

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 mi².

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor. Other data for this project presented in tables on pages 436-482.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Mar. 20	2130	*1,640	*3.83	Aug. 4	1130	1,510	3.70
June 1	0630	701	2.73	Aug. 11	1330	1,500	3.69
June 21	0200	1,100	3.27	Sept. 23	0630	1,500	3.69

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	68	71	193	52	65	173	74	423	76	37	48
2	27	61	67	282	53	87	170	88	223	70	47	60
3	25	57	64	199	52	90	151	86	197	66	46	154
4	e29	57	61	171	87	74	138	74	305	61	386	179
5	e35	51	63	149	76	76	141	70	220	57	206	82
6	e30	82	61	136	58	95	125	68	177	55	308	67
7	e25	64	56	125	57	84	117	69	313	58	177	59
8	e20	58	56	121	53	83	113	84	279	57	121	55
9	e17	56	54	131	51	93	116	71	218	50	101	53
10	e25	54	50	126	51	91	125	66	178	49	111	49
11	161	57	129	108	49	85	283	63	163	58	e235	47
12	136	81	217	98	48	82	286	62	197	48	e188	46
13	72	98	149	93	46	99	219	58	208	42	e93	48
14	55	74	303	87	45	114	187	56	146	41	e82	59
15	46	68	249	85	45	112	167	52	120	39	e74	57
16	142	75	199	79	e36	157	151	52	104	38	e62	121
17	119	153	161	78	e36	251	134	56	93	36	e62	61
18	77	183	138	72	e38	338	121	52	145	34	e58	52
19	64	140	127	70	e39	327	117	50	104	35	78	89
20	57	121	282	70	48	622	107	46	224	33	70	82
21	51	111	194	65	47	923	104	50	687	38	67	64
22	46	138	163	61	79	584	105	47	401	57	63	59
23	44	130	146	58	125	425	93	44	293	107	62	719
24	40	107	133	e57	92	334	86	109	220	136	54	310
25	40	98	133	58	77	266	81	89	179	53	50	200
26	103	91	120	57	71	239	110	207	146	42	50	158
27	68	91	109	54	68	213	101	144	123	39	48	127
28	58	83	103	55	66	176	83	136	103	43	44	134
29	54	79	98	54	---	212	80	145	92	37	43	107
30	67	77	93	51	---	225	76	110	84	33	51	89
31	76	---	93	51	---	193	---	126	---	31	48	---
TOTAL	1839	2663	3942	3094	1645	6815	4060	2504	6365	1619	3122	3435
MEAN	59.3	88.8	127	99.8	58.8	220	135	80.8	212	52.2	101	114
MAX	161	183	303	282	125	923	286	207	687	136	386	719
MIN	17	51	50	51	36	65	76	44	84	31	37	46
CFSM	1.37	2.05	2.94	2.30	1.36	5.08	3.13	1.87	4.90	1.21	2.33	2.64
IN.	1.58	2.29	3.39	2.66	1.41	5.85	3.49	2.15	5.47	1.39	2.68	2.95

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

MEAN	45.8	51.7	96.8	82.1	88.7	143	113	86.4	88.1	40.8	35.6	42.5
MAX	135	143	284	177	196	220	144	181	212	64.2	101	114
(WY)	1997	1997	1997	1998	1998	2003	1998	1998	2003	1996	2003	2003
MIN	13.2	16.5	11.4	34.3	42.9	86.0	75.4	47.0	18.4	13.5	13.0	15.7
(WY)	2002	1999	1999	2002	2002	2002	1999	1999	1999	1999	2002	1998

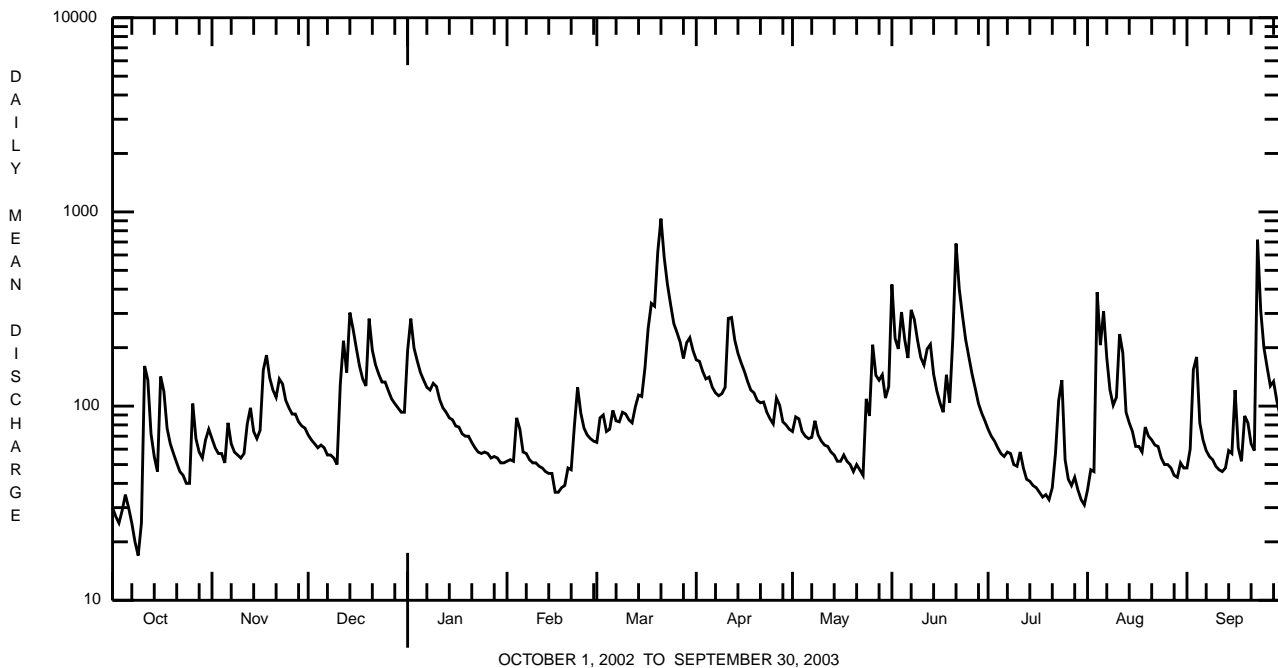
e Estimated.

