17.5	19.0	15.5	17.0	18.0	14.0	16.0
6	13.0	12.5	13.0	18.5	15.0	16.5	16.5	15.0	15.5	16.5	12.0	14.0
7	15.5	12.0	13.5	18.0	15.0	16.0	20.0	16.5	18.0	16.0	11.5	14.0
8	16.0	12.5	14.0	18.0	13.5	15.5	20.5	17.0	18.5	16.5	12.0	14.5
9	18.0	13.5	15.5	18.0	13.5	16.0	20.5	18.0	19.0	18.5	14.0	16.0
10	19.0	14.0	16.5	19.5	16.0	17.5	21.5	18.0	19.5	19.0	16.0	17.5
11	19.5	15.0	17.5	20.0	16.0	18.0	20.5	17.0	18.5	18.0	16.5	17.0
12	18.0	16.5	17.0	19.0	14.5	16.5	19.5	16.5	17.5	19.0	17.0	17.5
13	16.5	14.5	15.5	17.5	14.5	16.0	18.5	16.5	17.0	19.0	16.0	18.0
14	15.0	14.0	14.5	17.5	15.5	16.0	17.5	15.5	16.5	17.0	13.5	15.5
15	15.0	14.0	14.5	17.5	16.5	16.5	19.5	15.0	17.0	17.5	14.5	16.0
16	17.0	14.5	16.0	18.0	16.0	17.0	20.5	17.0	18.5	15.0	12.5	14.0
17	18.0	15.5	17.0	18.5	16.0	17.0	18.5	15.5	17.0	15.0	10.5	13.0
18	16.5	15.5	16.0	20.5	15.5	17.5	16.5	15.0	15.5	15.5	11.5	13.5
19	16.0	14.5	15.0	17.0	15.0	15.5	18.5	14.5	16.5	15.5	13.5	14.0
20	17.5	13.5	15.5	18.5	15.0	16.5	18.0	14.0	15.5	17.0	14.0	15.5
21	17.5	14.5	15.5	17.5	14.0	16.0	17.0	12.0	14.5	17.5	14.0	16.0
22	18.0	16.0	17.0	18.5	15.5	17.0	17.5	12.5	15.0	15.5	12.0	14.0
23	18.5	15.5	16.5	18.0	14.0	16.0	16.5	15.0	15.5	14.0	12.5	13.0
24	18.0	14.5	16.0	16.0	14.5	15.5	19.5	15.5	17.0	15.5	13.5	14.5
25	19.5	15.5	17.5	18.5	15.0	16.5	19.5	14.5	17.0	13.5	12.0	13.0
26	19.5	17.5	18.0	16.5	15.5	16.0	19.0	14.0	16.5	12.5	11.5	12.0
27	18.0	16.5	17.5	---	---	---	18.5	15.0	17.0	14.0	10.0	12.0
28	18.0	16.0	17.0	---	---	---	19.5	17.0	18.0	12.5	10.5	11.5
29	17.0	16.0	16.5	---	---	---	18.5	17.0	17.5	11.5	8.0	10.0
30	17.5	14.5	16.0	---	---	---	20.0	17.0	18.0	12.0	7.5	10.0
31	---	---	---	---	---	---	20.0	17.5	18.5	---	---	---
MONTH	19.5	12.0	15.7	20.5	13.5	16.4	21.5	12.0	17.3	21.5	7.5	15.0
YEAR	21.5	.0	10.1									