#### 01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA

LOCATION.--Lat 39°57'42", long 75°48'06", Chester County, Hydrologic Unit 02040205, on left bank at bridge on SR 15068 at Modena, and 300 ft upstream from Dennis Run.

**DRAINAGE AREA**.--55.0 mi<sup>2</sup>.

#### WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1970 to current year.

REVISED RECORDS.--WDR PA-74-1: 1971-72(P), 1973. WDR PA-75-1: 1974(m).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 265 ft above sea level, from topographic map.

**REMARKS.**--Records fair except those for estimated daily discharges, which are poor. Slight regulation from Rock Run Reservoir 5.6 mi upstream, capacity, 982 acre-ft, and by Lukens Steel Company. Diversion from Rock Run Reservoir for municipal supply of city of Coatesville reenters creek upstream from gage. Satellite and landline telemetry at station.

**COOPERATION**.--Records of diversion provided by the city of Coatesville.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

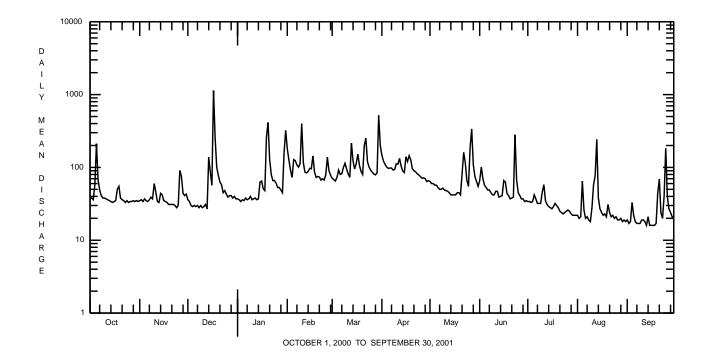
Date		Time		scharge ft <sup>3</sup> /s	Gage Heigh (ft) *7.92	t		Date No other	Tim peak gr	ie	scharge ft <sup>3</sup> /s han base	Gage Height (ft) discharge.	t
				DISCHA	RGE, CUBIC I	FEET PER SI		ER YEAR OC AN VALUES	TOBER 200	00 TO SEPT	ΓEMBER 20	01	
DAY	OC	Т	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1 2 3 4 5	3 3 5 21	8 6 7	35 36 34 37 35	36 34 30 29 30	37 36 34 36 35	181 127 92 e73 e128	71 68 65 73 92	147 122 110 101 97	64 60 60 57 57	66 101 70 57 53	34 34 33 34 42	22 20 21 65 26	19 17 18 33 22
6 7 8 9 10	6 4 4 3 3	9 1 8	34 36 39 37 60	29 30 28 30 28	38 36 37 40 36	e124 e108 101 113 401	80 82 100 114 95	98 98 92 94 112	53 50 50 52 49	49 49 45 42 42	37 32 32 32 46	20 21 19 18 28	18 17 17 17 19
11 12 13 14 15	3 3 3 3	6 5 4	46 34 33 44 42	29 31 27 138 86	37 38 36 37 e63	117 86 84 88 97	81 73 215 123 95	111 133 104 89 85	48 47 45 42	47 47 39 40 41	58 35 31 29 28	58 77 243 38 27	19 18 16 21 16
16 17 18 19 20	3 3 5 5 3	5 0 5	35 34 33 31 31	57 1140 257 101 78	65 51 48 258 415	96 144 86 73 75	113 152 107 88 80	140 121 145 127 96	42 42 45 45 42	66 63 44 41 37	27 29 32 30 28	24 22 23 21 31	16 16 16 17 44
21 22 23 24 25	3 3 3 3	5 3 5	31 31 30 28 30	63 58 45 48 43	129 80 66 66 61	74 67 70 67 79	199 253 120 101 92	90 87 82 79 75	81 161 116 66 55	38 39 281 68 45	25 24 23 24 25	24 21 22 20 21	69 24 20 40 183
26 27 28 29 30 31	3 3 3 3 3	4 5 4 5	e91 75 44 41 43	39 41 41 38 40 37	53 53 49 45 159 323	138 90 78 	86 81 79 84 520 199	71 72 70 64 66	186 338 109 75 64 55	41 37 37 34 35	26 25 23 22 22	19 19 20 18 19	40 27 24 21 21
TOTAL MEAN MAX MIN CFSM IN. (†)	137 44. 21 3 .8	5 2 3 1	1190 39.7 91 28 .72 .80	2741 88.4 1140 27 1.61 1.85 +.4	2497 80.5 415 34 1.46 1.69	3057 109 401 67 1.99 2.07	3781 122 520 65 2.22 2.56	2978 99.3 147 64 1.80 2.01	2298 74.1 338 42 1.35 1.55	1694 56.5 281 34 1.03 1.15	944 30.5 58 22 .55 .64	1045 33.7 243 18 .61 .71	865 28.8 183 16 .52 .59
STATIST	rics o	F MONT	HLY ME	AN DATA	FOR WATER	YEARS 197	0 - 2001,	BY WATER Y	EAR (WY)				
MEAN MAX (WY) MIN (WY)	55. 19 199 21. 199	0 7 7	71.9 144 1997 22.8 1999	92.9 306 1997 21.5 1999	103 330 1979 20.1 1981	108 235 1971 41.9 1992	128 308 1994 43.0 1985	118 241 1983 39.9 1985	95.0 213 1989 41.5 1999	81.7 302 1972 28.4 1999	68.4 236 1984 18.4 1999	46.5 123 1971 16.8 1995	55.2 186 1979 21.4 1981