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL TOTAL	22859.7		41103			
ANNUAL MEAN	62.6		113		75.9	
HIGHEST ANNUAL MEAN					113	2003
LOWEST ANNUAL MEAN					44.9	2002
HIGHEST DAILY MEAN	303	Dec 14	923	Mar 21	1280	Dec 17 2000
LOWEST DAILY MEAN	9.3	Sep 10	e17	Oct 9	9.3	Sep 10 2002
ANNUAL SEVEN-DAY MINIMUM	10	Sep 7	26	Oct 3	10	Dec 14 1998
MAXIMUM PEAK FLOW			a1640	Mar 20	a2030	Dec 17 2000
MAXIMUM PEAK STAGE			3.83	Mar 20	4.17	Dec 17 2000
INSTANTANEOUS LOW FLOW			17	Oct 9,10	9.2	Oct 14 2001
ANNUAL RUNOFF (CFSM)	1.45		2.60		1.75	
ANNUAL RUNOFF (INCHES)	19.64		35.31		23.82	
10 PERCENT EXCEEDS	132		215		150	
50 PERCENT EXCEEDS	51		81		53	
90 PERCENT EXCEEDS	13		45		14	

a From rating curve extended above 638 ft³/s based on a straight line extension.
 e Estimated.



SWATARA CREEK BASIN

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 fair except for periods Oct. 1-10, 16-24, Apr. 17-23, and July 3-8, which are poor. pH records rated fair except for period Aug. 18 to Sept. 30, 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 436-482. Figure 8 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, 291, microsiemens, July 21; minimum, 74, microsiemens, June 1.

PH: Maximum, 8.1, July 21; minimum, 5.5, Mar. 23.

WATER TEMPERATURE: Maximum, 20.5°C, July 27, 28; minimum, 0.0°C, several days during winter.

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Agency col- lecting sample, code (00027)	Agency ana- lyzing sample, code (00028)	Instan- taneous dis- charge, cfs (00061)	Oxi- dation re- duc- tion poten- tial, mV (00090)	Tur- bidity, water, unfltrd field, NTU (61028)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
01...	0830	1028	1028	31	350	7.0	10.4	99	7.0	6.3
16...	0700	1028	930	52	--	--	--	--	6.8	6.7
16...	0900	1028	930	63	--	--	--	--	6.8	6.6
16...	1300	1028	930	197	--	--	--	--	6.8	6.4
16...	1700	1028	930	256	--	--	--	--	6.8	6.3
16...	2300	1028	930	194	--	--	--	--	6.7	6.3
NOV										
06...	0300	1028	89203	78	--	--	--	--	7.0	6.1
06...	0500	1028	89203	86	--	--	--	--	7.0	6.1
06...	0900	1028	89203	92	--	--	--	--	6.9	6.0
06...	1300	1028	89203	88	--	--	--	--	6.8	6.1
06...	2100	1028	89203	78	--	--	--	--	6.8	5.9
12...	1700	1028	89203	102	--	--	--	--	7.1	6.6
12...	1900	1028	89203	130	--	--	--	--	7.0	5.8
12...	2100	1028	89203	137	--	--	--	--	7.0	6.4
12...	2300	1028	89203	130	--	--	--	--	7.0	6.4
13...	0900	1028	89203	100	--	--	--	--	6.9	6.1
14...	0300	1028	89203	78	--	--	--	--	6.9	--
14...	0800	1028	89203	76	318	5.0	11.3	93	6.9	6.4
18...	0300	1028	89203	216	--	--	--	--	7.0	6.3
DEC										
12...	0900	1028	89203	216	--	--	--	--	6.8	6.4
13...	2015	1028	89203	174	--	--	--	--	7.0	6.2
14...	0300	1028	89203	252	--	--	--	--	6.9	6.3
14...	0700	1028	89203	320	--	--	--	--	6.8	6.0
14...	0900	1028	89203	333	--	--	--	--	6.8	6.2
14...	1300	1028	89203	320	--	--	--	--	6.7	6.1
14...	1700	1028	89203	333	--	--	--	--	6.8	6.2
15...	0900	1028	89203	252	--	--	--	--	6.7	6.2
19...	0845	1028	89203	123	347	8.0	12.9	98	6.9	6.8
JAN										
01...	1230	1028	89203	135	--	--	--	--	7.2	6.4
01...	1900	1028	89203	308	--	--	--	--	7.1	6.4
01...	2300	1028	89203	398	--	--	--	--	7.0	6.2
02...	0100	1028	89203	398	--	--	--	--	7.0	6.3
02...	0700	1028	89203	308	--	--	--	--	6.8	5.2
MAR										
05...	0900	1028	89203	63	337	4.0	13.2	98	6.8	6.7
19...	1400	1028	89203	285	--	--	--	--	6.3	6.0
21...	1300	1028	89203	976	--	--	--	--	6.0	5.8
22...	0300	1028	89203	624	--	--	--	--	5.9	6.2
APR										
03...	0830	1028	89203	149	412	10	11.7	99	6.7	6.5
MAY										
01...	0945	1028	89203	60	336	10	11.1	100	7.0	6.5
24...	1100	1028	89203	90	--	--	--	--	7.7	6.7
24...	1500	1028	89203	171	--	--	--	--	7.6	6.3
25...	0500	1028	89203	98	--	--	--	--	7.4	6.0
26...	0215	1028	89203	78	--	--	--	--	7.3	6.4
26...	0500	1028	89203	174	--	--	--	--	7.4	6.2
26...	0900	1028	89203	268	--	--	--	--	7.3	5.5
26...	1500	1028	89203	236	--	--	--	--	7.2	5.8
JUN										
03...	0900	1028	89203	180	335	15	10.9	100	6.9	6.3
20...	0245	1028	89203	83	--	--	--	--	7.2	7.2
20...	1430	1028	89203	108	--	--	--	--	7.2	6.3
20...	1900	1028	89203	357	--	--	--	--	7.3	6.6
20...	2300	1028	89203	726	--	--	--	--	6.9	6.5
21...	0100	1028	89203	1360	--	--	--	--	6.8	5.9
21...	0500	1028	89203	1320	--	--	--	--	6.7	6.3
21...	1700	1028	89203	508	--	--	--	--	6.8	4.9
22...	0500	1028	89203	397	--	--	--	--	6.8	4.8
JUL										
23...	1115	1028	89203	46	327	16	9.5	100	7.6	6.8
AUG										
19...	0930	1028	89203	62	280	22	10.4	100	7.5	5.8
SEP										
24...	0915	1028	89203	299	308	34	10.4	100	6.9	6.4

