

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA
(National Water-Quality Assessment Station)

LOCATION.--Lat 40°09'05", long 75°36'06", Chester County, Hydrologic Unit 02040203, on right bank 70 ft downstream from two-span county bridge on French Creek Road, 4.5 mi northwest of Phoenixville, and 7.3 mi upstream from mouth.

DRAINAGE AREA.--59.1 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 160 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 7, 1968, nonrecording gage at site 70 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 13	2245	*771	*6.69	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	18	17	e16	59	18	49	51	28	19	8.9	16
2	18	17	16	e17	52	18	43	54	25	17	9.1	29
3	17	18	16	e18	37	149	39	130	23	16	9.2	19
4	16	18	14	e19	e30	65	51	58	22	16	9.5	14
5	15	18	14	e19	e28	38	39	43	22	15	11	11
6	e14	15	13	e20	e26	32	35	38	36	14	10	10
7	e14	16	13	e50	e23	29	32	34	103	13	9.4	10
8	e13	16	14	e70	e22	27	31	31	41	11	9.2	9.9
9	e13	16	39	e50	e21	26	31	68	31	13	8.9	9.8
10	e13	15	23	e35	e23	29	33	65	28	13	8.8	9.5
11	e12	16	17	e90	e26	25	30	40	23	13	8.8	8.5
12	e11	16	16	85	e23	23	28	36	23	12	8.7	7.6
13	e11	17	16	43	e21	32	29	174	23	12	8.7	7.5
14	e20	15	20	33	e20	42	31	418	48	12	8.5	7.8
15	e30	16	31	29	e19	32	31	109	56	14	8.2	8.4
16	20	16	19	27	21	29	30	69	37	13	8.0	15
17	18	16	17	25	22	27	26	55	29	11	8.0	13
18	18	16	33	24	20	72	25	223	27	10	8.0	11
19	17	15	29	22	19	77	24	119	34	11	7.8	9.6
20	18	16	19	e24	20	261	23	72	29	11	7.7	9.3
21	18	16	16	e23	23	182	23	59	25	10	8.1	9.3
22	18	16	15	23	22	78	38	52	22	10	8.7	9.1
23	16	16	15	25	20	56	39	48	20	10	9.2	9.1
24	16	14	20	167	19	49	28	44	19	10	14	8.6
25	17	19	21	114	19	42	28	39	18	11	25	8.3
26	18	41	17	51	19	41	37	36	17	10	16	9.5
27	17	22	e21	38	20	111	28	36	18	9.9	12	67
28	17	18	e22	33	20	62	134	37	41	11	11	80
29	19	16	18	30	---	48	119	34	26	10	37	32
30	18	16	e17	29	---	43	57	32	20	9.5	28	20
31	18	---	e16	54	---	42	---	29	---	9.0	16	---
TOTAL	519	520	594	1303	694	1805	1191	2333	914	376.4	361.4	488.8
MEAN	16.7	17.3	19.2	42.0	24.8	58.2	39.7	75.3	30.5	12.1	11.7	16.3
MAX	30	41	39	167	59	261	134	418	103	19	37	80
MIN	11	14	13	16	19	18	23	29	17	9.0	7.7	7.5
CFSM	0.28	0.29	0.32	0.71	0.42	0.99	0.67	1.27	0.52	0.21	0.20	0.28
IN.	0.33	0.33	0.37	0.82	0.44	1.14	0.75	1.47	0.58	0.24	0.23	0.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2002, BY WATER YEAR (WY)

MEAN	47.9	68.6	96.7	107	121	143	134	104	75.5	58.2	38.9	47.7
MAX	180	166	328	394	266	350	306	250	353	258	110	214
(WY)	1997	1973	1997	1979	1984	1994	1983	1989	1972	1984	1971	1999
MIN	16.7	17.3	19.2	13.7	24.8	40.5	35.6	31.9	22.2	11.1	11.7	14.1
(WY)	2002	2002	2002	1981	2002	1981	1985	1969	1999	1999	2002	1980

e Estimated.

