

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA
(Swatara Creek Project)

LOCATION.--Lat 40°39'28", long 76°20'43", Schuylkill County, Hydrologic Unit 02050305, on left bank 500 ft downstream from bridge on U.S. Highway 209. Located on Swatara Coal Company property.

DRAINAGE AREA.--2.92 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 900 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 342-386. Diversion upstream from station by limestone treatment system used to aid in the remediation efforts of acid mine drainage.

PEAK DISCHARGES FOR PERIOD OF RECORD.--Peak discharges greater than a base discharge of 50 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Jan. 24	0845	62	2.08	Sept. 30	0330	*68	*2.13
Sept. 16	1545	56	2.03				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	.79	.93	e.45	5.1	3.0	4.9	2.9	1.2	.40	.00	.01
2	.32	.79	.86	e.40	13	2.5	4.6	2.8	1.2	.46	.00	.01
3	.33	.79	.86	3.8	9.6	2.5	4.1	2.7	1.2	.39	.00	.01
4	.96	.77	.85	4.0	8.3	11	3.7	2.7	1.1	.30	.00	.02
5	.77	.78	.80	2.3	7.3	5.8	3.6	2.6	1.0	.24	.00	.17
6	.62	.73	.79	2.2	6.4	5.5	3.4	2.6	.94	.18	.00	1.2
7	.59	.73	.78	1.6	5.6	4.9	3.1	2.5	.86	.12	.00	6.7
8	3.2	.73	.80	1.4	5.0	4.3	2.9	3.4	.88	.08	.01	1.2
9	1.7	.73	.85	6.2	4.3	4.2	4.2	2.8	.80	.06	.00	.79
10	4.6	.78	.78	4.1	4.2	4.0	5.6	2.3	.84	.26	.00	.65
11	1.4	1.2	.76	2.4	4.1	3.7	4.6	2.1	.87	.25	.00	.49
12	1.1	.96	.73	e2.0	4.5	3.4	4.8	2.0	.76	.11	.00	.38
13	.99	.85	.73	e1.8	4.3	3.3	4.3	1.9	.75	.08	1.7	.33
14	2.1	.79	.73	e1.6	3.9	3.2	4.3	1.9	.99	.05	5.0	.31
15	1.2	.78	.69	e1.5	3.6	3.2	4.2	1.9	1.0	.03	.58	.39
16	1.0	.73	.70	e1.8	3.4	3.0	4.5	1.8	.78	.02	.29	22
17	.94	.73	.73	e2.2	3.7	3.8	4.1	1.8	1.9	.01	.17	10
18	.91	.69	.72	9.7	3.6	5.4	3.8	1.7	1.9	.01	.06	5.1
19	.86	.67	.67	8.5	3.3	4.3	3.7	2.1	1.0	.01	.03	3.7
20	.85	.75	.67	5.4	3.1	4.0	4.0	1.8	.91	.01	.04	3.2
21	.84	.77	.67	5.2	2.9	6.1	3.7	1.6	.85	.01	.11	4.4
22	.86	.70	.89	8.0	2.9	14	3.9	1.5	.75	.01	.04	5.9
23	.86	.67	.73	13	3.2	11	4.3	1.6	.66	.02	.03	3.6
24	.86	.67	.62	45	2.4	10	4.0	2.1	.59	.01	.02	3.0
25	.82	.67	.52	28	2.4	9.0	3.6	1.9	.55	.01	.03	2.6
26	.79	2.1	.48	19	2.3	8.1	3.5	1.6	.50	.01	.03	2.2
27	.79	1.4	.50	14	2.1	7.2	3.4	1.5	.43	.00	.02	2.2
28	.81	1.1	.57	12	3.1	6.9	3.3	1.4	.47	.01	.02	2.2
29	.91	1.0	.61	9.7	---	6.0	3.2	1.4	.57	.00	.01	2.8
30	.85	.95	e.50	7.6	---	5.3	3.1	1.3	.42	.00	.01	32
31	.83	---	e.45	6.1	---	4.9	---	1.2	---	.00	.01	---
TOTAL	33.98	25.80	21.97	230.95	127.6	173.5	118.4	63.4	26.67	3.15	8.21	117.56
MEAN	1.10	.86	.71	7.45	4.56	5.60	3.95	2.05	.89	.10	.26	3.92
MAX	4.6	2.1	.93	45	13	14	5.6	3.4	1.9	.46	5.0	32
MIN	.32	.67	.45	.40	2.1	2.5	2.9	1.2	.42	.00	.00	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

	1996	1997	1998	1999	1996	1997	1998	1999	1996	1997	1998	1999
MEAN	3.35	3.84	6.24	7.48	6.92	7.19	5.44	4.83	3.75	1.87	1.10	2.02
MAX	7.81	8.40	15.3	10.9	10.4	9.53	8.09	9.19	6.11	3.61	1.88	3.92
(WY)	1997	1997	1997	1998	1998	1998	1998	1998	1998	1996	1997	1999
MIN	1.10	.86	.71	4.08	4.56	5.60	3.95	2.05	.89	.10	.26	.42
(WY)	1999	1999	1999	1997	1999	1999	1999	1999	1999	1999	1999	1998