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Specif. conduc- tance, wat unfltrd µS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover -able, mg/L (00916)	Magnes- ium, water, fltrd, mg/L (00925)	Magnes- ium, water, recover -able, mg/L (00927)	Potas- sium, water, fltrd, mg/L (00935)	Potas- sium, water, recover -able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, recover -able, mg/L (00929)
OCT										
01...	235	13.1	16.6	16.6	13.2	13.2	1.65	1.6	7.85	7.8
16...	165	11.1	12.0	14.0	8.60	8.8	1.90	1.7	7.60	7.2
16...	159	11.3	11.0	11.0	6.50	6.6	2.00	1.8	6.50	6.4
16...	119	12.0	9.10	9.6	5.60	5.7	1.80	1.6	5.40	5.5
16...	109	12.2	8.70	9.2	5.40	5.5	2.00	1.8	5.70	5.6
16...	112	11.9	9.20	9.6	6.50	6.5	2.00	1.7	5.80	5.7
NOV										
06...	204	7.3	14.0	15.2	10.1	11.3	1.60	1.7	7.30	8.6
06...	191	7.5	14.2	13.4	9.60	9.5	1.70	1.5	7.20	7.7
06...	182	7.8	12.7	12.0	8.50	8.9	1.50	1.5	6.90	8.0
06...	174	8.3	14.4	11.7	9.20	8.8	1.60	1.5	7.50	7.4
06...	169	7.6	11.8	12.5	8.40	9.2	1.50	1.6	6.70	7.5
12...	177	10.2	13.5	13.3	9.00	9.4	1.50	1.4	6.90	7.5
12...	172	10.0	14.1	12.9	9.10	9.1	1.60	1.5	7.20	7.4
12...	164	9.9	12.8	11.9	7.90	7.9	1.50	1.4	6.80	7.4
12...	154	9.8	12.6	11.4	7.80	7.7	1.70	1.6	7.10	7.4
13...	146	9.4	11.0	10.3	6.60	7.0	1.50	1.6	6.20	6.5
14...	171	7.4	11.9	14.7	8.90	10.7	1.20	1.6	5.80	7.4
14...	179	7.0	--	--	--	--	--	--	--	--
18...	123	7.4	9.20	8.7	5.40	5.7	1.60	1.5	5.70	6.5
DEC										
12...	149	3.5	9.50	8.9	5.80	6.0	1.40	1.1	9.70	11.0
13...	165	4.9	9.50	9.3	5.80	6.2	1.50	1.6	9.40	9.4
14...	160	5.0	10.8	9.7	6.60	6.5	1.60	1.5	9.60	9.7
14...	155	5.0	10.7	10.1	6.60	6.9	1.70	1.7	9.00	9.8
14...	152	5.0	10.6	9.8	6.90	6.6	1.80	1.7	9.00	10.2
14...	149	5.2	10.7	9.4	6.70	6.4	1.40	1.5	9.00	9.4
14...	145	5.2	10.5	9.8	6.90	6.8	1.40	1.4	8.50	8.5
15...	147	5.4	10.6	9.6	6.00	6.0	1.60	2.4	10.0	11.8
19...	172	4.1	10.8	12.6	8.90	10.4	1.30	1.3	6.30	6.7
JAN										
01...	214	5.7	14.7	14.0	9.80	9.7	1.50	1.5	11.3	12.5
01...	172	5.0	11.8	10.2	6.80	6.4	1.60	1.5	12.9	13.6
01...	150	4.6	9.90	9.2	5.60	5.6	1.60	1.6	11.7	12.5
02...	143	4.5	9.30	8.9	5.50	5.5	1.80	1.6	10.3	11.2
02...	143	4.6	9.20	9.1	5.90	6.1	1.60	1.6	9.50	10.9
MAR										
05...	207	3.1	13.4	13.2	9.80	10.3	1.30	1.3	8.60	9.1
19...	141	5.9	8.30	8.2	6.10	6.7	.90	1.0	6.60	7.5
21...	116	6.6	8.70	8.5	6.10	6.4	1.30	1.5	7.40	8.9
22...	122	6.3	6.60	8.5	3.20	4.2	1.50	2.0	8.80	10.4
APR										
03...	183	8.3	10.7	13.1	8.90	11.1	1.10	1.2	6.70	6.4
MAY										
01...	201	11.8	14.3	14.0	11.1	11.9	1.20	1.2	7.90	5.7
24...	175	11.8	12.3	12.5	8.00	8.6	1.30	1.4	7.80	10.2
24...	156	12.2	11.7	11.5	7.20	7.6	1.20	1.3	8.40	10.2
25...	142	11.8	10.1	10.3	6.60	7.2	1.20	1.3	7.20	7.3
26...	161	12.3	10.3	10.3	6.70	7.6	1.10	1.2	7.30	8.6
26...	144	12.3	11.4	11.2	7.60	8.0	1.20	1.3	7.70	9.0
26...	126	12.0	9.50	9.1	5.40	5.7	1.30	1.3	7.80	8.9
26...	121	12.3	8.50	8.2	4.90	5.1	1.40	1.3	6.90	8.1
JUN										
03...	131	11.4	8.30	8.5	6.00	6.8	1.10	1.1	6.40	6.8
20...	179	14.5	12.4	12.2	9.50	9.9	1.30	1.3	6.20	7.1
20...	174	14.3	11.7	11.6	8.60	9.3	1.10	1.4	5.80	7.6
20...	134	14.4	9.10	9.6	5.80	6.6	1.10	1.2	5.70	6.5
20...	99	14.3	7.40	7.6	4.40	4.7	1.30	1.4	4.90	5.6
21...	87	14.2	6.40	6.9	3.40	3.9	1.40	1.6	4.40	5.8
21...	83	14.1	5.90	6.1	3.20	3.4	1.50	1.7	4.20	4.5
21...	101	13.9	6.70	6.6	4.30	4.7	1.30	1.5	4.90	6.0
22...	111	13.0	7.70	7.8	5.60	6.0	1.30	1.3	4.80	5.8
JUL										
23...	206	18.1	15.7	17.9	11.6	12.4	1.30	1.4	6.00	6.6
AUG										
19...	213	15.2	15.1	14.4	11.7	11.6	1.40	1.3	6.40	6.5
SEP										
24...	137	13.7	8.40	8.8	6.10	6.4	1.50	1.5	4.80	6.2