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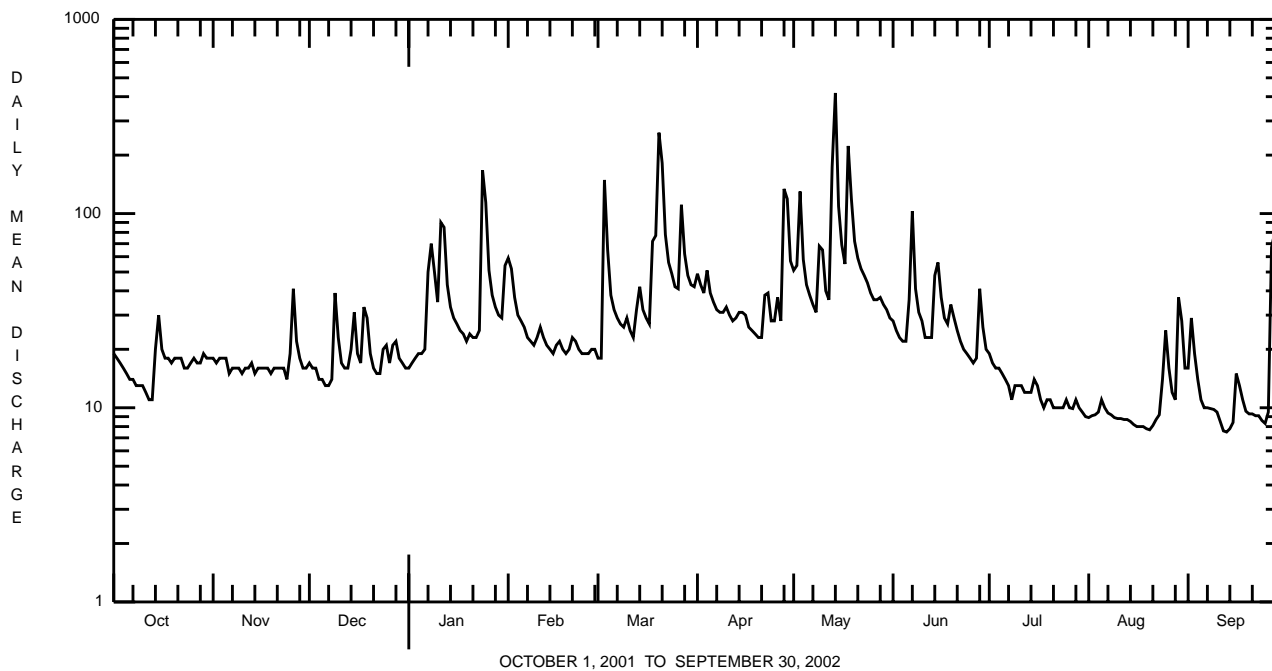
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SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1969 - 2002	
ANNUAL TOTAL	22432		11167.6			
ANNUAL MEAN	61.5		30.6		86.6	
HIGHEST ANNUAL MEAN					155	1984
LOWEST ANNUAL MEAN					30.6	2002
HIGHEST DAILY MEAN	670	Mar 30	418	May 14	4530	Jun 22 1972
LOWEST DAILY MEAN	e11	Oct 12	7.5	Sep 13	7.1	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	a12	Oct 7	8.0	Aug 15	7.3	Aug 2 1999
MAXIMUM PEAK FLOW			771	May 13	b11200	Jun 22 1972
MAXIMUM PEAK STAGE			6.69	May 13	13.66	Jun 22 1972
INSTANTANEOUS LOW FLOW			7.2	Sep 12	6.9	Aug 8 1999
ANNUAL RUNOFF (CFSM)	1.04		0.52		1.47	
ANNUAL RUNOFF (INCHES)	14.12		7.03		19.91	
10 PERCENT EXCEEDS	126		56		166	
50 PERCENT EXCEEDS	39		20		54	
90 PERCENT EXCEEDS	16		9.6		20	

a Computed using estimated daily discharges.

b From rating curve extended above 2,500 ft³/s, on basis of slope-area measurement of peak flow.

e Estimated.