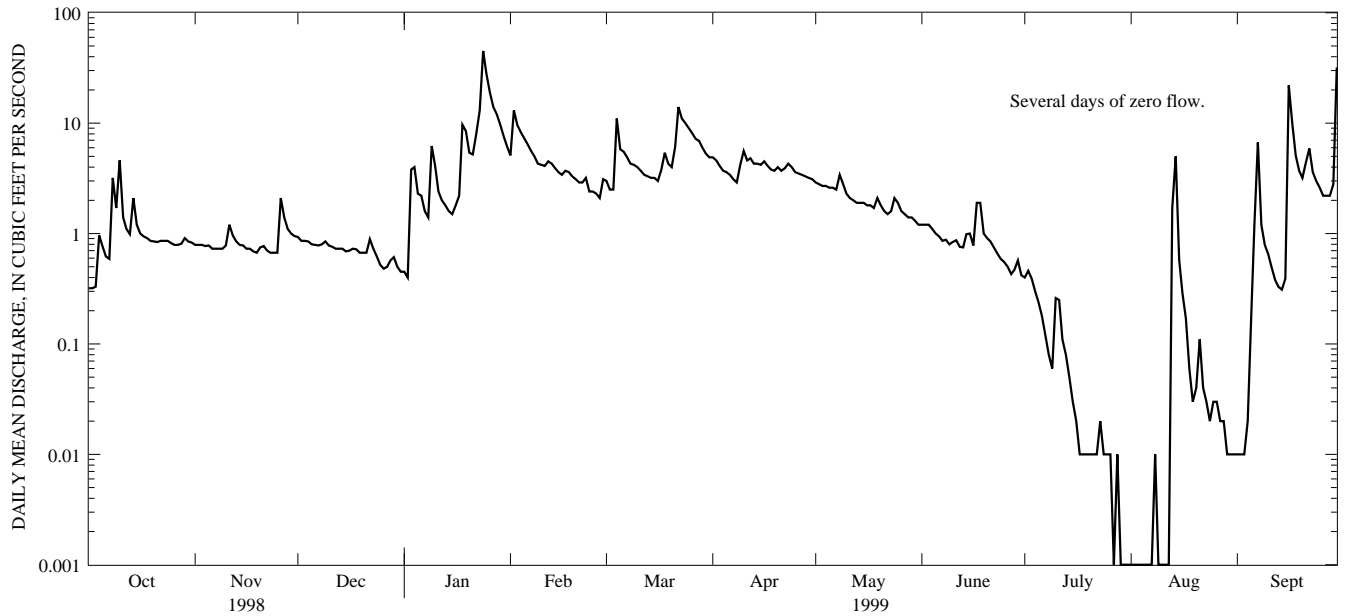
e Estimated.

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1996 - 1999	
ANNUAL TOTAL	1804.88		951.19			
ANNUAL MEAN	4.94		2.61		4.44	
HIGHEST ANNUAL MEAN					5.48	
LOWEST ANNUAL MEAN					2.61	
HIGHEST DAILY MEAN	43	Jan 8	45	Jan 24	51	Oct 19 1996
LOWEST DAILY MEAN	.20	Sep 19	.00	Jul 27 ^a	.00	Jul 27 1999 ^a
ANNUAL SEVEN-DAY MINIMUM	.23	Sep 15	.00	Jul 29	.00	Jul 29 1999
INSTANTANEOUS PEAK FLOW			b68	Sep 30	b162	Jun 13 1998
INSTANTANEOUS PEAK STAGE			2.13	Sep 30	2.65	Jun 13 1998
INSTANTANEOUS LOW FLOW			.00	Jul 27 ^a	.00	Jul 27 1999 ^a
10 PERCENT EXCEEDS	12		5.5		9.5	
50 PERCENT EXCEEDS	2.0		1.2		2.6	
90 PERCENT EXCEEDS	.45		.02		.47	

a Several days.
 b From rating curve extended above 44 ft³/s.



1-YEAR HYDROGRAPH
 OCTOBER 1, 1998 TO SEPTEMBER 30, 1999

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued
(Swatara Creek Project)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1996 to current year.

pH: July 1996 to current year.

WATER TEMPERATURE: July 1996 to current year.

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

REMARKS.--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 the Swatara Creek Project presented in tables on pages 342-386. Figure 8 shows the location of sites sampled as part of the Swatara Creek Project.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 438 microsiemens, Aug. 13, 1999; minimum, 51 microsiemens, July 24, 1997.

pH: Maximum, 8.1, Aug. 14, 1999; minimum, 3.6, Oct. 21-23, 25, Dec. 3, 1996.

WATER TEMPERATURE: Maximum, 23.5°C, July 5, 6, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 438 microsiemens, Aug. 13; minimum, 59 microsiemens, Sept. 16.

PH: Maximum, 8.1, Aug. 14; minimum, 4.3, Jan. 25.

WATER TEMPERATURE: Maximum, 23.5°C, July 5, 6; minimum 0.0°C, several days during winter.

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	OXIDATION REDUCTION POTENTIAL (MV) (00090)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)
OCT 1998											
30...	1100	1028	9813	.73	193	6.4	6.1	483	7.9	13.0	110
NOV											
24...	1230	1028	9813	.54	208	6.0	6.2	258	7.4	11.0	88
DEC											
31...	1245	1028	9813	.30	203	6.6	--	--	.4	12.0	86
JAN 1999											
19...	1300	1028	9813	7.4	156	6.2	--	--	.4	--	--
27...	1545	1028	9813	13	138	5.2	--	452	5.2	11.0	86
FEB											
26...	1445	1028	9813	2.3	113	6.6	--	261	3.7	--	--
MAR											
18...	1130	1028	9813	5.8	132	6.1	--	453	7.2	13.0	110
APR											
09...	1500	1028	9813	4.7	143	7.0	--	--	8.1	--	--
10...	0130	1028	9813	6.6	125	6.9	--	--	7.2	--	--
10...	0300	1028	9813	7.4	121	6.8	--	--	6.9	--	--
10...	0730	1028	9813	6.3	123	6.7	--	--	6.2	--	--
10...	1500	1028	9813	4.4	130	6.8	--	--	10.0	--	--
13...	1215	1028	9813	3.8	138	6.5	--	792	9.3	--	--
MAY											
24...	1100	1028	9813	2.0	164	6.6	--	428	13.1	10.0	99
JUN											
22...	1200	1028	9813	.67	199	6.7	--	354	16.4	8.9	91
JUL											
13...	1100	1028	9813	.08	254	6.8	--	319	17.9	9.4	--
AUG											
13...	2100	1028	9813	1.8	284	7.0	--	--	21.0	--	--
13...	2130	1028	9813	3.2	318	6.9	--	--	20.0	--	--
13...	2230	1028	9813	17	242	6.8	--	--	19.9	--	--
24...	1100	1028	9813	.01	219	6.8	--	374	17.2	9.4	98
SEP											
04...	1800	1028	9813	.01	283	6.7	--	--	18.8	--	--
05...	2015	1028	9813	.22	239	6.7	--	--	19.4	--	--
05...	2100	1028	9813	.40	176	6.7	--	--	19.8	--	--
06...	0001	1028	9813	1.4	205	6.7	--	--	19.2	--	--
06...	0130	1028	9813	3.5	151	6.9	--	--	18.7	--	--
06...	0430	1028	9813	1.8	161	7.1	--	--	18.7	--	--
06...	0600	1028	9813	1.6	169	7.3	--	--	18.6	--	--
06...	0700	1028	9813	1.4	172	7.4	--	--	18.6	--	--
06...	2230	1028	9813	.22	222	7.0	--	--	19.6	--	--
07...	0001	1028	9813	.22	225	7.0	--	--	19.5	--	--
07...	0130	1028	9813	.22	224	6.9	--	--	19.6	--	--
07...	0300	1028	9813	6.3	126	7.0	--	--	20.2	--	--
07...	0330	1028	9813	12	100	6.3	--	--	20.0	--	--
07...	1330	1028	9813	4.7	124	6.8	--	--	20.0	--	--
07...	1630	1028	9813	3.0	137	7.0	--	--	19.8	--	--
08...	0430	1028	9813	1.2	182	7.7	--	--	18.3	--	--
08...	0900	1028	9813	1.1	196	7.8	--	--	18.3	--	--
09...	1245	1028	9813	.62	222	7.6	--	--	18.8	--	--
15...	1145	1028	9813	.22	255	6.7	--	326	16.5	8.5	87
16...	0645	1028	9813	1.2	210	6.6	--	--	15.6	--	--
16...	0900	1028	9813	3.0	178	7.1	--	--	15.2	--	--
16...	1330	1028	9813	31	89	6.2	--	--	15.2	--	--
16...	1630	1028	9813	55	59	5.9	--	--	14.8	--	--
16...	1800	1028	9813	48	66	5.8	--	--	14.6	--	--
16...	1930	1028	9813	40	69	5.9	--	--	14.4	--	--
16...	2230	1028	9813	27	78	6.3	--	--	14.3	--	--
17...	0130	1028	9813	19	83	7.2	--	--	14.1	--	--
17...	0730	1028	9813	12	96	7.5	--	--	13.5	--	--
17...	1200	1028	9813	9.8	104	7.6	--	--	14.3	--	--
17...	1630	1028	9813	7.9	113	7.7	--	--	14.4	--	--
27...	0900	1028	80020	1.7	214	6.7	6.8	404	13.2	8.3	88
29...	2245	1028	9813	4.4	167	7.4	--	--	15.4	--	--
30...	0001	1028	9813	19	120	7.5	--	--	15.6	--	--
30...	0100	1028	9813	34	90	7.5	--	--	15.8	--	--
30...	0130	1028	9813	63	79	7.0	--	--	15.8	--	--
30...	0300	1028	9813	66	66	5.9	--	--	14.9	--	--
30...	0430	1028	9813	63	67	5.7	--	--	14.7	--	--
30...	1030	1028	9813	29	93	6.0	--	--	14.7	--	--
30...	1330	1028	9813	22	103	6.1	--	--	14.3	--	--