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Molybdenum, water, fltrd, µg/L (01060)	Molybdenum, water, unfltrd, recover-able, µg/L (01062)	Neodymium, water, fltrd, µg/L (50579)	Neodymium, water, unfltrd, µg/L (01237)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd, recover-able, µg/L (01067)	Praseodymium, water, fltrd, µg/L (50582)	Praseodymium, water, unfltrd, µg/L (01238)	Rhenium, water, fltrd, µg/L (50583)	Rhenium, water, unfltrd, µg/L (01242)
OCT										
01...	.200	.300	.270	.620	30.0	31.0	.060	.200	<.020	<.020
16...	--	--	--	--	22.0	35.0	--	--	--	--
16...	--	--	--	--	19.0	28.0	--	--	--	--
16...	--	--	--	--	18.0	28.0	--	--	--	--
16...	--	--	--	--	19.0	27.0	--	--	--	--
16...	--	--	--	--	22.0	24.0	--	--	--	--
NOV										
06...	--	--	--	--	31.0	35.0	--	--	--	--
06...	--	--	--	--	27.0	35.0	--	--	--	--
06...	--	--	--	--	32.0	23.0	--	--	--	--
06...	--	--	--	--	33.0	33.0	--	--	--	--
06...	--	--	--	--	29.0	37.0	--	--	--	--
12...	--	--	--	--	42.0	24.0	--	--	--	--
12...	--	--	--	--	32.0	24.0	--	--	--	--
12...	--	--	--	--	29.0	28.0	--	--	--	--
12...	--	--	--	--	28.0	20.0	--	--	--	--
13...	--	--	--	--	18.0	34.0	--	--	--	--
14...	--	--	--	--	24.0	31.0	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	22.0	38.0	--	--	--	--
DEC										
12...	--	--	--	--	19.0	32.0	--	--	--	--
13...	--	--	--	--	22.0	39.0	--	--	--	--
14...	--	--	--	--	31.0	32.0	--	--	--	--
14...	--	--	--	--	27.0	36.0	--	--	--	--
14...	--	--	--	--	20.0	28.0	--	--	--	--
14...	--	--	--	--	20.0	33.0	--	--	--	--
14...	--	--	--	--	28.0	36.0	--	--	--	--
15...	--	--	--	--	23.0	34.0	--	--	--	--
19...	--	--	--	--	30.0	32.0	--	--	--	--
JAN										
01...	--	--	--	--	30.0	63.0	--	--	--	--
01...	--	--	--	--	26.0	38.0	--	--	--	--
01...	--	--	--	--	18.0	39.0	--	--	--	--
02...	--	--	--	--	22.0	29.0	--	--	--	--
02...	--	--	--	--	15.0	28.0	--	--	--	--
MAR										
05...	--	--	--	--	19.0	33.0	--	--	--	--
19...	--	--	--	--	28.0	32.0	--	--	--	--
21...	--	--	--	--	21.0	37.0	--	--	--	--
22...	--	--	--	--	5.00	115	--	--	--	--
APR										
03...	--	--	--	--	37.0	35.0	--	--	--	--
MAY										
01...	--	--	--	--	30.0	32.0	--	--	--	--
24...	--	--	--	--	18.0	42.0	--	--	--	--
24...	--	--	--	--	16.0	37.0	--	--	--	--
25...	--	--	--	--	19.0	35.0	--	--	--	--
26...	--	--	--	--	23.0	43.0	--	--	--	--
26...	--	--	--	--	27.0	39.0	--	--	--	--
26...	--	--	--	--	19.0	29.0	--	--	--	--
26...	--	--	--	--	18.0	33.0	--	--	--	--
JUN										
03...	--	--	--	--	29.0	21.0	--	--	--	--
20...	--	--	--	--	26.0	46.0	--	--	--	--
20...	--	--	--	--	32.0	41.0	--	--	--	--
20...	--	--	--	--	17.0	31.0	--	--	--	--
20...	--	--	--	--	21.0	34.0	--	--	--	--
21...	--	--	--	--	17.0	42.0	--	--	--	--
21...	--	--	--	--	10.0	37.0	--	--	--	--
21...	--	--	--	--	14.0	28.0	--	--	--	--
22...	--	--	--	--	31.0	39.0	--	--	--	--
JUL										
23...	--	--	--	--	24.0	28.0	--	--	--	--
AUG										
19...	--	--	--	--	26.0	36.0	--	--	--	--
SEP										
24...	--	--	--	--	13.0	18.0	--	--	--	--

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Vanadium, water, fltrd, µg/L (01085)	Vanadium, water, unfltrd µg/L (01087)	Ytterbium, water, fltrd, µg/L (01194)	Ytterbium, water, unfltrd µg/L (01196)	Yttrium water, fltrd, µg/L (01201)	Yttrium water unfltrd µg/L (01203)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover- able, µg/L (01092)	Uranium natural water, fltrd, µg/L (22703)	Uranium natural water unfltrd µg/L (28011)
OCT										
01...	<.200	<.200	.040	.070	.300	.680	62.0	61.0	.010	.040
16...	--	--	--	--	--	--	57.0	100	--	--
16...	--	--	--	--	--	--	29.0	88.0	--	--
16...	--	--	--	--	--	--	39.0	91.0	--	--
16...	--	--	--	--	--	--	45.0	89.0	--	--
16...	--	--	--	--	--	--	55.0	72.0	--	--
NOV										
06...	--	--	--	--	--	--	72.0	108	--	--
06...	--	--	--	--	--	--	65.0	122	--	--
06...	--	--	--	--	--	--	64.0	88.0	--	--
06...	--	--	--	--	--	--	63.0	119	--	--
06...	--	--	--	--	--	--	68.0	89.0	--	--
12...	--	--	--	--	--	--	55.0	73.0	--	--
12...	--	--	--	--	--	--	54.0	70.0	--	--
12...	--	--	--	--	--	--	47.0	76.0	--	--
12...	--	--	--	--	--	--	47.0	72.0	--	--
13...	--	--	--	--	--	--	58.0	56.0	--	--
14...	--	--	--	--	--	--	70.0	65.0	--	--
14...	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	164	74.0	--	--
DEC										
12...	--	--	--	--	--	--	48.0	56.0	--	--
13...	--	--	--	--	--	--	57.0	65.0	--	--
14...	--	--	--	--	--	--	53.0	58.0	--	--
14...	--	--	--	--	--	--	57.0	73.0	--	--
14...	--	--	--	--	--	--	53.0	63.0	--	--
14...	--	--	--	--	--	--	54.0	56.0	--	--
14...	--	--	--	--	--	--	53.0	57.0	--	--
15...	--	--	--	--	--	--	52.0	62.0	--	--
19...	--	--	--	--	--	--	75.0	72.0	--	--
JAN										
01...	--	--	--	--	--	--	60.0	125	--	--
01...	--	--	--	--	--	--	47.0	66.0	--	--
01...	--	--	--	--	--	--	49.0	66.0	--	--
02...	--	--	--	--	--	--	50.0	64.0	--	--
02...	--	--	--	--	--	--	54.0	72.0	--	--
MAR										
05...	--	--	--	--	--	--	60.0	52.0	--	--
19...	--	--	--	--	--	--	59.0	59.0	--	--
21...	--	--	--	--	--	--	88.0	97.0	--	--
22...	--	--	--	--	--	--	34.0	249	--	--
APR										
03...	--	--	--	--	--	--	135	79.0	--	--
MAY										
01...	--	--	--	--	--	--	73.0	68.0	--	--
24...	--	--	--	--	--	--	45.0	152	--	--
24...	--	--	--	--	--	--	47.0	132	--	--
25...	--	--	--	--	--	--	62.0	145	--	--
26...	--	--	--	--	--	--	52.0	98.0	--	--
26...	--	--	--	--	--	--	48.0	74.0	--	--
26...	--	--	--	--	--	--	45.0	84.0	--	--
26...	--	--	--	--	--	--	44.0	68.0	--	--
JUN										
03...	--	--	--	--	--	--	148	60.0	--	--
20...	--	--	--	--	--	--	70.0	78.0	--	--
20...	--	--	--	--	--	--	257	67.0	--	--
20...	--	--	--	--	--	--	27.0	63.0	--	--
20...	--	--	--	--	--	--	22.0	93.0	--	--
21...	--	--	--	--	--	--	35.0	92.0	--	--
21...	--	--	--	--	--	--	27.0	71.0	--	--
21...	--	--	--	--	--	--	49.0	55.0	--	--
22...	--	--	--	--	--	--	53.0	60.0	--	--
JUL										
23...	--	--	--	--	--	--	86.0	60.0	--	--
AUG										
19...	--	--	--	--	--	--	123	74.0	--	--
SEP										
24...	--	--	--	--	--	--	73.0	54.0	--	--

