SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA
(Swatara Creek Project)

LOCATION.--Lat 40°35'42", long 76°26'32", Schuylkill County, Hydrologic Unit 02050305, on left bank above weir, 350 ft downstream from drainage tunnel. Located on Schuylkill County property.

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1999 to current year.
pH: April 1999 to current year.
WATER TEMPERATURE: April 1999 to current year.

INSTRUMENTATION.--Water-quality monitor (in situ system).

REMARKS.--Specific conductance records rated good except for period Oct. 1 to Feb. 6, which is fair. pH records rated fair. The pH probe is subject to fowling from precipitation of iron, adhesion of lime on electrodes, and occasional burial by sediment. 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. Instantaneous discharge data provided by the Pottsville Mining office of the Pennsylvania Department of Environmental Protection. Other data for this project presented in tables on pages 316-370. Figure 10 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, 902 microsiemens, Sept. 22, 1999; minimum, 141 microsiemens, Aug. 13, 1999.
pH: Maximum, 7.0, June 26, 27, 1999; minimum, 3.4, Sept. 8, 17, 1999.
WATER TEMPERATURE: Maximum, 14.5°C, Sept. 30, 1999; minimum, 10.0°C, Dec. 17, 2000.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 694 microsiemens, Sept. 25; minimum, 252 microsiemens, Dec. 16, 17.
WATER TEMPERATURE: Maximum, 13.5°C, Sept. 24; minimum 10.0°C, Dec. 17.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	OXIDATION REDUCTION POTENTIAL (MV) (00090)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	SPECIFIC CONDUCTANCE (µS/CM) (00095)
NOV										
21...	1200	9813	1028	3.4	427	9.0	84	4.7	4.8	428
JAN										
08...	1100	930	1028	4.5	336	9.5	87	5.3	5.7	282
MAR										
13...	1430	930	1028	6.3	411	9.6	91	5.2	4.1	343
MAY										
21...	1515	930	1028	3.4	330	10.5	98	6.2	6.0	285
JUL										
16...	1230	930	1028	3.4	335	9.4	88	6.2	5.7	335
17...	1515	930	1028	4.2	--	--	--	6.3	5.4	331
17...	1600	930	1028	4.9	--	--	--	5.5	4.8	376
17...	1800	930	1028	4.9	--	--	--	5.2	4.7	377
17...	2000	930	1028	4.5	--	--	--	5.2	4.6	372
18...	0000	930	1028	4.5	--	--	--	5.3	4.3	372
18...	0400	930	1028	4.5	--	--	--	5.4	4.4	364
18...	1200	930	1028	4.5	--	--	--	5.6	4.4	356
20...	0700	930	1028	4.0	--	--	--	6.3	5.2	324
20...	1000	930	1028	4.2	--	--	--	5.1	4.0	375
20...	1600	930	1028	4.2	--	--	--	5.3	4.2	369
20...	2200	930	1028	4.5	--	--	--	5.4	4.2	358
21...	0800	930	1028	4.0	--	--	--	5.7	4.3	350
SEP										
26...	1315	930	1028	1.8	485	10.0	93	4.8	3.9	627

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	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 TOTAL HEATED (MG/L AS CAC03) (70508)
NOV										
21...	11.8	24.7	25.2	36.3	37.2	--	--	5.2	5.2	24
JAN										
08...	11.7	11.0	11.0	19.0	19.0	1.40	1.2	3.6	3.4	--
MAR										
13...	12.0	16.0	16.0	25.0	24.0	1.40	1.4	3.8	3.7	<5.0
MAY										
21...	11.9	10.0	11.0	19.0	20.0	1.10	1.1	3.2	3.2	<5.0
JUL										
16...	12.2	13.0	13.0	25.0	24.0	1.30	1.2	3.8	3.6	--
17...	12.1	14.0	13.0	25.0	24.0	1.30	1.4	4.2	3.8	<5.0
17...	12.3	17.0	16.0	27.0	27.0	1.50	1.6	4.2	4.0	<5.0
17...	12.3	17.0	16.0	27.0	26.0	1.50	1.5	4.2	3.9	<5.0
17...	12.3	16.0	16.0	26.0	26.0	1.50	1.4	4.2	3.9	25
18...	12.3	16.0	16.0	27.0	26.0	1.40	1.5	4.0	3.9	8.7
18...	12.4	17.0	16.0	26.0	26.0	1.50	1.4	4.1	3.8	5.9
18...	12.4	16.0	16.0	25.0	25.0	1.50	1.4	3.9	3.6	<5.0
20...	12.0	13.0	13.0	24.0	24.0	1.30	1.2	4.2	3.6	<5.0
20...	12.3	17.0	17.0	27.0	27.0	1.40	1.4	4.1	3.7	11
20...	12.4	17.0	16.0	27.0	26.0	1.40	1.3	3.8	3.5	7.6
20...	12.4	16.0	16.0	26.0	25.0	1.40	1.4	3.9	3.5	7.6
21...	12.4	16.0	16.0	25.0	25.0	1.40	1.3	3.6	3.4	<5.0
SEP										
26...	11.8	23.0	22.0	59.0	56.0	1.80	1.7	4.8	4.7	31