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	ACIDITY (MG/L AS CAC03) (00435)	ACIDITY	CALCIUM	CALCIUM	MAGNE-	MAGNE-	SODIUM,	SODIUM,	POTAS-	POTAS-
		TOTAL HEATED (MG/L AS CAC03) (70508)	TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	DIS- SOLVED (MG/L AS CA) (00915)	TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	SIUM, TOTAL DIS- SOLVED (MG/L AS MG) (00925)	SIUM, TOTAL DIS- SOLVED (MG/L AS MG) (00925)	TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	TOTAL DIS- SOLVED (MG/L AS NA) (00930)	SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)
OCT 1998										
30...	--	.00	16	15	8.4	8.4	6.1	6.1	1.2	1.2
NOV										
24...	--	.00	16	16	9.7	12	5.5	5.5	1.2	1.2
DEC										
31...	--	.00	20	20	10	10	6.5	6.5	--	--
JAN 1999										
19...	--	.00	15	10	3.0	2.6	9.1	9.1	--	--
27...	--	6.2	7.9	7.7	5.4	5.3	6.1	5.9	--	--
FEB										
26...	--	2.4	9.4	8.5	5.5	5.3	6.0	5.9	--	--
MAR										
18...	--	2.8	7.2	6.7	4.0	4.0	6.5	6.5	--	--
APR										
09...	--	210	13	13	5.1	4.8	6.6	6.3	--	--
10...	--	200	8.1	7.8	3.9	3.7	6.7	6.1	--	--
10...	--	200	8.0	7.6	4.1	3.9	6.7	6.2	--	--
10...	--	170	7.3	7.3	3.7	3.6	6.6	6.2	--	--
10...	--	190	8.2	8.0	3.6	3.5	6.0	5.8	--	--
13...	--	2.2	7.9	7.5	4.2	4.2	6.3	6.3	--	--
MAY										
24...	--	.00	12	11	6.4	6.3	6.3	6.1	--	--
JUN										
22...	--	.00	15	15	9.3	9.2	7.5	7.5	--	--
JUL										
13...	--	.00	24	24	12	12	9.5	9.5	--	--
AUG										
13...	--	.00	28	26	7.1	6.9	7.4	7.0	--	--
13...	--	.00	16	14	4.9	3.8	8.1	7.3	--	--
13...	--	.00	24	22	7.5	6.7	6.2	5.9	--	--
24...	.0	.00	25	25	10	9.8	9.3	9.2	1.3	1.3
SEP										
04...	--	130	30	30	15	15	9.5	9.3	--	--
05...	--	110	28	29	13	14	9.7	9.2	--	--
05...	--	120	22	23	8.0	8.4	9.1	9.6	--	--
06...	--	110	16	15	5.9	5.6	8.3	8.2	--	--
06...	--	130	18	16	9.7	9.1	6.2	5.5	--	--
06...	--	110	16	15	5.6	4.9	5.5	5.5	--	--
06...	--	120	15	15	5.5	5.0	6.0	5.6	--	--
06...	--	130	16	16	5.7	5.3	5.8	5.6	--	--
06...	--	78	18	17	8.2	7.9	6.9	6.7	--	--
07...	--	80	19	18	8.7	8.2	7.3	6.9	--	--
07...	--	86	18	18	8.6	8.3	7.2	6.9	--	--
07...	--	90	19	18	8.5	8.4	7.2	7.0	--	--
07...	--	110	23	22	6.0	5.2	4.6	4.3	--	--
07...	--	90	18	18	5.2	5.2	5.0	5.0	--	--
07...	--	92	15	15	4.3	4.3	5.1	5.1	--	--
08...	--	98	18	18	6.4	6.0	6.4	6.0	--	--
08...	--	98	21	21	6.6	6.6	6.3	6.3	--	--
09...	--	.00	21	20	8.5	8.1	7.4	7.0	--	--
15...	.0	.00	26	26	14	14	9.2	8.7	1.6	1.5
16...	--	2.2	20	18	8.9	8.4	7.4	7.4	--	--
16...	--	.00	35	18	7.8	6.6	6.5	6.1	--	--
16...	--	2.6	14	8.6	3.5	3.3	4.2	4.2	--	--
16...	--	12	9.1	7.5	3.1	3.0	4.0	4.0	--	--
16...	--	40	6.4	9.0	2.6	2.6	4.2	4.2	--	--
16...	--	6.4	7.3	7.3	2.5	2.1	4.6	4.5	--	--
16...	--	8.2	7.9	7.2	2.7	2.3	5.6	5.3	--	--
17...	--	3.4	10	8.8	3.0	2.8	5.4	5.5	--	--
17...	--	.00	12	9.2	3.4	3.1	6.8	6.6	--	--
17...	--	.00	13	13	4.0	4.8	6.9	6.8	--	--
17...	--	.00	14	14	5.1	5.2	7.3	7.4	--	--
27...	--	--	--	14	--	10	--	7.6	--	--
29...	--	.00	33	14	7.5	6.8	6.1	6.1	--	--
30...	--	.00	29	12	5.0	4.6	5.9	5.6	--	--
30...	--	7.0	22	10	4.3	4.4	4.4	4.5	--	--
30...	--	15	11	9.2	3.4	2.4	3.6	3.6	--	--
30...	--	17	8.9	6.7	3.0	1.8	3.9	3.8	--	--
30...	--	15	7.6	6.1	2.7	1.7	3.9	3.7	--	--
30...	--	11	6.0	6.0	2.5	2.2	5.2	5.0	--	--
30...	--	6.6	6.5	6.4	2.8	2.5	5.4	5.2	--	--