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(National Water-Quality Assessment Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1950 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1998 to April 1999, June 1999 to August 1999, June 2000 to September 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)
OCT 2001 16...	1315	80020	1028	20	10.2	7.6	178	14.5	18.0	5.44	2.12	8.33	52
	Date	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (µG/L AS B) (01020)	IRON, DIS- SOLVED (µG/L AS FE) (01046)			
OCT 2001 16...			13.2	14.4	12.7	<.04	.43	E.005	<.02	20	36		

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BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATESREMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 µm. Each sample covered a total area of 3.2 m².

Date	10/16/01
Benthic Macroinvertebrate	Count
Nematoda (NEMATODES)	110
Nemertea (PROBOSAS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<u>Prostoma</u> sp	2
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<u>Ferrissia</u> sp	53
Lymnaeidae	
<u>Fossaria</u> sp	5
<u>Lymnaea</u> sp	3
Planorbidae	
<u>Gyraulus</u> sp	3
Bivalvia (CLAMS)	
Veneroidea	
Sphaeriidae	7
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	13
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	57
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	103
<u>Pseudocloeon</u> sp	11
Caenidae	
<u>Caenis</u> sp	8
Ephemerellidae	
<u>Eurylophella</u> sp	4
<u>Serratella</u> sp	112
Heptageniidae	
<u>Epeorus</u> sp	55
<u>Stenacron</u> sp	2
<u>Stenonema</u> sp	409
Isonychiidae	
<u>Isonychia</u> sp	152
Odonata	
Coenagrionidae (DAMSELFLIES)	
<u>Argia</u> sp	7
Gomphidae (DRAGONFLIES)	7
Plecoptera (STONEFLIES)	
Perlidae	
<u>Acroneuria</u> sp	7
<u>Paragnetina</u> sp	6
Taeniopterygidae	
<u>Taeniopteryx</u> sp	6

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01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/16/01
Benthic Macroinvertebrate	Count
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<u>Nigronia</u> sp	4
Sialidae (ALDERFLIES)	
<u>Sialis</u> sp	1
Trichoptera (CADDISFLIES)	
Apataniidae	
<u>Apatania</u> sp	52
Brachycentridae	
<u>Micrasema</u> sp	255
Glossosomatidae	
<u>Culoptila</u> sp	14
<u>Glossosoma</u> sp	19
Helicopsychidae	
<u>Helicopsyche</u> sp	28
Hydropsychidae	
<u>Cheumatopsyche</u> sp	243
<u>Hydropsyche</u> sp	107
<u>Macrostemum</u> sp	4
Hydroptilidae	
<u>Leucotrichia</u> sp	108
Lepidostomatidae	
<u>Lepidostoma</u> sp	10
Leptoceridae	
<u>Oecetis</u> sp	4
Philopotamidae	
<u>Chimarra</u> sp	86
Polycentropodidae	
<u>Nyctiophylax</u> sp	3
<u>Polycentropus</u> sp	5
Psychomyiidae	
<u>Psychomyia</u> sp	19
Lepidoptera	
Pyralididae (MOTHS)	
<u>Petrophila</u> sp	9
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	151
<u>Oulimnius</u> sp	19
<u>Promoresia</u> sp	20
<u>Stenelmis</u> sp	16
Psephenidae (WATER PENNIES)	
<u>Ectopria</u> sp	4
<u>Psephenus</u> sp	18
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	3
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	11
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	9
Total Organisms	2416
Total Taxa	51

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REMARKS.--These samples were collected as part of the Delaware River Basin National Water-Quality Assessment Program (DELNR NAWQA). For the definition of the type of quality-control data listed under SAMPLE TYPE, refer to "Quality-Control Data" in the "Introduction."