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)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	ALUM-INUM, DIS-SOLVED (µG/L AS AL) (01106)	ALUM-INUM, TOTAL RECOV-ERABLE (µG/L AS AL) (01105)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	ARSENIC TOTAL (µG/L AS AS) (01002)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BARIUM, TOTAL RECOV-ERABLE (µG/L AS BA) (01007)
NOV										
21...	2	3.0	221	18	1170	1740	--	--	--	--
JAN										
08...	<5	--	110	--	160	1100	--	--	29.0	30.0
MAR										
13...	<5	--	160	--	600	1300	<80.0	<40	27.0	27.0
MAY										
21...	<5	--	100	--	100	1100	<40.0	<40	28.0	28.0
JUL										
16...	<5	--	140	--	130	1400	<40.0	<40	27.0	27.0
17...	<5	--	140	--	1600	16000	<40.0	<40	28.0	47.0
17...	<5	--	160	--	990	7700	<40.0	<40	29.0	39.0
17...	<5	--	170	--	1800	6900	<40.0	<40	28.0	33.0
17...	--	--	160	--	1300	3700	<40.0	<40	28.0	29.0
18...	--	--	160	--	1200	2400	<40.0	<40	28.0	28.0
18...	--	--	160	--	850	2600	<40.0	<40	29.0	29.0
18...	--	--	150	--	420	1700	<40.0	<40	30.0	31.0
20...	<5	--	130	--	120	2100	<40.0	<40	27.0	27.0
20...	--	--	170	--	1500	2000	<40.0	<40	27.0	27.0
20...	--	--	160	--	1300	1900	<40.0	<40	28.0	28.0
20...	--	--	160	--	850	1500	<40.0	<40	30.0	30.0
21...	--	--	150	--	620	1500	<40.0	<40	31.0	31.0
SEP										
26...	--	--	320	--	2800	4500	<40.0	<40	25.0	26.0

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CHRO-MIUM, DIS-SOLVED (µG/L AS CR) (01030)	CHRO-MIUM, TOTAL RECOV-ERABLE (µG/L AS CR) (01034)	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)
NOV										
21...	--	--	--	--	--	--	--	--	7270	9520
JAN										
08...	<6.00	<6.00	11.0	14	47.0	51	<6.0	11.0	8500	9500
MAR										
13...	<6.00	<3.00	<6.0	<3	61.0	59	<6.0	<3.0	6900	8400
MAY										
21...	<3.00	<3.00	<3.0	<3	39.0	41	<3.0	<3.0	8500	9800
JUL										
16...	<3.00	54.0	<3.0	<3	50.0	48	<3.0	<3.0	9400	9900
17...	4.00	44.0	<3.0	<3	48.0	59	<3.0	28.0	10000	110000
17...	<3.00	26.0	<3.0	3	67.0	77	<3.0	18.0	1900	47000
17...	<3.00	<3.00	<3.0	<3	67.0	70	<3.0	13.0	7400	47000
17...	<3.00	7.00	<3.0	<3	65.0	65	4.0	10.0	4400	26000
18...	<3.00	<3.00	<3.0	<3	62.0	62	<3.0	9.0	4700	14000
18...	<3.00	30.0	<3.0	<3	61.0	61	<3.0	6.0	4400	17000
18...	<3.00	25.0	<3.0	<3	58.0	58	83.0	5.0	4300	10000
20...	<3.00	4.00	<3.0	<3	46.0	46	<3.0	8.0	<10	12000
20...	<3.00	25.0	4.0	3	73.0	65	8.0	9.0	1400	11000
20...	<3.00	20.0	<3.0	<3	63.0	61	7.0	9.0	1100	9700
20...	<3.00	18.0	<3.0	<3	58.0	57	12.0	12.0	1300	8200
21...	<3.00	19.0	<3.0	<3	58.0	56	12.0	16.0	2400	8500
SEP										
26...	<3.00	<3.00	<3.0	<3	89.0	85	<3.0	<3.0	12000	12000