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	ANC WATER UNFLTRD FET LAB MG/L AS CACO3 (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SI02) (00956)	RESIDUE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
						TOTAL AT 105 DEG. C, SUS- PENDEED (MG/L) (00530)				
OCT 1998										
30...	8	67	9.8	<.2	6.9	14	.070	<.020	.18	<.020
NOV										
24...	6	77	8.9	<.2	7.5	<2	.040	<.020	.20	<.020
DEC										
31...	7	84	--	--	--	<2	--	--	--	--
JAN 1999										
19...	20	23	--	--	--	110	--	--	--	--
27...	3	45	--	--	--	<2	--	--	--	--
FEB										
26...	6	42	--	--	--	<2	--	--	--	--
MAR										
18...	4	33	--	--	--	28	--	--	--	--
APR										
09...	0	44	--	--	--	<2	--	--	--	--
10...	0	34	--	--	--	8	--	--	--	--
10...	0	35	--	--	--	38	--	--	--	--
10...	0	33	--	--	--	46	--	--	--	--
10...	0	32	--	--	--	48	--	--	--	--
13...	6	36	--	--	--	6	--	--	--	--
MAY										
24...	8	49	--	--	--	<2	--	--	--	--
JUN										
22...	6	73	--	--	--	4	--	--	--	--
JUL										
13...	11	89	--	--	--	8	--	--	--	--
AUG										
13...	34	58	--	--	--	230	--	--	--	--
13...	15	36	--	--	--	280	--	--	--	--
13...	24	62	--	--	--	300	--	--	--	--
24...	18	84	15	--	--	<2	--	--	--	--
SEP										
04...	0	130	--	--	--	66	--	--	--	--
05...	0	120	--	--	--	<2	--	--	--	--
05...	0	97	--	--	--	16	--	--	--	--
06...	0	58	--	--	--	82	--	--	--	--
06...	0	94	--	--	--	6	--	--	--	--
06...	0	60	--	--	--	560	--	--	--	--
06...	0	65	--	--	--	250	--	--	--	--
06...	0	69	--	--	--	90	--	--	--	--
06...	0	89	--	--	--	<2	--	--	--	--
07...	0	85	--	--	--	48	--	--	--	--
07...	0	86	--	--	--	<2	--	--	--	--
07...	0	85	--	--	--	<2	--	--	--	--
07...	0	56	--	--	--	430	--	--	--	--
07...	0	51	--	--	--	570	--	--	--	--
07...	0	55	--	--	--	150	--	--	--	--
08...	0	69	--	--	--	34	--	--	--	--
08...	0	74	--	--	--	8	--	--	--	--
09...	11	70	--	--	--	16	--	--	--	--
15...	10	88	12	--	--	18	--	--	--	--
16...	8	68	--	--	--	92	--	--	--	--
16...	19	61	--	--	--	60	--	--	--	--
16...	9	23	--	--	--	440	--	--	--	--
16...	5	19	--	--	--	450	--	--	--	--
16...	0	64	--	--	--	380	--	--	--	--
16...	5	22	--	--	--	190	--	--	--	--
16...	4	24	--	--	--	170	--	--	--	--
17...	7	27	--	--	--	110	--	--	--	--
17...	10	32	--	--	--	40	--	--	--	--
17...	11	38	--	--	--	8	--	--	--	--
17...	9	46	--	--	--	12	--	--	--	--
27...	--	75	11	--	--	--	--	--	--	--
29...	18	55	--	--	--	150	--	--	--	--
30...	16	33	--	--	--	190	--	--	--	--
30...	14	24	--	--	--	680	--	--	--	--
30...	12	21	--	--	--	770	--	--	--	--
30...	6	17	--	--	--	680	--	--	--	--
30...	5	17	--	--	--	480	--	--	--	--
30...	4	23	--	--	--	140	--	--	--	--
30...	4	26	--	--	--	56	--	--	--	--