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	252	225	241	210	194	201	148	143	145	214	144	189
2	285	237	258	212	195	204	156	147	152	156	138	146
3	286	247	264	231	203	214	158	154	156	169	154	160
4	---	---	---	228	201	210	161	156	159	184	164	172
5	---	---	---	230	205	218	162	156	159	188	167	174
6	---	---	---	220	167	183	169	160	164	196	169	182
7	---	---	---	191	168	180	172	167	169	202	177	188
8	---	---	---	213	181	194	176	166	171	207	179	193
9	---	---	---	214	198	206	182	174	178	226	184	203
10	---	---	---	210	190	201	182	176	179	218	195	203
11	246	118	175	211	190	200	273	163	190	211	197	204
12	124	106	113	211	147	188	169	147	155	219	199	209
13	147	122	135	174	144	155	172	158	162	220	203	213
14	167	141	155	192	162	180	165	140	150	221	202	213
15	174	156	163	195	178	185	150	141	146	231	210	218
16	173	106	139	194	162	180	157	147	151	227	212	220
17	163	114	138	165	130	141	167	157	162	233	212	222
18	186	154	170	148	122	135	180	165	169	239	220	229
19	208	173	190	164	146	154	181	168	174	236	219	228
20	223	197	208	168	152	161	183	125	154	235	222	229
21	230	205	217	167	146	154	152	129	142	241	225	232
22	250	218	232	148	129	140	158	150	155	245	227	236
23	256	238	247	140	127	132	164	155	160	250	237	243
24	264	244	254	147	135	141	178	160	166	252	219	237
25	274	242	261	149	141	145	192	164	170	254	236	244
26	246	145	166	149	139	142	197	165	177	247	232	240
27	193	160	177	160	147	153	194	176	185	253	229	241
28	216	186	204	154	142	147	199	179	189	262	234	247
29	219	199	211	150	140	144	202	177	190	259	237	246
30	228	199	215	148	143	145	207	185	197	278	240	253
31	209	192	201	---	---	---	207	188	198	263	235	249
MONTH	286	106	197	231	122	171	273	125	167	278	138	215
	FEBRUARY			MARCH			APRIL			MAY		
1	276	233	253	219	202	210	187	172	177	210	184	198
2	266	238	252	230	199	214	191	172	179	193	168	179
3	259	237	249	205	191	196	196	174	186	193	163	174
4	278	195	237	220	190	203	201	180	191	195	175	187
5	227	200	214	234	194	215	201	180	189	202	182	191
6	240	215	228	242	216	231	196	183	190	200	182	191
7	263	223	237	243	218	228	209	183	194	206	186	196
8	258	236	246	235	210	224	217	194	204	189	161	172
9	263	233	246	231	207	218	215	192	204	195	171	184
10	257	235	247	221	210	215	208	188	200	200	180	191
11	264	242	250	231	208	219	203	133	169	200	182	191
12	285	244	254	222	210	216	155	137	146	209	187	197
13	263	246	254	266	200	219	158	150	154	210	190	199
14	257	244	251	209	189	200	161	153	157	214	189	202
15	260	244	251	208	186	200	168	157	161	219	200	207
16	266	247	257	199	165	185	179	164	170	222	196	207
17	257	220	237	170	134	158	182	169	176	216	194	202
18	261	224	245	145	129	138	188	178	183	212	190	202
19	264	239	250	143	129	138	200	182	188	223	194	207
20	270	234	250	148	112	136	205	189	195	223	202	212
21	287	251	264	122	103	114	213	190	202	219	188	202
22	288	225	267	136	121	128	213	196	204	213	192	202
23	231	205	216	157	135	145	218	202	206	214	191	203
24	212	200	207	175	156	164	224	195	212	206	135	165
25	213	199	206	185	166	175	224	204	215	165	136	152
26	219	203	212	189	168	178	224	161	192	164	121	133
27	214	201	207	189	163	176	191	159	176	147	127	134
28	216	200	208	197	177	185	201	180	192	149	117	137
29	---	---	---	195	165	180	203	185	195	143	118	127
30	---	---	---	186	163	171	206	188	196	155	132	143
31	---	---	---	189	173	178	---	---	---	157	119	143
MONTH	288	195	239	266	103	186	224	133	187	223	117	182