DATE	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	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)	SELE-NIUM, DIS-SOLVED (µG/L AS SE) (01145)	SELE-NIUM, TOTAL (µG/L AS SE) (01147)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
NOV										
21...	--	--	2940	2950	--	--	--	--	--	--
JAN										
08...	<80.0	<80	2000	2000	70.0	66	<200	<200	140	130
MAR										
13...	<80.0	<40	2300	2300	95.0	93	<200	<100	220	220
MAY										
21...	<40.0	<40	1900	1900	58.0	52	<100	<100	110	110
JUL										
16...	<40.0	<40	2100	2000	72.0	67	<100	<100	150	160
17...	<40.0	<40	2100	2700	69.0	78	<100	<100	160	490
17...	<40.0	<40	2500	3000	110	110	<100	<100	260	430
17...	<40.0	<40	2500	2600	110	110	<100	<100	270	290
17...	<40.0	<40	2400	2500	99.0	99	<100	<100	250	250
18...	<40.0	<40	2400	2400	94.0	94	<100	<100	240	230
18...	<40.0	<40	2300	2200	93.0	90	<100	<100	230	240
18...	<40.0	<40	2200	2200	190	86	<100	<100	220	220
20...	<40.0	<40	2000	2000	66.0	68	<100	<100	140	140
20...	<40.0	<40	2500	2400	110	100	<100	<100	270	260
20...	<40.0	<40	2400	2300	94.0	93	<100	<100	240	240
20...	<40.0	<40	2200	2200	87.0	86	<100	<100	220	220
21...	<40.0	<40	2200	2100	86.0	83	<100	<100	220	230
SEP										
26...	<40.0	<40	2600	2600	150	150	<100	<100	340	320

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	441	332	390	420	315	334	411	281	343	347	280	313
2	332	321	327	316	312	315	419	278	315	280	278	279
3	324	318	320	439	310	358	278	269	274	351	278	312
4	436	324	400	458	312	365	292	262	267	349	280	289
5	367	331	339	317	313	315	345	292	327	282	280	280
6	337	332	334	376	313	317	333	281	307	359	281	327
7	439	337	379	466	316	414	281	261	268	358	283	290
8	448	339	380	318	315	316	324	261	277	283	281	282
9	339	326	332	317	312	315	346	301	332	359	281	328
10	383	323	334	463	309	380	301	261	274	357	284	295
11	434	336	394	484	322	362	263	256	258	285	284	285
12	336	323	328	324	317	321	340	263	314	365	285	328
13	323	318	321	371	311	317	288	257	264	364	287	307
14	436	318	376	463	353	419	360	253	292	288	287	287
15	435	322	351	353	327	331	372	260	322	366	287	327
16	322	319	320	336	328	332	260	252	255	366	291	314
17	392	318	332	414	336	357	601	252	460	292	289	290
18	430	364	394	439	401	423	449	289	346	366	289	320
19	369	350	355	401	350	373	289	272	280	368	300	332
20	359	355	357	354	338	343	291	267	278	300	294	295
21	464	357	420	440	276	351	292	261	273	356	295	314
22	385	354	361	279	274	277	264	261	262	367	329	353
23	355	344	351	278	276	277	306	262	286	329	302	310
24	447	340	383	439	275	374	306	264	270	364	301	317
25	456	337	378	432	271	285	289	267	272	385	329	365
26	337	328	333	334	257	284	324	271	305	329	306	312
27	378	324	333	405	279	304	272	270	271	342	304	310
28	451	335	401	449	298	381	306	270	277	391	342	375
29	335	321	328	301	291	296	336	275	309	357	311	325
30	322	317	320	292	286	289	277	273	275	318	303	307
31	435	318	387	---	---	---	327	276	288	398	318	375
MONTH	464	317	357	484	257	338	601	252	295	398	278	314