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	COBALT, TOTAL RECOV- ERABLE (µG/L AS CO) (01037)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (µG/L AS LI) (01132)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
OCT 1998										
30...	<50	<50	<10	<10	90	53	<10	<10	<20	<25
NOV										
24...	<50	<50	<10	<10	100	71	<1	<1.0	<20	<25
DEC										
31...	--	--	--	--	40	88	--	--	--	--
JAN 1999										
19...	--	--	--	--	9400	21	--	--	--	--
27...	--	--	--	--	310	61	--	--	--	--
FEB										
26...	--	--	--	--	430	260	--	--	--	--
MAR										
18...	--	--	--	--	530	220	--	--	--	--
APR										
09...	<50	<50	13	13	1800	1100	5	4.8	--	--
10...	<50	<50	<10	10	1200	580	3	3.2	--	--
10...	<50	<50	<10	<10	490	410	2	1.7	--	--
10...	<50	<50	<10	<10	1600	520	2	2.1	--	--
10...	<50	<50	<10	<10	1900	840	3	3.2	--	--
13...	--	--	--	--	400	160	--	--	--	--
MAY										
24...	--	--	--	--	370	52	--	--	--	--
JUN										
22...	--	--	--	--	210	34	--	--	--	--
JUL										
13...	--	--	--	--	70	36	--	--	--	--
AUG										
13...	<50	<50	19	10	3600	250	6	1.7	--	--
13...	<50	<50	34	<10	15000	120	23	<1.0	--	--
13...	<50	<50	26	<10	6500	330	14	<1.0	--	--
24...	--	--	--	--	120	22	--	--	--	--
SEP										
04...	<50	<50	22	<10	7400	420	6	2.2	--	--
05...	<50	<50	<10	<10	770	320	1	<1.0	--	--
05...	<50	<50	<10	<10	1400	300	2	1.7	--	--
06...	<50	<50	<10	<10	4800	320	8	4.1	--	--
06...	<50	<50	12	<10	4400	1100	4	2.5	--	--
06...	<50	<50	27	<10	30000	460	9	3.1	--	--
06...	<50	<50	11	<10	12000	310	7	2.1	--	--
06...	<50	<50	<10	<10	6200	400	4	2.2	--	--
06...	<50	<50	<10	<10	250	220	<1	<1.0	--	--
07...	<50	<50	<10	<10	2600	240	3	1.8	--	--
07...	<50	<50	<10	<10	390	310	<1	<1.0	--	--
07...	<50	<50	<10	<10	340	160	<1	<1.0	--	--
07...	<50	<50	24	<10	16000	420	21	4.8	--	--
07...	<50	<50	29	13	23000	240	15	2.2	--	--
07...	<50	<50	16	10	7800	360	10	2.7	--	--
08...	<50	<50	10	<10	2500	390	4	2.0	--	--
08...	<50	<50	<10	<10	940	360	2	1.7	--	--
09...	<50	<50	<10	<10	1700	35	2	<1.0	--	--
15...	--	--	--	--	220	64	--	--	--	--
16...	<50	<50	26	<10	3900	29	4	<1.0	--	--
16...	<50	<50	19	<10	5700	47	6	<1.0	--	--
16...	<50	<50	30	<10	33000	200	72	<1.0	--	--
16...	<50	<50	27	<10	39000	370	20	<1.0	--	--
16...	<50	<50	13	<10	20000	300	10	<1.0	--	--
16...	<50	<50	28	<10	11000	220	7	<1.0	--	--
16...	<50	<50	28	<10	8200	340	5	<1.0	--	--
17...	<50	<50	<10	<10	5700	140	4	<1.0	--	--
17...	<50	<50	<10	<10	3200	170	3	<1.0	--	--
17...	<50	<50	<10	<10	1600	150	2	<1.0	--	--
17...	<50	<50	<10	<10	1400	62	2	<1.0	--	--
27...	--	--	--	--	--	45	--	--	--	--
29...	<50	<50	14	<10	5600	29	7	<1.0	--	--
30...	60	<50	44	<10	13000	<20	10	<1.0	--	--
30...	60	<50	49	<10	37000	20	22	<1.0	--	--
30...	<50	<50	33	<10	30000	27	17	<1.0	--	--
30...	<50	<50	42	<10	40000	58	20	<1.0	--	--
30...	<50	<50	34	<10	27000	<20	16	<1.0	--	--
30...	<50	<50	24	11	7000	240	4	<1.0	--	--
30...	<50	<50	22	<10	5400	120	3	<1.0	--	--

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, TOTAL (µG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (µG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
OCT 1998										
30...	330	330	<50	<50	<70	<70	50	51	50	52
NOV										
24...	330	330	<50	<50	<7	<7	60	57	70	64
DEC										
31...	220	220	--	--	--	--	--	--	--	--
JAN 1999										
19...	1400	190	--	--	--	--	--	--	--	--
27...	450	430	--	--	--	--	--	--	--	--
FEB										
26...	360	350	--	--	--	--	--	--	--	--
MAR										
18...	310	300	--	--	--	--	--	--	--	--
APR										
09...	380	350	<50	<50	--	--	--	--	90	84
10...	320	300	<50	<50	--	--	--	--	60	61
10...	310	300	<50	<50	--	--	--	--	60	53
10...	320	320	<50	<50	--	--	--	--	60	57
10...	310	300	<50	<50	--	--	--	--	60	59
13...	330	320	--	--	--	--	--	--	--	--
MAY										
24...	370	360	--	--	--	--	--	--	--	--
JUN										
22...	360	340	--	--	--	--	--	--	--	--
JUL										
13...	180	170	--	--	--	--	--	--	--	--
AUG										
13...	520	98	<50	<50	--	--	--	--	140	99
13...	550	18	<50	<50	--	--	--	--	190	<10
13...	740	110	70	<50	--	--	--	--	210	12
24...	110	110	--	--	--	--	--	--	--	--
SEP										
04...	620	560	<50	<50	--	--	--	--	100	90
05...	200	210	<50	<50	--	--	--	--	30	39
05...	200	210	<50	<50	--	--	--	--	50	43
06...	260	230	<50	<50	--	--	--	--	60	47
06...	770	620	240	<50	--	--	--	--	120	94
06...	430	400	<50	<50	--	--	--	--	480	71
06...	380	350	<50	<50	--	--	--	--	80	56
06...	420	400	<50	<50	--	--	--	--	70	63
06...	260	260	<50	<50	--	--	--	--	40	39
07...	380	380	<50	<50	--	--	--	--	80	83
07...	250	240	<50	<50	--	--	--	--	40	30
07...	250	240	<50	<50	--	--	--	--	60	59
07...	840	640	<50	<50	--	--	--	--	180	120
07...	1000	780	70	<50	--	--	--	--	230	170
07...	550	550	<50	<50	--	--	--	--	100	100
08...	440	410	<50	<50	--	--	--	--	80	76
08...	390	390	<50	<50	--	--	--	--	60	59
09...	390	290	<50	<50	--	--	--	--	70	30
15...	300	290	--	--	--	--	--	--	--	--
16...	600	300	55	<50	--	--	--	--	150	34
16...	780	280	<50	<50	--	--	--	--	160	12
16...	1100	290	<50	<50	--	--	--	--	1100	170
16...	980	310	110	<50	--	--	--	--	210	78
16...	470	320	<50	<50	--	--	--	--	90	140
16...	390	280	<50	<50	--	--	--	--	90	90
16...	400	300	340	190	--	--	--	--	60	47
17...	350	300	<50	79	--	--	--	--	50	38
17...	360	310	<50	<50	--	--	--	--	60	34
17...	350	360	<50	<50	--	--	--	--	50	30
17...	400	390	<50	<50	--	--	--	--	50	44
27...	--	490	--	--	--	--	--	--	--	--
29...	560	320	50	<50	--	--	--	--	170	<10
30...	1000	220	160	71	--	--	--	--	160	<10
30...	1300	160	75	<50	--	--	--	--	260	<10
30...	660	120	<50	<50	--	--	--	--	150	<10
30...	910	130	66	<50	--	--	--	--	160	<10
30...	660	140	53	<50	--	--	--	--	130	<10
30...	370	230	340	140	--	--	--	--	70	22
30...	340	250	<50	61	--	--	--	--	70	24