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	124	74	101	216	200	209	277	231	251	244	211	234
2	131	116	125	215	199	206	254	197	223	231	193	205
3	136	120	131	220	199	210	253	194	232	207	130	153
4	123	108	114	225	206	215	220	75	144	167	127	148
5	130	121	125	232	207	221	153	116	135	201	161	181
6	137	121	132	237	217	228	133	102	114	219	190	203
7	145	99	121	242	214	230	149	122	135	221	197	211
8	137	112	127	245	206	228	156	136	146	234	204	216
9	150	133	139	256	230	245	183	148	171	236	213	225
10	160	136	149	263	231	246	183	130	167	---	---	---
11	166	128	154	257	221	232	---	---	---	---	---	---
12	155	125	139	260	226	243	---	---	---	---	---	---
13	154	127	138	262	238	253	---	---	---	---	---	---
14	162	143	154	268	245	258	---	---	---	---	---	---
15	170	152	161	275	243	261	---	---	---	---	---	---
16	177	161	170	272	252	261	---	---	---	---	---	---
17	185	167	175	279	254	268	---	---	---	---	---	---
18	181	139	156	285	257	270	---	---	---	---	---	---
19	184	152	166	280	245	265	219	199	210	224	150	184
20	184	91	158	285	258	272	230	206	217	186	148	160
21	112	80	95	291	221	270	232	212	223	202	169	189
22	114	109	111	237	196	216	238	210	224	211	180	197
23	150	111	125	224	118	191	233	206	220	189	93	117
24	163	142	151	177	113	140	243	221	231	158	121	140
25	177	152	165	220	172	196	243	222	234	165	147	156
26	194	167	178	247	206	227	249	227	239	179	156	166
27	195	176	187	250	224	243	253	229	238	184	162	174
28	193	179	186	249	217	231	248	227	237	186	154	167
29	204	171	187	260	225	245	257	234	245	188	158	174
30	216	192	203	268	244	254	252	212	231	198	169	185
31	---	---	---	273	243	258	243	215	228	---	---	---
MONTH	216	74	147	291	113	235	277	75	204	244	93	180
YEAR	291	74	192									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.1	6.7	7.0	6.8	6.7	6.8	7.0	6.9	6.9	7.2	6.9	7.2
2	7.1	6.8	7.0	6.8	6.8	6.8	6.9	6.9	6.9	7.0	6.8	7.0
3	7.1	6.8	6.9	6.8	6.7	6.8	6.9	6.9	6.9	7.0	6.9	7.0
4	---	---	---	6.8	6.7	6.7	7.0	6.9	6.9	7.1	6.9	6.9
5	---	---	---	7.0	6.7	7.0	7.0	6.9	6.9	7.0	6.9	7.0
6	---	---	---	7.0	6.8	6.9	6.9	6.9	6.9	7.1	7.0	7.0
7	---	---	---	6.9	6.8	6.9	6.9	6.9	6.9	7.2	7.0	7.1
8	---	---	---	7.1	6.9	7.0	6.9	6.9	6.9	7.3	7.2	7.2
9	---	---	---	7.0	6.9	7.0	6.9	6.8	6.9	7.3	6.9	7.2
10	---	---	---	7.0	7.0	7.0	6.9	6.8	6.9	7.1	7.0	7.0
11	7.1	6.5	6.9	7.0	6.9	7.0	7.1	6.8	6.9	7.2	7.1	7.1
12	6.7	6.5	6.6	7.1	6.8	6.9	6.9	6.6	6.8	7.2	7.1	7.1
13	6.8	6.7	6.7	7.0	6.9	6.9	7.0	6.9	6.9	7.2	7.1	7.1
14	6.8	6.7	6.7	7.0	6.9	6.9	6.9	6.7	6.7	7.2	7.2	7.2
15	6.8	6.7	6.7	7.1	6.9	6.9	6.8	6.7	6.7	7.2	7.1	7.2
16	6.9	6.6	6.7	7.1	7.0	7.0	6.8	6.7	6.8	7.2	7.1	7.2
17	6.8	6.6	6.7	7.1	6.8	6.9	6.8	6.7	6.7	7.2	7.1	7.2
18	6.9	6.8	6.8	7.0	6.8	7.0	6.9	6.8	6.8	7.2	7.1	7.2
19	6.9	6.7	6.8	7.0	6.9	7.0	6.9	6.9	6.9	7.2	7.2	7.2
20	6.8	6.6	6.7	7.0	6.9	7.0	6.9	6.5	6.7	7.2	7.1	7.2
21	6.9	6.8	6.8	7.0	7.0	7.0	6.8	6.6	6.8	7.2	7.1	7.2
22	6.9	6.7	6.8	7.0	6.9	7.0	6.8	6.7	6.7	7.2	7.1	7.2
23	6.8	6.7	6.7	7.0	6.9	6.9	6.8	6.7	6.7	7.2	7.0	7.1
24	7.1	6.8	7.1	6.9	6.8	6.9	6.9	6.8	6.8	7.1	7.0	7.1
25	7.1	6.9	7.0	6.9	6.8	6.8	6.9	6.9	6.9	7.1	7.0	7.0
26	7.0	6.8	6.9	6.9	6.9	6.9	7.0	6.9	6.9	7.1	6.9	7.0
27	6.9	6.9	6.9	6.9	6.8	6.8	7.1	7.0	7.0	7.1	7.0	7.0
28	6.9	6.8	6.9	6.9	6.8	6.9	7.1	7.0	7.0	7.0	6.9	7.0
29	6.9	6.8	6.8	7.0	6.9	6.9	7.1	7.0	7.1	7.1	7.0	7.0
30	7.0	6.9	7.0	6.9	6.9	6.9	7.2	7.1	7.1	7.2	6.9	7.1
31	7.0	6.8	6.9	---	---	---	7.2	7.1	7.2	7.2	7.0	7.1
MAX	7.1	6.9	7.1	7.1	7.0	7.0	7.2	7.1	7.2	7.3	7.2	7.2
MIN	6.7	6.5	6.6	6.8	6.7	6.7	6.8	6.5	6.7	7.0	6.8	6.9