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	383	339	351	301	264	270	---	---	---	---	---	---
2	343	339	341	326	270	304	---	---	---	---	---	---
3	426	343	395	270	265	266	---	---	---	---	---	---
4	424	359	384	319	265	280	---	---	---	---	---	---
5	359	350	354	325	266	296	---	---	---	---	---	---
6	416	323	374	266	263	265	---	---	---	---	---	---
7	324	321	323	319	264	284	---	---	---	---	---	---
8	322	315	319	328	267	294	---	---	---	---	---	---
9	403	313	371	267	264	265	---	---	---	---	---	---
10	393	305	334	329	266	300	---	---	---	---	---	---
11	340	334	337	331	278	291	---	---	---	---	---	---
12	402	334	380	278	272	276	---	---	---	---	---	---
13	398	311	322	351	271	329	---	---	---	---	---	---
14	311	298	305	295	287	291	---	---	---	---	---	---
15	369	297	336	337	293	299	---	---	---	---	---	---
16	370	290	307	350	289	331	---	---	---	---	---	---
17	291	288	289	290	283	286	---	---	---	---	---	---
18	346	285	321	323	278	295	---	---	---	---	---	---
19	346	269	284	323	263	291	---	---	---	---	---	---
20	270	262	265	---	---	---	---	---	---	---	---	---
21	327	263	305	---	---	---	---	---	---	---	---	---
22	309	260	268	---	---	---	---	---	---	359	279	312
23	263	259	261	---	---	---	---	---	---	341	307	329
24	323	263	304	---	---	---	---	---	---	311	307	309
25	273	258	261	---	---	---	---	---	---	362	307	336
26	287	259	263	---	---	---	---	---	---	347	311	325
27	325	272	306	---	---	---	---	---	---	311	307	310
28	272	263	266	---	---	---	---	---	---	361	310	349
29	---	---	---	---	---	---	---	---	---	342	316	322
30	---	---	---	---	---	---	---	---	---	359	315	324
31	---	---	---	---	---	---	---	---	---	361	334	352
MONTH	426	258	319	351	263	290	---	---	---	362	279	327

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	334	320	324	365	301	313	378	344	358	385	363	378
2	363	318	337	365	348	352	347	343	344	410	377	385
3	365	353	360	349	332	338	413	342	387	429	407	417
4	364	358	361	353	331	340	415	312	354	414	379	401
5	384	356	369	351	331	344	433	385	401	490	396	425
6	367	347	353	341	333	339	452	385	432	472	387	419
7	395	345	351	365	341	358	420	399	407	387	378	384
8	395	342	373	358	340	348	438	397	407	476	375	420
9	573	333	367	365	339	344	440	399	421	436	368	396
10	384	329	349	366	349	360	407	388	395	379	342	368
11	371	320	345	349	336	339	443	397	419	466	364	422
12	322	286	315	381	337	360	438	417	426	426	376	390
13	399	322	382	363	334	347	417	412	414	454	373	382
14	365	327	345	377	333	335	440	396	417	459	383	430
15	328	285	309	380	355	367	396	371	379	383	367	374
16	585	281	421	356	330	335	446	367	371	455	363	384
17	617	403	463	377	324	345	447	385	413	459	363	406
18	544	398	458	372	327	351	385	362	365	437	358	370
19	529	407	423	329	324	327	444	360	382	450	377	420
20	500	377	414	375	323	354	434	363	393	377	355	363
21	521	469	499	355	319	334	380	367	375	447	353	378
22	585	452	519	351	317	319	455	377	410	447	378	415
23	565	469	513	367	349	358	421	370	389	378	369	373
24	470	386	427	349	318	324	370	363	368	431	362	384
25	386	344	361	366	318	328	442	362	408	694	414	565
26	354	332	342	394	320	371	398	351	368	685	595	632
27	350	318	336	365	345	351	351	343	347	604	544	582
28	319	312	315	383	343	351	413	342	396	547	511	533
29	338	312	329	384	359	372	385	350	359	534	507	521
30	329	306	316	359	340	345	387	347	351	541	494	517
31	---	---	---	407	340	373	404	365	389	---	---	---
MONTH	617	281	379	407	301	346	455	312	389	694	342	428
YEAR	694	252	347									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	6.3	6.1	6.1	---	---	---	---	---	---
3	---	---	---	6.3	4.2	6.2	---	---	---	---	---	---
4	---	---	---	6.3	4.4	6.1	---	---	---	---	---	---
5	---	---	---	6.3	6.3	6.3	---	---	---	---	---	---
6	---	---	---	6.3	5.2	6.3	---	---	---	---	---	---
7	---	---	---	6.2	4.2	4.5	---	---	---	---	---	---
8	---	---	---	6.2	6.2	6.2	---	---	---	---	---	---
9	---	---	---	6.3	6.2	6.2	---	---	---	---	---	---
10	---	---	---	6.3	4.3	4.9	---	---	---	---	---	---
11	---	---	---	6.1	4.4	6.1	---	---	---	---	---	---
12	---	---	---	6.2	6.1	6.1	---	---	---	---	---	---
13	---	---	---	6.1	4.9	6.1	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	6.3	6.3	6.3	---	---	---	---	---	---
23	---	---	---	6.3	6.3	6.3	---	---	---	---	---	---
24	---	---	---	6.3	4.0	4.4	---	---	---	---	---	---
25	---	---	---	6.2	4.4	6.2	---	---	---	---	---	---
26	---	---	---	6.2	6.1	6.2	---	---	---	---	---	---
27	---	---	---	6.1	4.2	6.1	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	6.3	6.3	6.3	---	---	---	---	---	---
MIN	---	---	---	6.1	4.0	4.4	---	---	---	---	---	---