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	SAMPLE TYPE	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
NOV 07...	1050	ENVIRONMENTAL	16	758	112	13.1	7.8	173	17.0	8.3	51
DEC 06...	1030	ENVIRONMENTAL	13	759	106	12.3	7.7	185	20.5	9.2	49
JAN 17...	1010	ENVIRONMENTAL	25	754	100	13.5	7.6	181	9.0	2.6	38
MAR 05...	1030	ENVIRONMENTAL	38	765	109	15.2	7.5	159	9.0	2.0	30
APR 11...	0900	ENVIRONMENTAL	31	769	108	12.1	7.7	176	18.0	10.8	43
MAY 15...	0930	ENVIRONMENTAL	112	757	102	10.9	7.4	129	19.0	12.2	27
MAY 15...	0931	SPLIT REPLICATE	--	--	--	--	--	--	--	--	28
JUN 11...	1000	ENVIRONMENTAL	25	755	109	9.8	7.7	173	27.5	20.2	42
JUL 11...	1010	ENVIRONMENTAL	13	759	101	9.2	8.0	177	22.0	19.8	47
SEP 03...	1049	FIELD BLANK	--	--	--	--	--	--	--	--	--
SEP 03...	1050	ENVIRONMENTAL	19	757	103	9.5	7.8	193	28.5	18.8	45

DATE	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
NOV 07...	62	12.4	12.1	.18	<.04	.39	<.008	<.02	.014	--	<1.0
DEC 06...	59	12.3	13.3	.25	<.04	.94	<.008	<.02	.016	.13	3.6
JAN 17...	46	16.6	16.0	.22	<.04	1.54	<.008	<.02	.018	--	<1.0
MAR 05...	37	14.6	15.5	.37	<.04	1.11	E.005	E.01	.041	.33	3.2
APR 11...	52	14.0	13.7	.23	<.04	1.02	.006	E.01	.023	--	--
MAY 15...	33	9.38	12.0	.60	E.03	.92	E.006	E.02	.084	4.5	15
MAY 15...	34	9.12	11.9	.61	E.03	.91	E.006	.02	.084	--	14
JUN 11...	51	13.6	12.3	.33	E.02	1.14	E.007	.03	.051	.26	3.8
JUL 11...	57	12.6	11.6	.22	<.04	.58	<.008	E.01	.034	.11	3.0
SEP 03...	--	--	--	--	--	--	--	--	--	--	--
SEP 03...	55	13.2	20.4	.31	<.04	.68	<.008	.02	.043	.25	4.9

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WATER-COLUMN PESTICIDE ANALYSES

REMARKS.--Selected samples were analyzed for pesticides with laboratory schedule 2001 (listed in its entirety, with laboratory reporting levels, on page 179). Only pesticides identified by the analyses in one or more surface-water samples are listed in the following table.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	SAMPLE TYPE	ACETO- CHLOR, WATER, FLTRD REC (µG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (µG/L) (46342)	ALPHA BHC DIS- SOLVED (µG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (µG/L) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 µ GF, REC (µG/L) (82673)	CAR- BARYL WATER FLTRD 0.7 µ GF, REC (µG/L) (82680)	CHLOR- PYRIFOS DIS- SOLVED (µG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (µG/L) (04041)	DCPA WATER FLTRD 0.7 µ GF, REC (µG/L) (82682)
NOV 07...	1050	ENVIRONMENTAL	<.004	<.002	<.005	E.006	<.010	<.041	<.005	<.018	<.003
DEC 06...	1030	ENVIRONMENTAL	<.004	<.002	<.005	E.006	<.010	<.041	<.005	<.018	<.003
JAN 17...	1010	ENVIRONMENTAL	<.006	<.004	<.005	.010	<.010	<.041	<.005	<.018	<.003
MAR 05...	1030	ENVIRONMENTAL	<.006	<.004	<.005	.010	<.010	<.041	<.005	<.018	<.003
APR 11...	0900	ENVIRONMENTAL	<.004	<.002	<.005	.012	<.010	<.041	<.005	<.018	<.003
MAY 15...	0930	ENVIRONMENTAL	<.006	<.004	<.005	1.33	<.010	<.041	<.005	<.018	<.003
JUN 11...	1000	ENVIRONMENTAL	<.006	.005	<.005	.284	<.010	<.041	<.005	<.018	<.003
JUL 11...	1010	ENVIRONMENTAL	<.006	<.004	<.005	.034	<.010	<.041	<.005	<.018	<.003
SEP 03...	1049	FIELD BLANK	<.006	<.004	<.005	<.007	<.010	<.041	<.005	<.018	<.003
03...	1050	ENVIRONMENTAL	<.006	<.004	<.005	.013	<.010	<.041	<.005	<.018	<.003