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.2	7.1	7.1	6.8	6.7	6.7	6.8	6.7	6.8	7.1	6.9	7.0
2	7.2	7.0	7.1	6.9	6.7	6.8	6.8	6.6	6.7	7.0	6.8	6.9
3	7.2	7.1	7.1	6.9	6.7	6.8	6.7	6.7	6.7	7.0	6.8	6.9
4	7.2	6.7	7.1	6.8	6.7	6.8	6.7	6.7	6.7	6.9	6.9	6.9
5	7.0	6.8	6.9	7.0	6.7	6.9	6.8	6.6	6.7	7.0	6.8	6.9
6	7.1	6.9	7.0	7.0	6.8	6.9	6.8	6.6	6.8	7.0	6.9	7.0
7	7.1	7.0	7.0	7.0	6.9	7.0	6.9	6.8	6.8	7.0	6.9	6.9
8	7.1	6.9	7.0	7.1	6.9	7.0	6.9	6.8	6.8	7.0	6.9	6.9
9	7.1	6.9	7.0	7.0	6.9	7.0	6.9	6.8	6.8	7.3	6.9	7.2
10	7.0	6.9	7.0	7.0	6.9	7.0	7.0	6.8	6.9	7.3	7.2	7.3
11	7.0	6.9	7.0	7.0	6.8	6.9	7.0	6.6	6.9	7.4	7.2	7.3
12	7.0	6.9	7.0	7.0	6.9	6.9	6.8	6.6	6.7	7.4	7.3	7.4
13	7.0	6.8	6.9	7.1	6.9	6.9	6.8	6.7	6.7	7.5	7.4	7.4
14	7.0	6.9	7.0	6.9	6.8	6.9	6.7	6.7	6.7	7.5	7.3	7.4
15	7.0	6.9	6.9	6.9	6.8	6.9	6.8	6.7	6.8	7.4	7.3	7.3
16	7.0	6.9	6.9	6.8	6.6	6.8	6.8	6.7	6.7	7.5	7.3	7.4
17	7.0	6.8	6.9	6.6	6.4	6.6	6.9	6.8	6.8	7.5	7.3	7.4
18	6.9	6.8	6.9	6.5	6.3	6.4	6.9	6.8	6.9	7.6	7.4	7.5
19	7.0	6.9	6.9	6.4	6.3	6.3	6.9	6.8	6.9	7.6	7.4	7.5
20	7.0	6.9	7.0	6.5	6.1	6.4	6.9	6.8	6.9	7.8	7.4	7.7
21	7.0	6.9	6.9	6.2	5.9	6.0	6.9	6.7	6.9	7.9	7.6	7.8
22	7.1	6.9	7.0	6.0	5.6	5.8	6.8	6.6	6.7	7.7	7.6	7.6
23	7.0	6.7	6.9	6.0	5.5	5.7	7.1	6.7	7.0	7.7	7.6	7.6
24	6.9	6.8	6.9	6.4	5.9	6.2	7.1	7.0	7.1	7.7	7.4	7.6
25	6.9	6.8	6.9	6.6	6.4	6.4	7.1	7.0	7.0	7.4	7.3	7.3
26	6.9	6.7	6.8	6.8	6.5	6.6	7.1	6.9	7.1	7.4	7.1	7.2
27	6.9	6.8	6.8	6.7	6.6	6.7	7.0	6.9	7.0	7.1	7.0	7.1
28	6.9	6.7	6.8	6.8	6.6	6.7	7.1	7.0	7.0	7.1	6.9	7.0
29	---	---	---	6.9	6.7	6.8	7.0	6.9	7.0	7.0	6.9	6.9
30	---	---	---	6.8	6.7	6.8	7.0	6.9	7.0	6.9	6.9	6.9
31	---	---	---	6.8	6.7	6.8	---	---	---	7.2	6.9	7.0
MAX	7.2	7.1	7.1	7.1	6.9	7.0	7.1	7.0	7.1	7.9	7.6	7.8
MIN	6.9	6.7	6.8	6.0	5.5	5.7	6.7	6.6	6.7	6.9	6.8	6.9
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.0	6.4	6.7	7.3	7.2	7.2	7.7	7.5	7.6	7.7	7.6	7.7
2	7.0	6.7	6.9	7.4	7.3	7.3	7.8	7.3	7.6	7.7	7.6	7.7
3	7.0	6.8	6.9	7.4	7.2	7.3	7.7	7.4	7.6	7.7	7.2	7.4
4	7.0	6.6	6.8	7.4	7.3	7.3	7.7	6.5	6.8	7.4	7.0	7.3
5	6.9	6.8	6.9	7.4	7.3	7.3	6.9	6.7	6.7	7.6	7.4	7.5
6	7.1	6.9	7.1	7.4	7.3	7.3	6.9	6.7	6.8	7.6	7.5	7.6
7	7.1	6.8	7.0	7.5	7.3	7.4	6.8	6.7	6.7	7.7	7.6	7.6
8	6.9	6.8	6.9	7.7	7.4	7.6	7.2	6.7	6.8	7.7	7.6	7.7
9	7.0	6.9	6.9	7.7	7.5	7.7	7.3	7.2	7.3	7.7	7.6	7.6
10	6.9	6.8	6.9	7.8	7.7	7.7	7.3	7.1	7.2	---	---	---
11	7.1	6.7	6.9	7.7	7.5	7.6	---	---	---	---	---	---
12	7.3	6.7	6.8	7.6	7.5	7.6	---	---	---	---	---	---
13	7.1	6.8	6.9	7.7	7.5	7.7	---	---	---	---	---	---
14	7.1	6.8	7.0	7.7	7.6	7.6	---	---	---	---	---	---
15	7.1	7.0	7.1	7.7	7.5	7.6	---	---	---	---	---	---
16	7.1	7.0	7.0	7.8	7.6	7.7	---	---	---	---	---	---
17	7.2	7.0	7.2	7.7	7.5	7.7	---	---	---	---	---	---
18	7.4	7.1	7.2	7.8	7.6	7.6	---	---	---	---	---	---
19	7.2	7.1	7.1	7.8	7.7	7.7	7.5	7.4	7.5	7.7	7.5	7.6
20	7.3	6.9	7.2	7.7	7.5	7.6	7.5	7.4	7.5	7.6	7.5	7.5
21	6.9	6.7	6.7	8.1	7.4	7.7	7.5	7.4	7.4	7.7	7.6	7.6
22	6.9	6.8	6.8	7.9	7.2	7.6	7.6	6.9	7.5	7.7	7.5	7.6
23	6.9	6.7	6.8	7.6	6.6	7.5	7.6	7.5	7.5	7.6	6.6	6.8
24	6.8	6.7	6.8	7.4	6.8	7.3	7.6	7.5	7.6	7.0	6.9	7.0
25	6.9	6.7	6.8	7.6	7.4	7.5	7.8	7.6	7.7	7.1	6.9	7.0
26	7.0	6.9	7.0	7.6	7.5	7.6	7.7	7.5	7.6	7.0	6.9	6.9
27	7.1	7.0	7.0	7.6	7.3	7.5	7.8	7.6	7.7	7.0	6.9	6.9
28	7.2	7.1	7.1	7.7	7.6	7.6	7.8	7.6	7.7	7.0	6.9	7.0
29	7.2	7.1	7.1	7.7	7.6	7.6	7.6	7.5	7.6	7.1	7.0	7.1
30	7.2	7.1	7.2	7.7	7.5	7.6	7.7	7.5	7.6	7.2	7.1	7.2
31	---	---	---	7.7	7.6	7.7	7.8	7.7	7.8	---	---	---
MAX	7.4	7.1	7.2	8.1	7.7	7.7	7.8	7.7	7.8	7.7	7.6	7.7
MIN	6.8	6.4	6.7	7.3	6.6	7.2	6.8	6.5	6.7	7.0	6.6	6.8
YEAR	MAX			MAXIMUM	8.1	MINIMUM	6.0					
	MIN			MAXIMUM	7.7	MINIMUM	5.5					
	MEDIAN			MAXIMUM	7.8	MINIMUM	5.7					