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	5.9	5.7	5.8	---	---	---	---	---	---
15	---	---	---	5.7	5.1	5.6	---	---	---	---	---	---
16	---	---	---	5.4	5.1	5.2	---	---	---	---	---	---
17	---	---	---	5.4	5.3	5.4	---	---	---	---	---	---
18	---	---	---	5.4	5.1	5.3	---	---	---	---	---	---
19	---	---	---	5.4	5.1	5.1	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	6.4	6.2	6.3
22	---	---	---	---	---	---	---	---	---	6.4	5.2	6.3
23	---	---	---	---	---	---	---	---	---	6.3	5.5	5.8
24	---	---	---	---	---	---	---	---	---	6.4	6.3	6.3
25	---	---	---	---	---	---	---	---	---	6.4	5.2	5.6
26	---	---	---	---	---	---	---	---	---	6.3	5.6	6.3
27	---	---	---	---	---	---	---	---	---	6.3	6.3	6.3
28	---	---	---	---	---	---	---	---	---	6.3	5.2	5.4
29	---	---	---	---	---	---	---	---	---	6.2	5.6	6.2
30	---	---	---	---	---	---	---	---	---	6.2	5.1	6.2
31	---	---	---	---	---	---	---	---	---	5.8	5.1	5.3
MAX	---	---	---	5.9	5.7	5.8	---	---	---	6.4	6.3	6.3
MIN	---	---	---	5.4	5.1	5.1	---	---	---	5.8	5.1	5.3

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	---	---	---	---	---	---	6.2	5.1	6.0	---	---	---
2	---	---	---	---	---	---	6.2	6.2	6.2	---	---	---
3	---	---	---	---	---	---	6.2	4.5	5.0	---	---	---
4	---	---	---	---	---	---	6.1	5.2	6.0	---	---	---
5	---	---	---	---	---	---	5.8	5.6	5.7	6.1	4.0	6.1
6	6.2	5.4	6.2	---	---	---	5.6	4.2	4.5	5.9	4.0	4.4
7	6.2	4.8	6.2	---	---	---	---	---	---	6.0	5.9	5.9
8	6.2	4.8	5.3	---	---	---	---	---	---	6.0	4.1	5.5
9	6.2	6.1	6.2	---	---	---	---	---	---	5.8	4.2	4.5
10	6.1	4.9	6.0	---	---	---	---	---	---	5.8	5.8	5.8
11	5.8	5.0	5.2	---	---	---	---	---	---	5.8	4.1	4.3
12	5.9	5.8	5.8	---	---	---	---	---	---	5.6	4.3	5.4
13	5.9	4.9	5.0	---	---	---	---	---	---	5.7	4.3	5.7
14	---	---	---	---	---	---	---	---	---	5.1	4.1	4.3
15	---	---	---	---	---	---	6.2	4.8	6.2	5.8	5.1	5.7
16	---	---	---	---	---	---	6.3	4.8	6.3	5.8	4.3	5.8
17	---	---	---	---	---	---	5.2	4.2	4.7	5.7	4.3	4.6
18	---	---	---	---	---	---	6.4	5.2	6.4	5.8	4.4	5.8
19	---	---	---	---	---	---	6.5	4.5	6.4	5.3	4.3	4.4
20	6.0	5.5	6.0	---	---	---	6.4	4.5	5.0	5.7	5.3	5.6
21	5.6	4.3	5.4	---	---	---	6.5	6.4	6.4	---	---	---
22	5.2	4.7	5.1	---	---	---	6.5	4.5	6.5	---	---	---
23	5.6	5.2	5.4	---	---	---	6.6	4.8	5.2	---	---	---
24	5.6	5.1	5.4	---	---	---	6.6	6.6	6.6	---	---	---
25	---	---	---	---	---	---	6.6	4.6	4.8	---	---	---
26	---	---	---	---	---	---	6.6	5.1	6.5	---	---	---
27	---	---	---	---	---	---	6.6	6.5	6.6	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	6.2	4.4	5.0	---	---	---	---	---	---
MAX	6.2	6.1	6.2	6.2	4.4	5.0	6.6	6.6	6.6	6.1	5.9	6.1
MIN	5.2	4.3	5.0	6.2	4.4	5.0	5.2	4.2	4.5	5.1	4.0	4.3