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	220	211	216	202	196	200	193	179	184	247	232	238
2	224	214	219	205	198	201	197	180	185	256	240	247
3	223	210	219	204	199	202	193	182	185	332	110	184
4	211	182	195	206	200	203	189	181	185	174	127	157
5	196	182	188	206	199	203	196	183	187	181	167	173
6	204	193	198	206	201	204	197	183	190	189	174	181
7	210	199	204	208	203	206	197	182	189	187	172	180
8	210	112	155	209	204	207	195	176	187	189	176	184
9	166	130	149	210	204	207	189	173	180	296	112	159
10	145	90	113	210	202	207	194	179	185	155	126	146
11	155	133	147	204	169	181	192	180	186	164	153	159
12	164	152	157	188	170	181	197	180	187	164	155	159
13	168	159	163	194	187	191	193	179	184	158	146	152
14	167	127	142	197	192	195	191	178	184	156	147	152
15	165	152	158	200	195	197	192	179	184	154	148	151
16	171	161	166	205	197	201	194	177	184	154	148	152
17	173	166	169	207	202	204	191	172	182	160	154	157
18	185	169	175	209	202	206	184	170	175	235	116	162
19	189	177	183	210	206	208	191	176	180	160	152	156
20	196	183	188	210	202	207	190	176	179	159	146	152
21	194	184	189	205	199	202	189	176	180	149	143	146
22	200	189	194	208	201	204	189	155	166	166	147	157
23	203	188	198	210	205	207	179	154	164	178	159	169
24	211	197	203	211	206	209	190	170	176	186	112	157
25	218	201	206	214	208	210	199	178	185	185	140	170
26	213	200	206	211	125	157	203	190	195	141	138	139
27	216	196	208	154	134	146	211	191	198	141	93	138
28	202	191	197	171	153	164	197	185	190	135	110	122
29	195	187	190	184	167	171	195	179	184	120	109	112
30	202	189	194	189	174	182	202	175	183	113	107	110
31	203	193	197	---	---	---	245	189	212	108	103	105
MONTH	224	90	183	214	125	195	245	154	184	332	93	159
	FEBRUARY			MARCH			APRIL			MAY		
1	104	99	102	138	126	133	150	139	145	156	150	153
2	101	66	80	144	137	140	147	141	143	160	150	154
3	87	80	84	146	132	144	150	144	147	164	152	155
4	88	85	87	132	77	90	149	144	147	158	154	156
5	91	87	89	100	91	95	154	144	148	160	155	158
6	94	89	91	102	94	97	154	150	152	161	157	159
7	94	90	92	107	101	104	156	150	153	160	153	157
8	96	91	94	111	106	109	156	151	154	155	129	140
9	103	95	96	114	110	112	156	124	144	154	137	143
10	99	93	96	121	112	117	133	120	127	154	146	150
11	100	93	96	126	120	124	145	128	134	165	153	156
12	99	91	97	131	125	129	135	128	131	165	157	160
13	99	91	96	134	130	132	140	134	137	163	156	160
14	106	99	104	137	132	134	140	136	138	161	156	159
15	110	104	107	139	134	137	146	139	142	162	158	161
16	108	104	106	141	136	138	145	137	141	166	160	164
17	110	104	107	141	127	136	146	140	143	167	163	165
18	107	105	106	133	86	122	148	144	146	168	163	166
19	111	106	109	119	113	117	153	146	148	167	148	156
20	118	110	114	123	118	120	151	137	144	163	153	159
21	130	117	126	125	75	118	148	140	144	165	159	162
22	137	130	134	131	75	116	146	137	141	170	164	166
23	141	127	134	138	131	135	145	134	140	171	164	168
24	137	128	133	144	136	140	145	134	140	168	130	156
25	138	135	137	147	142	145	148	143	145	164	133	145
26	141	113	138	150	146	148	148	144	146	165	152	158
27	145	139	141	151	146	148	148	144	146	165	161	163
28	146	121	135	149	143	145	150	144	147	170	163	166
29	---	---	---	148	144	146	151	147	149	175	168	171
30	---	---	---	150	145	148	155	149	152	180	173	176
31	---	---	---	151	147	149	---	---	---	185	178	181
MONTH	146	66	108	151	75	128	156	120	144	185	129	159