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.5	13.0	15.0	7.5	6.0	7.0	5.5	3.0	4.5	5.5	4.5	5.5
2	18.0	15.0	16.5	7.5	6.0	7.0	5.0	3.0	4.0	5.0	4.5	5.0
3	18.5	15.5	17.0	7.5	6.0	7.0	4.5	1.5	2.5	4.5	3.0	4.0
4	---	---	---	7.5	6.0	6.5	2.5	1.0	2.0	5.0	4.0	4.5
5	---	---	---	7.5	6.5	7.0	3.0	1.0	2.0	5.0	4.5	4.5
6	---	---	---	8.5	7.0	8.0	3.5	2.0	3.0	5.0	4.5	4.5
7	---	---	---	8.0	6.0	7.5	2.0	0.5	1.5	4.5	3.0	4.0
8	---	---	---	8.0	5.0	6.5	3.5	1.0	2.5	5.5	4.0	5.0
9	---	---	---	9.0	6.5	8.0	3.0	0.5	1.5	6.0	5.0	5.5
10	---	---	---	11.5	8.5	10.0	2.0	0.5	1.0	5.5	4.0	5.0
11	14.0	13.5	14.0	13.0	11.0	12.0	3.0	1.5	2.0	4.0	2.5	3.5
12	14.5	14.0	14.5	11.0	9.5	10.0	4.5	2.5	3.5	3.5	2.0	3.0
13	14.5	13.5	14.0	9.5	8.0	9.0	5.0	4.5	5.0	3.5	2.0	2.5
14	13.5	10.5	12.0	9.0	7.0	8.0	5.5	5.0	5.0	3.0	1.5	2.5
15	11.0	8.5	10.0	9.0	7.5	8.5	6.0	5.5	5.5	3.0	1.5	2.5
16	12.5	11.0	11.5	8.5	8.0	8.5	6.0	4.5	5.5	2.5	1.0	1.5
17	12.5	11.5	12.0	8.0	7.5	8.0	4.5	4.0	4.0	2.5	1.0	2.0
18	11.5	10.0	10.5	8.0	7.0	7.5	4.5	2.5	3.5	1.0	0.5	1.0
19	10.5	9.0	10.0	7.5	6.5	7.0	6.0	4.0	5.0	1.5	0.5	1.0
20	11.0	9.0	10.0	8.5	6.5	7.5	6.5	5.0	6.0	2.5	1.0	1.5
21	10.5	9.0	9.5	8.5	6.5	7.5	5.5	5.0	5.5	1.5	0.5	1.0
22	10.0	7.0	8.5	8.5	8.0	8.5	6.0	5.0	5.5	1.0	0.5	0.5
23	10.0	7.5	9.0	8.0	6.5	7.0	6.0	5.5	6.0	1.0	0.0	0.5
24	9.0	7.5	8.0	8.0	6.5	7.0	5.5	5.0	5.5	1.0	0.0	0.5
25	8.5	8.0	8.0	8.0	6.5	7.5	5.0	3.0	4.0	1.5	0.5	1.0
26	10.5	8.5	9.5	8.0	6.5	7.0	4.5	3.0	4.0	2.0	1.0	1.5
27	11.0	9.0	10.0	7.0	5.0	6.0	5.0	4.0	4.5	1.5	0.0	0.5
28	10.0	8.5	9.0	5.5	4.0	5.0	5.0	3.5	4.0	1.0	0.0	0.5
29	8.5	6.0	7.0	5.5	4.5	5.0	5.5	4.0	5.0	2.0	1.0	1.0
30	6.5	6.0	6.0	6.5	5.5	6.0	5.0	3.5	4.5	2.0	0.5	1.5
31	8.0	6.5	7.0	---	---	---	6.5	5.0	5.5	3.0	2.0	2.5
MONTH	18.5	6.0	10.8	13.0	4.0	7.6	6.5	0.5	4.0	6.0	0.0	2.6
	FEBRUARY			MARCH			APRIL			MAY		
1	3.5	3.0	3.0	3.5	3.0	3.0	6.5	5.0	6.0	15.5	11.5	13.0
2	4.5	3.0	3.5	5.0	3.0	4.0	11.0	6.0	8.5	15.5	13.0	14.0
3	5.0	2.5	3.5	3.0	0.5	1.5	11.0	8.0	9.5	15.0	11.5	13.0
4	4.0	2.5	3.5	2.5	0.0	1.5	9.5	8.0	8.5	14.0	11.0	12.0
5	2.5	1.0	2.0	5.5	2.5	4.0	8.0	7.0	7.5	11.5	10.0	10.5
6	2.0	0.5	1.0	4.5	1.5	3.0	8.5	6.0	7.5	12.5	9.5	10.5
7	3.0	1.0	2.0	3.0	0.5	1.5	7.0	4.5	5.5	15.5	10.5	13.0
8	2.0	0.0	1.0	4.5	1.0	3.0	6.0	5.0	5.5	14.5	13.0	13.5
9	1.5	0.0	0.5	5.5	2.5	4.0	6.5	5.5	6.0	13.5	12.5	13.0
10	2.0	1.5	1.5	3.5	1.5	2.0	8.5	6.0	7.0	14.0	12.0	13.0
11	1.5	0.0	0.5	3.0	0.5	2.0	7.0	6.5	7.0	15.0	13.0	13.5
12	1.0	0.0	0.5	4.5	2.0	3.5	10.5	7.0	8.5	14.5	11.5	13.0
13	1.0	0.0	0.5	5.0	3.5	4.0	10.5	7.5	9.0	12.0	10.5	11.5
14	1.5	0.0	0.5	5.0	2.0	3.5	11.0	7.0	9.0	12.5	10.5	11.5
15	1.5	0.5	1.0	6.5	2.5	4.5	13.0	8.5	10.5	12.0	9.5	11.0
16	0.5	0.0	0.5	7.5	3.5	5.0	14.0	10.0	12.0	12.0	11.0	11.5
17	0.0	0.0	0.0	7.0	4.5	5.5	12.0	8.0	10.0	11.0	10.5	11.0
18	1.0	0.0	0.5	7.5	4.5	5.5	8.0	7.5	7.5	13.0	10.5	11.5
19	2.0	0.5	1.0	6.0	4.5	5.5	12.0	8.0	9.5	14.5	9.0	12.0
20	2.5	1.0	1.5	5.5	3.5	4.5	12.0	8.0	10.0	15.0	10.0	12.5
21	3.0	0.5	2.0	7.5	3.5	5.5	10.5	9.5	10.0	13.5	12.0	12.5
22	3.0	2.0	2.5	8.5	6.5	7.0	12.0	10.0	11.0	12.5	11.5	12.0
23	2.5	1.0	2.0	8.5	6.5	7.5	11.0	8.5	9.5	12.0	11.5	12.0
24	2.0	0.5	1.5	9.5	6.5	8.0	12.0	7.0	9.0	12.0	11.5	12.0
25	2.5	1.0	1.5	10.0	7.0	8.5	12.5	8.0	10.0	12.5	12.0	12.0
26	2.0	0.5	1.0	9.5	7.5	8.5	11.0	10.5	11.0	12.5	12.0	12.0
27	2.0	1.0	1.5	10.0	7.0	8.5	14.0	9.5	11.5	12.5	11.5	12.0
28	3.5	2.0	2.5	9.0	7.5	8.5	15.0	9.0	12.0	13.0	11.5	12.0
29	---	---	---	10.0	9.0	9.5	13.5	10.5	12.0	13.5	11.0	12.5
30	---	---	---	9.0	6.0	7.0	14.5	10.0	12.0	14.5	12.0	13.5
31	---	---	---	7.5	5.0	6.0	---	---	---	13.5	12.5	13.0
MONTH	5.0	0.0	1.5	10.0	0.0	5.0	15.0	4.5	9.1	15.5	9.0	12.3