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	12.5	12.0	12.0	12.0	11.5	11.5	12.0	11.5	11.5	12.0	11.5	11.5
2	12.0	12.0	12.0	12.0	11.5	12.0	12.0	11.0	11.5	11.5	11.5	11.5
3	12.0	12.0	12.0	12.0	11.5	12.0	11.5	11.0	11.0	12.0	11.5	11.5
4	12.5	12.0	12.0	12.5	12.0	12.0	11.5	11.0	11.5	12.0	11.5	11.5
5	12.0	12.0	12.0	12.0	11.5	11.5	12.0	11.5	11.5	11.5	11.5	11.5
6	12.0	12.0	12.0	12.0	11.5	11.5	11.5	11.0	11.5	12.0	11.5	12.0
7	12.0	12.0	12.0	12.5	12.0	12.0	11.5	11.5	11.5	12.0	11.5	11.5
8	12.0	11.5	11.5	12.0	12.0	12.0	12.0	11.5	11.5	11.5	11.5	11.5
9	11.5	11.5	11.5	12.0	12.0	12.0	12.0	11.5	11.5	12.0	11.5	11.5
10	12.0	11.5	11.5	12.0	12.0	12.0	11.5	11.5	11.5	11.5	11.5	11.5
11	12.5	12.0	12.0	12.5	11.5	12.0	12.0	11.5	11.5	11.5	11.5	11.5
12	12.0	11.5	12.0	12.0	11.5	11.5	12.0	11.0	11.5	12.0	11.5	12.0
13	12.0	12.0	12.0	12.0	11.5	12.0	11.5	11.0	11.0	11.5	11.5	11.5
14	12.5	12.0	12.0	12.5	11.5	12.0	12.0	11.0	11.5	11.5	11.5	11.5
15	12.0	12.0	12.0	11.5	11.5	11.5	12.0	11.5	11.5	12.0	11.5	12.0
16	12.0	12.0	12.0	11.5	11.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5
17	12.0	12.0	12.0	12.0	11.5	12.0	11.5	10.0	11.0	11.5	11.5	11.5
18	12.5	12.0	12.0	12.0	11.0	11.5	12.0	11.5	12.0	12.0	11.5	11.5
19	12.0	11.5	12.0	11.5	11.0	11.5	12.0	12.0	12.0	12.0	11.5	11.5
20	12.0	11.5	12.0	11.5	11.0	11.5	12.0	12.0	12.0	11.5	11.0	11.5
21	12.5	12.0	12.0	12.0	11.0	11.5	12.0	12.0	12.0	11.5	11.0	11.5
22	12.0	11.5	12.0	11.0	11.0	11.0	12.0	11.5	12.0	11.5	11.0	11.5
23	12.0	11.5	11.5	11.0	11.0	11.0	12.0	11.5	12.0	11.5	11.0	11.5
24	12.5	11.5	12.0	12.0	11.0	11.5	12.0	11.5	11.5	12.0	11.5	11.5
25	12.5	12.0	12.0	12.0	11.0	11.5	12.0	11.5	11.5	12.0	11.5	11.5
26	12.0	12.0	12.0	12.0	11.0	11.5	12.0	11.5	12.0	11.5	11.5	11.5
27	12.0	12.0	12.0	12.0	11.5	11.5	12.0	11.5	11.5	12.0	11.5	11.5
28	12.5	11.5	12.0	12.0	11.5	12.0	11.5	11.0	11.5	12.0	11.0	11.5
29	11.5	11.5	11.5	11.5	11.5	11.5	12.0	11.5	11.5	11.5	11.0	11.5
30	12.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	12.0	11.5	11.5
31	12.0	11.5	12.0	---	---	---	11.5	11.5	11.5	12.0	11.5	11.5