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	195	181	186	229	218	224	383	367	374	286	276	281
2	193	187	190	229	219	225	388	372	379	286	276	282
3	193	187	190	238	222	229	389	377	383	288	278	283
4	202	190	195	242	229	235	398	381	389	297	278	285
5	217	197	203	248	233	241	401	388	395	293	137	272
6	218	200	205	255	238	247	407	396	401	225	141	187
7	217	199	205	262	245	254	411	401	406	229	75	129
8	210	201	206	267	255	261	416	398	409	223	165	200
9	216	206	210	272	259	264	417	405	411	233	215	224
10	217	210	214	269	247	255	420	408	415	239	225	233
11	224	209	214	256	246	251	428	413	420	246	234	239
12	222	212	218	263	252	256	433	421	427	250	241	246
13	225	214	220	270	254	261	438	192	406	255	247	251
14	218	197	212	281	263	272	266	211	241	261	252	257
15	201	160	178	292	274	281	278	266	272	263	249	257
16	182	171	177	299	280	289	289	263	278	253	59	138
17	183	126	167	306	288	297	301	278	285	127	83	104
18	159	132	148	311	297	304	290	275	283	152	126	143
19	177	158	169	316	301	310	283	270	276	159	150	155
20	197	176	183	319	307	314	273	249	263	162	145	156
21	196	187	191	323	308	315	261	241	248	213	140	168
22	200	186	193	328	312	322	244	232	239	177	140	159
23	200	187	194	326	315	321	236	223	229	192	172	182
24	207	196	202	332	319	325	277	216	247	199	188	193
25	214	205	210	337	322	331	278	269	273	206	194	199
26	216	204	210	344	329	336	280	268	275	217	200	207
27	219	207	213	350	334	342	283	272	277	216	207	212
28	226	208	215	357	341	349	288	275	280	212	199	207
29	216	202	211	363	349	355	287	274	281	204	120	194
30	223	210	217	369	353	362	283	274	279	137	62	98
31	---	---	---	376	361	368	285	276	280	---	---	---
MONTH	226	126	198	376	218	290	438	192	323	297	59	205
YEAR	438	59	191									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	6.4	6.3	6.4	6.5	6.4	6.4	6.7	6.5	6.6	6.1	6.0	6.1
2	6.4	6.2	6.3	6.4	6.2	6.3	6.6	6.4	6.5	6.1	5.9	6.0
3	6.3	6.2	6.2	6.3	6.1	6.2	6.5	6.4	6.4	6.9	5.9	6.4
4	6.3	6.1	6.2	6.3	6.1	6.2	6.4	6.3	6.4	7.1	6.6	6.9
5	6.3	6.1	6.2	6.2	6.1	6.1	6.4	6.3	6.3	6.6	6.0	6.3
6	6.2	6.0	6.0	6.2	6.1	6.1	6.4	6.3	6.3	6.2	6.0	6.1
7	6.0	6.0	6.0	6.2	6.0	6.1	6.3	6.3	6.3	6.4	6.2	6.3
8	7.6	6.0	6.7	6.2	6.0	6.1	6.4	6.3	6.4	6.4	6.2	6.3
9	7.8	7.4	7.6	6.1	6.0	6.0	6.4	6.3	6.4	6.8	6.0	6.3
10	7.7	7.1	7.5	6.0	5.9	6.0	6.4	6.3	6.4	6.9	6.6	6.8
11	7.7	7.5	7.6	6.3	6.0	6.2	6.4	6.3	6.3	6.8	6.6	6.7
12	7.5	7.2	7.3	6.2	6.0	6.1	6.3	6.3	6.3	6.6	6.5	6.6
13	7.3	7.1	7.2	6.1	6.0	6.0	6.3	6.3	6.3	6.8	6.5	6.7
14	7.3	7.1	7.2	6.1	5.9	6.0	6.3	6.2	6.3	6.8	6.5	6.7
15	7.2	7.0	7.1	6.0	5.8	5.9	6.3	6.2	6.3	6.7	6.4	6.5
16	7.1	6.9	7.0	5.9	5.8	5.9	6.3	6.2	6.3	6.7	6.5	6.6
17	6.9	6.8	6.9	5.9	5.8	5.9	6.4	6.2	6.3	6.5	6.3	6.4
18	6.9	6.8	6.9	5.9	5.8	5.9	6.4	6.3	6.4	6.7	6.1	6.4
19	6.9	6.7	6.8	5.9	5.8	5.8	6.4	6.3	6.4	6.8	6.1	6.4
20	6.9	6.8	6.9	5.9	5.8	5.8	6.4	6.3	6.4	7.2	6.8	7.1
21	6.8	6.7	6.7	5.8	5.7	5.7	6.4	6.4	6.4	7.3	7.1	7.2
22	6.8	6.7	6.8	5.8	5.7	5.7	6.4	6.3	6.4	7.3	7.1	7.2
23	6.8	6.6	6.7	5.8	5.7	5.7	6.4	6.3	6.4	7.4	7.1	7.2
24	6.8	6.7	6.7	6.2	5.7	5.9	6.4	6.4	6.4	7.2	4.4	5.2
25	6.7	6.6	6.6	6.2	6.1	6.1	6.5	6.4	6.4	4.5	4.3	4.4
26	6.6	6.5	6.6	7.2	6.0	6.7	6.5	6.4	6.4	4.9	4.5	4.7
27	6.6	6.4	6.5	7.2	6.8	7.0	6.6	6.4	6.5	5.8	4.8	5.1
28	6.5	6.4	6.5	6.9	6.7	6.8	6.6	6.5	6.6	5.9	5.5	5.7
29	6.5	6.4	6.4	6.8	6.6	6.7	6.6	6.5	6.6	6.1	5.8	5.9
30	6.6	6.4	6.5	6.7	6.6	6.7	6.6	6.5	6.6	6.6	6.0	6.2
31	6.6	6.4	6.5	---	---	---	6.6	6.1	6.3	7.3	6.5	7.0
MONTH	7.8	6.0	6.7	7.2	5.7	6.1	6.7	6.1	6.4	7.4	4.3	6.3