DATE	DEETHYL ATRA- ZINE, WATER, DISS, REC (µG/L) (04040)	DI- AZINON, DIS- SOLVED (µG/L) (39572)	EPTC WATER FLTRD 0.7 µ GF, REC (µG/L) (82668)	LINDANE DIS- SOLVED (µG/L) (39341)	LIN- URON WATER FLTRD 0.7 µ GF, REC (µG/L) (82666)	MALA- THION, DIS- SOLVED (µG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 µ GF, REC (µG/L) (82686)	METO- LACHLOR WATER DISSOLV (µG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (µG/L) (82630)	NAPROP- AMIDE WATER FLTRD 0.7 µ GF, REC (µG/L) (82684)	PENDI- METH- ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82683)	PRO- METON, WATER, DISS, REC (µG/L) (04037)	PRO- PANIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82679)
NOV 07...	E.022	<.005	<.002	<.004	<.035	<.027	<.050	E.004	<.006	<.007	<.010	<.01	<.011
DEC 06...	E.007	<.005	<.002	<.004	<.035	<.027	<.050	E.003	<.006	<.007	<.010	<.01	<.011
JAN 17...	E.018	<.005	<.002	<.004	<.035	<.027	<.050	<.013	<.006	<.007	<.022	<.01	<.011
MAR 05...	E.015	<.005	<.002	<.004	<.035	<.027	<.050	E.004	<.006	<.007	<.022	<.01	<.011
APR 11...	E.009	<.005	<.002	<.004	<.035	<.027	<.050	<.013	<.006	<.007	<.010	<.01	<.011
MAY 15...	E.060	<.005	<.002	<.004	<.035	<.027	<.050	.159	<.006	<.007	<.022	<.01	<.011
JUN 11...	E.055	<.005	<.002	<.004	<.035	<.027	<.050	.034	<.006	<.007	<.022	<.01	<.011
JUL 11...	E.031	<.005	<.002	<.004	<.035	<.027	<.050	E.005	<.006	<.007	<.022	<.01	<.011
SEP 03...	<.006	<.005	<.002	<.004	<.035	<.027	<.050	<.013	<.006	<.007	<.022	<.01	<.011
03...	E.018	<.005	<.002	<.004	<.035	<.027	<.050	E.005	<.006	<.007	<.022	E.01	<.011

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WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SI- MAZINE, WATER, DISS, REC ($\mu\text{G/L}$) (04035)	TEBU- THIURON WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82670)	TER- BACIL WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82665)
NOV 07...	E.006	<.02	<.034
DEC 06...	E.005	<.02	<.034
JAN 17...	.053	<.02	<.034
MAR 05...	.011	<.02	<.034
APR 11...	.296	<.02	<.034
MAY 15...	.022	<.02	<.034
JUN 11...	.302	<.02	<.040
JUL 11...	.055	<.02	<.034
SEP 03...	<.005	<.02	<.034
03...	.020	<.02	<.034