MONTH	12.5	11.5	11.9	12.5	11.0	11.7	12.0	10.0	11.6	12.0	11.0	11.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	11.5	11.5	11.5	12.0	11.5	11.5	12.0	11.5	11.5	12.0	12.0	12.0
2	11.5	11.0	11.5	12.0	11.5	12.0	12.0	11.5	12.0	12.0	12.0	12.0
3	11.5	11.0	11.5	12.0	11.5	11.5	12.0	11.5	11.5	12.5	12.0	12.0
4	11.5	11.0	11.5	12.0	11.5	11.5	12.0	11.5	12.0	12.0	12.0	12.0
5	11.5	11.0	11.5	12.0	11.5	11.5	12.0	11.5	12.0	12.0	12.0	12.0
6	12.0	11.5	12.0	11.5	11.5	11.5	12.0	11.5	12.0	12.0	11.5	12.0
7	11.5	11.5	11.5	12.0	11.5	11.5	12.0	11.5	12.0	12.0	11.5	12.0
8	11.5	11.0	11.5	12.0	11.5	11.5	12.0	11.5	11.5	12.0	12.0	12.0
9	12.0	11.5	12.0	11.5	11.5	11.5	12.0	12.0	12.0	12.5	12.0	12.0
10	12.0	11.0	11.5	12.0	11.5	12.0	12.0	11.5	12.0	12.0	12.0	12.0
11	11.0	11.0	11.0	12.0	11.5	11.5	12.0	11.5	12.0	12.0	12.0	12.0
12	12.0	11.0	11.5	11.5	11.5	11.5	12.0	12.0	12.0	12.0	12.0	12.0
13	12.0	11.5	11.5	12.0	11.5	12.0	12.0	12.0	12.0	12.0	12.0	12.0
14	12.0	11.5	11.5	11.5	11.5	11.5	12.0	12.0	12.0	12.5	12.0	12.0
15	12.0	11.5	12.0	12.0	11.5	11.5	12.0	11.5	12.0	12.5	12.0	12.0
16	12.0	11.5	11.5	12.0	11.5	12.0	11.5	11.5	11.5	12.0	11.5	12.0
17	11.5	11.5	11.5	11.5	11.5	11.5	12.0	11.5	11.5	12.0	12.0	12.0
18	12.0	11.5	11.5	12.0	11.5	11.5	12.0	12.0	12.0	12.0	12.0	12.0
19	12.0	11.5	11.5	12.0	11.5	12.0	12.0	11.5	12.0	12.0	12.0	12.0
20	12.0	11.5	12.0	---	---	---	12.0	11.5	11.5	12.5	12.0	12.0
21	12.0	11.5	12.0	---	---	---	12.0	12.0	12.0	12.5	12.0	12.0
22	11.5	11.5	11.5	---	---	---	12.0	11.5	12.0	12.5	12.0	12.0
23	11.5	11.5	11.5	---	---	---	12.0	11.5	12.0	12.5	12.0	12.5
24	12.0	11.5	12.0	---	---	---	12.0	11.5	12.0	12.0	12.0	12.0
25	12.0	11.5	11.5	---	---	---	12.0	11.5	11.5	12.5	12.0	12.0
26	12.0	11.5	11.5	---	---	---	12.0	11.5	12.0	12.5	12.0	12.0
27	12.0	11.5	12.0	---	---	---	12.0	11.5	12.0	12.0	12.0	12.0
28	11.5	11.5	11.5	---	---	---	12.0	11.5	12.0	12.5	12.0	12.5
29	---	---	---	---	---	---	12.0	11.5	12.0	12.5	12.0	12.0
30	---	---	---	---	---	---	12.0	12.0	12.0	12.0	12.0	12.0
31	---	---	---	12.0	11.5	11.5	---	---	---	12.5	12.0	12.5
MONTH	12.0	11.0	11.6	12.0	11.5	11.6	12.0	11.5	11.9	12.5	11.5	12.0