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.0	16.0	14.5	9.5	9.5	8.0	8.5	8.5	7.5	.5	.5	.0
2	13.5	13.5	11.5	9.5	9.5	8.0	7.5	7.5	6.0	.5	.5	.0
3	11.5	11.5	11.0	8.0	8.0	6.0	9.0	9.0	7.5	.0	.0	.0
4	11.0	11.0	11.0	7.0	7.0	5.5	11.0	11.0	9.5	.0	.0	.0
5	13.0	13.0	12.0	6.5	6.5	5.5	11.5	11.5	10.5	.0	.0	.0
6	12.5	12.5	11.5	6.5	6.5	6.0	11.5	11.5	10.0	.5	.5	.0
7	13.0	13.0	12.5	7.5	7.5	6.5	11.5	11.5	10.5	.5	.5	.0
8	14.5	14.5	13.5	7.5	7.5	7.0	10.0	10.0	9.0	.5	.5	.0
9	14.0	14.0	13.5	8.0	8.0	7.0	8.0	8.0	6.5	.5	.5	.0
10	13.5	13.5	13.0	8.5	8.5	6.5	6.0	6.0	5.0	.0	.0	.0
11	14.5	14.5	13.0	10.0	10.0	9.0	5.5	5.5	4.5	.0	.0	.0
12	14.5	14.5	13.5	7.5	7.5	6.5	5.0	5.0	4.0	.5	.5	.5
13	15.0	15.0	13.5	7.5	7.5	6.0	5.5	5.5	4.5	.5	.5	.5
14	14.0	14.0	13.0	8.0	8.0	6.5	4.5	4.5	4.0	.0	.0	.0
15	12.0	12.0	11.0	9.0	9.0	7.5	4.0	4.0	2.5	.5	.5	.0
16	12.0	12.0	10.5	8.0	8.0	6.5	4.5	4.5	3.5	.5	.5	.5
17	12.5	12.5	10.5	9.0	9.0	8.0	5.0	5.0	4.0	1.0	1.0	.5
18	14.0	14.0	12.0	7.5	7.5	6.0	4.0	4.0	3.0	1.0	1.0	.5
19	14.0	14.0	13.0	7.0	7.0	5.5	4.5	4.5	3.5	.5	.5	.0
20	13.0	13.0	11.5	7.5	7.5	7.0	5.5	5.5	5.0	2.0	2.0	1.5
21	11.0	11.0	10.0	6.5	6.5	5.5	7.0	7.0	6.0	3.0	3.0	2.5
22	9.5	9.5	8.5	6.5	6.5	5.0	8.0	8.0	5.5	3.5	3.5	3.0
23	10.0	10.0	8.5	7.0	7.0	5.0	1.5	1.5	1.0	4.0	4.0	3.5
24	11.5	11.5	9.5	7.5	7.5	6.5	2.0	2.0	1.0	5.0	5.0	4.0
25	11.0	11.0	9.5	6.5	6.5	5.5	1.0	1.0	.5	5.5	5.5	5.0
26	12.0	12.0	10.5	7.0	7.0	6.0	.5	.5	.5	5.5	5.5	5.0
27	11.0	11.0	10.5	6.5	6.5	6.0	1.0	1.0	.5	5.0	5.0	4.5
28	12.0	12.0	11.0	7.5	7.5	6.0	2.0	2.0	1.5	6.5	6.5	5.5
29	11.5	11.5	10.0	8.5	8.5	7.0	2.0	2.0	2.0	5.0	5.0	4.5
30	10.0	10.0	8.5	9.0	9.0	8.0	2.0	2.0	1.0	4.5	4.5	3.5
31	9.5	9.5	8.0	---	---	---	.5	.5	.5	3.0	3.0	2.0
MONTH	16.0	9.5	11.3	10.0	6.5	6.5	11.5	.5	4.5	6.5	.0	1.5
	FEBRUARY			MARCH			APRIL			MAY		
1	3.5	3.5	2.5	4.0	4.0	3.5	8.5	8.5	8.0	13.5	13.5	10.0
2	4.5	4.5	4.0	5.0	5.0	3.0	10.5	10.5	9.0	14.0	14.0	10.5
3	5.5	5.5	4.5	7.0	7.0	4.5	11.0	11.0	9.5	11.0	11.0	10.0
4	5.5	5.5	5.0	7.0	7.0	4.0	12.5	12.5	10.0	13.5	13.5	11.5
5	5.0	5.0	4.0	4.0	4.0	3.0	10.5	10.5	8.0	16.5	16.5	13.5
6	5.0	5.0	4.0	3.5	3.5	3.0	10.0	10.0	7.5	13.0	13.0	12.0
7	4.5	4.5	4.0	3.5	3.5	1.5	12.0	12.0	9.0	12.5	12.5	12.0
8	4.5	4.5	3.5	2.5	2.5	1.0	13.5	13.5	10.0	13.5	13.5	12.0
9	5.0	5.0	3.5	3.0	3.0	1.5	9.5	9.5	8.5	14.0	14.0	12.0
10	5.5	5.5	4.0	4.0	4.0	2.5	10.0	10.0	8.0	14.5	14.5	12.0
11	5.5	5.5	4.5	4.0	4.0	2.0	6.5	6.5	6.0	15.0	15.0	12.0
12	7.0	7.0	5.0	3.0	3.0	2.0	9.5	9.5	7.5	15.5	15.5	12.5
13	4.0	4.0	3.0	4.5	4.5	2.5	9.5	9.5	7.0	12.0	12.0	11.0
14	2.5	2.5	2.0	3.5	3.5	2.0	10.5	10.5	8.0	13.5	13.5	11.0
15	4.0	4.0	2.5	4.5	4.5	2.5	10.0	10.0	8.0	14.0	14.0	11.0
16	5.5	5.5	4.0	5.5	5.5	3.0	8.5	8.5	8.0	13.0	13.0	11.0
17	4.5	4.5	4.5	7.0	7.0	4.5	8.5	8.5	7.5	14.0	14.0	12.0
18	5.5	5.5	4.5	7.5	7.5	5.5	9.5	9.5	7.5	15.5	15.5	13.5
19	5.0	5.0	4.0	6.5	6.5	4.5	9.0	9.0	7.0	15.5	15.5	14.0
20	4.0	4.0	2.5	6.5	6.5	5.0	8.0	8.0	7.0	15.0	15.0	13.0
21	3.0	3.0	1.5	4.5	4.5	4.0	8.5	8.5	7.0	15.0	15.0	12.5
22	1.5	1.5	.5	4.5	4.5	4.0	11.0	11.0	9.0	15.5	15.5	13.0
23	1.0	1.0	.5	6.0	6.0	5.0	9.5	9.5	9.0	13.5	13.5	13.0
24	2.5	2.5	1.0	7.5	7.5	6.0	10.5	10.5	8.0	14.5	14.5	13.0
25	2.5	2.5	1.5	7.0	7.0	5.5	11.0	11.0	7.5	12.5	12.5	11.5
26	3.5	3.5	2.0	7.0	7.0	5.0	12.5	12.5	9.0	13.0	13.0	11.5
27	4.0	4.0	2.5	8.0	8.0	6.0	12.5	12.5	9.0	14.0	14.0	12.5
28	3.5	3.5	3.5	7.5	7.5	6.5	11.5	11.5	9.0	15.0	15.0	12.5
29	---	---	---	9.5	9.5	7.0	13.0	13.0	9.5	16.5	16.5	14.0
30	---	---	---	9.5	9.5	7.0	13.0	13.0	10.0	17.5	17.5	15.0
31	---	---	---	10.5	10.5	7.5	---	---	---	17.5	17.5	15.0
MONTH	7.0	1.0	3.2	10.5	2.5	4.0	13.5	6.5	8.3	17.5	11.0	12.3