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	12.0	12.0	12.0	12.0	12.0	12.0	12.5	12.0	12.5	12.5	12.0	12.0
2	12.5	12.0	12.0	12.0	12.0	12.0	12.5	12.0	12.0	12.5	12.0	12.0
3	12.5	12.0	12.0	12.0	12.0	12.0	12.5	12.0	12.5	12.5	12.0	12.5
4	12.0	12.0	12.0	12.0	12.0	12.0	13.0	12.0	12.0	12.5	12.0	12.0
5	12.5	12.0	12.5	12.5	12.0	12.0	12.0	12.0	12.0	12.5	12.0	12.0
6	12.5	12.0	12.0	12.0	12.0	12.0	12.5	12.0	12.5	13.0	12.0	12.5
7	12.0	12.0	12.0	12.5	12.0	12.0	12.5	12.0	12.0	12.5	12.0	12.0
8	12.5	12.0	12.5	12.5	12.0	12.0	12.5	12.0	12.0	12.5	12.0	12.0
9	12.5	12.0	12.0	12.0	12.0	12.0	12.5	12.0	12.5	13.0	12.0	12.5
10	12.5	12.0	12.0	12.5	12.0	12.5	13.0	12.0	12.0	12.5	12.0	12.0
11	12.5	12.0	12.5	12.0	12.0	12.0	12.5	12.0	12.0	12.5	12.0	12.5
12	12.5	12.0	12.0	12.5	12.0	12.0	12.5	12.0	12.5	12.5	12.0	12.0
13	12.5	12.0	12.0	12.5	12.0	12.0	12.0	12.0	12.0	12.5	12.0	12.0
14	12.5	12.0	12.0	12.0	12.0	12.0	12.5	12.0	12.5	12.5	12.0	12.5
15	12.0	12.0	12.0	12.5	12.0	12.5	12.5	12.0	12.0	12.0	11.5	12.0
16	12.5	12.0	12.5	12.5	12.0	12.0	12.5	12.0	12.0	12.5	11.5	12.0
17	12.5	11.5	12.0	12.5	12.0	12.0	12.5	12.5	12.5	13.0	12.0	12.5
18	12.0	12.0	12.0	12.5	12.0	12.5	12.5	12.0	12.0	12.5	12.0	12.0
19	12.5	12.0	12.5	12.0	12.0	12.0	12.5	12.0	12.0	13.0	12.0	12.5
20	12.5	12.0	12.0	12.5	12.0	12.0	12.5	12.0	12.5	12.0	12.0	12.0
21	12.5	12.0	12.0	12.5	12.0	12.0	12.0	12.0	12.0	12.5	12.0	12.0
22	12.5	11.5	12.0	12.0	12.0	12.0	12.5	12.0	12.0	13.0	12.0	12.5
23	12.0	12.0	12.0	12.5	12.0	12.5	12.5	12.0	12.5	12.5	12.0	12.0
24	12.0	12.0	12.0	12.5	12.0	12.0	12.5	12.0	12.0	13.5	12.0	12.0
25	12.0	12.0	12.0	12.5	12.0	12.0	12.5	12.0	12.5	12.5	11.5	12.0
26	12.0	12.0	12.0	12.5	12.0	12.5	12.5	12.0	12.5	12.0	11.5	11.5
27	12.0	12.0	12.0	12.5	12.0	12.0	12.0	12.0	12.0	12.5	11.5	12.0
28	12.0	12.0	12.0	12.5	12.0	12.0	12.5	12.0	12.5	12.5	11.5	12.0
29	12.0	12.0	12.0	12.5	12.0	12.5	12.5	12.0	12.0	12.0	11.5	12.0
30	12.0	12.0	12.0	12.0	12.0	12.0	12.5	12.0	12.0	12.5	11.5	12.0
31	---	---	---	12.5	12.0	12.0	13.0	12.0	12.5	---	---	---
MONTH	12.5	11.5	12.1	12.5	12.0	12.1	13.0	12.0	12.2	13.5	11.5	12.1
YEAR	13.5	10.0	11.9									