<sup>†</sup> Change in contents from Rock Run Reservoir, equivalent in cubic feet per second.

e Estimated.

### 01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1970 - 2001
ANNUAL TOTAL	30024	24469	
ANNUAL MEAN	82.0	67.0	85.4
HIGHEST ANNUAL MEAN			130 1979
LOWEST ANNUAL MEAN			37.6 1981
HIGHEST DAILY MEAN	2340 Mar 22	1140 Dec 17	4010 Jun 22 1972
LOWEST DAILY MEAN	27 Dec 13	16 Sep 13 <b>a</b>	9.8 Sep 13 1981
ANNUAL SEVEN-DAY MINIMUM	29 Dec 7	17 Sep 13	11 Sep 4 1995
MAXIMUM PEAK FLOW		2990 Dec 17	<b>b</b> 9600 Jun 29 1973
MAXIMUM PEAK STAGE		<b>c</b> 7.92 Dec 17	12.47 Jun 29 1973
ANNUAL RUNOFF (CFSM)	1.49	1.22	1.55
ANNUAL RUNOFF (INCHES)	20.31	16.55	21.09
10 PERCENT EXCEEDS	133	120	145
50 PERCENT EXCEEDS	50	42	57
90 PERCENT EXCEEDS	31	22	26



<sup>a Also Sept. 15-18.
b From rating curve extended above 7,800 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 11.48 ft.
c Maximum recorded 7.75 ft.</sup> 

#### CHRISTINA RIVER BASIN

### 01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

#### WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1969 to October 1978, August 1981 to current year.

#### PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1971 to October 1977, August 1981 to current year. pH: May 1971 to October 1977, August 1981 to current year. WATER TEMPERATURES: May 1971 to October 1977, August 1981 to current year. DISSOLVED OXYGEN: May 1971 to October 1977, August 1981 to current year.

INSTRUMENTATION.--Water-quality monitor May 1971 to October 1977, August 1981 to current year.

REMARKS.--Specific conductance records rated good except for periods Mar. 21-29, May 23-31, July 5-9, Aug. 29 to Sept. 7, which are poor. pH and water temperature records rated good. Dissolved oxygen records rated good except for periods Oct. 12-22, Nov. 7-10, Mar. 29 to Apr. 25, June 16, 23, and Aug. 15 to Sept. 19, which are fair. Data collection discontinued during winter months since 1981 water year. Other interruptions in the record were due to malfunctions of the equipment.

#### EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 858 microsiemens, Jan. 10, 1977; minimum, 72 microsiemens, Nov. 16, 1985.

pH: Maximum, 10.0, Dec. 21, 1971; minimum, 5.9, July 14, 1991. WATER TEMPERATURE: Maximum, 33.5°C, July 19, 1977; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 19.5 mg/L, Sept. 2, 1990; minimum, 0.6 mg/L, Nov. 1, 3, 1974.

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

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)	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)
OCT 2000 12	0800	80020	1028	36	10.4	7.6	339	10.0	27.8	9.16	4.74	17.6
DATE	AN WAT UNFL IT FIE (MG/L CAC (004	TER CHI TTRD RII DIS LD SOI AS (MG	DE, DIS S- SOI LVED (MC S/L AS CL) SIC	S- SULI LVED DIS S/L SOI S (MC D2) AS S	G: FATE AMM( S- D: LVED SO: G/L (M( SO4) AS	EN, GH ONIA NO2- IS- DI	EN, GE -NO3 NITE -S- DI LVED SOL -G/L (MG N) AS	IS- DIS LVED SOLV G/L (MG/ N) AS P	US ALU HO, INU - DI ED SOL L (µG	M, ARSE S- DI VED SOL /L (µG AL) AS	S- DI VED SOI (μα AS) AS	B)
OCT 2000 12	73	29.	8 12.	.9 27	.5 <.	041 4.5	.02	29 .11	.3 16	<2.	0 63	
DATE		CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (μG/L AS MN) (01056)	MERCURY DIS- SOLVED (µG/L AS HG) (71890)	DIS- SOLVED (µG/L AS MO)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	
OCT 20	00	< 14	2 1	2 0	40	<1 00	22 5	< 23	23 5	4 14	<20	

# 01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

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

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)	COLI- FORM, FECAL, 0.7 µM-MF (COLS./ 100 ML) (31625)
MAR 2001									
08	1230	1028	1028	96	14.8	8.7	322	5.1	500
21	1555	1028	1028	282	11.4	7.8	215	6.8	1200
APR									
03	1220	1028	1028	111	12.8	8.2	283	8.5	110
17	1220	1028	1028	121	13.2	8.6	260	10.7	550
MAY	1005	1000	1000		11 0	0 1	204	1.0	F 4.0
02 14	1205 1200	1028 1028	1028 1028	61 45	11.0 11.1	8.1 7.9	304 329	17.3 15.9	540 660
23	1440	1028	1028	101	9.7	7.9	239	18.7	5100
JUN	1440	1020	1026	101	9.7	7.4	239	10.7	5100
05	1430	1028	1028	55	9.9	8.0	316	20.1	840
13	1445	1028	1028	38	8.7	7.7	348	23.7	630
26	1220	1028	1028	42	8.9	7.7	328	22.2	1100
JUL									
09	1515	1028	1028	32	10.4	8.4	346	24.8	500
16	1630	1028	1028	27	10.7	8.6	373	24.0	2800
23	1330	1028	1028	24	10.5	8.2	364	24.0	3100
AUG									
01	1430	1028	1028	24	10.3	8.2	380	23.4	3100
15	1320	1028	1028	26	8.5	7.7	348	23.8	3500
SEP	1.450	1000	1000	3.6	10.6	0 6	200	01.6	0.40
13	1450 1520	1028 1028	1028 1028	16 145	10.6 9.4	8.6	392 245	21.6	240 26000
25	15∠0	1078	T078	145	9.4	7.8	245	19.2	26000

### CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ARD UNITS)	(µS/CM)	TEMPER- ATURE WATER (DEG C)	SAMPLE LOC- ATION CROSS SECTION (FT FM L BANK (00009
MAR							
13	1059	0					0
13	1100	.50	13.1	7.5	221	5.6	5
13	1101	.50	13.1	7.5	220	5.6	10
13	1102	.50	13.1		220	5.6	15
13	1103	.50	13.1		219	5.6	20
13	1104	.50	13.1		219	5.6	25
13 13	1105 1106	.50 .50	13.1 13.1	7.5 7.5	219 218	5.6 5.6	30 35
13	1107	.50	13.0		218		40
13	1108	.50	13.0		217	5.6	45
13	1109	.50	13.0	7.5	216	5.6	50
13	1110	.50	13.0	7.5	218	5.6	55
13	1111	.50	12.9	7.5	218	5.6	60
13	1112	.50	12.8	7.5	217	5.6	65
13	1113	0					67
13	1114	0					81
13	1115	.50	12.8		214	5.6	85
13	1116	.50	12.9	7.5	215	5.6	90
13	1117	.50	12.8	7.5	215	5.6	95
13	1118	.50	12.8	7.5	217	5.6	100
13	1119	0					102

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#### BIOLOGICAL DATA BENTHIC MACROINVERTEBRATES

**REMARKS.**--Samples were collected using a Hess sampler with a mesh size of 500  $\mu$ m. Each sample covered a total area of 3.2 m<sup>2</sup>.

Date	10/12/00
Benthic Macroinvertebrate	Count
	Court
Mollusca (GNATIC)	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	-
<u>Ferrissia</u> sp	1
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	4
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	85
Insecta	
<pre>Ephemeroptera (MAYFLIES)</pre>	
Baetidae	
<u>Baetis</u> sp	3
Ephemerellidae	
<u>Serratella</u> sp	4
Heptageniidae	
<u>Stenonema</u> sp	1
Leptohyphidae	
Tricorythodes sp	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	175
Hydropsyche sp	920
Hydroptilidae	
<u>Leucotrichia</u> sp	43
Philopotamidae	13
Chimarra sp	2
Lepidoptera	2
Pyralididae (MOTHS)	
	73
Petrophila sp	/3
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	50
<u>Optioservus</u> sp	70
<u>Oulimnius</u> sp	9
Stenelmis sp	72
Hydrophilidae	
<u>Berosus</u> sp	4
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	12
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	71
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	21
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	43
Total Organisms	1615
	0.1
Total Taxa	21

# 01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT  $25^{\circ}$  CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

			,									
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		0.0000000										
		OCTOBER			NOVEMBER		1	DECEMBER			JANUARY	
1	352	331	343	346	319	336						
2	352	327	340	349	319	335						
3	362	326	342	342	313	330						
4 5	349 230	192 143	330 199	343 344	313 316	331 333						
5	250	113	100	311	310	333						
6	275	229	250	345	314	332						
7	321	274	291	347	318	335						
8 9	330 341	302 313	315 325	354 337	305 316	327 328						
10	337	313	326	338	239	295						
11	347	314	328	328	274	299						
12 13	353 354	318 327	333 340	338 337	308 310	323 325						
14	348	317	337	331	264	306						
15	347	326	339	316	278	296						
16	356	334	345	336	304	319						
17 18	360 335	326 256	341 308	344 342	317 313	332 329						
19	319	279	300	351	316	334						
20	343	314	326	361	320	339						
21	346	323	337	361	311	332						
22 23	344 346	320 326	335 336	339 347	314 319	330 335						
24	347	323	334	344	322	334						
25	352	314	332	346	323	336						
26 27	345 345	316 321	331 335	341 278	207 226	267 257						
28	354	321	340	278	273	285						
29	360	329	345	313	288	301						
30	356	325	342	305	284	295						
31	352	320	333									
MONTH	362	143	324	361	207	319						
MONIA	302	143	324	201	207	319						
D.111			MT337			MERNI	W2.V		MEDAN			MEAN
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
DAY	MAX	MIN <b>FEBRUAR</b>		MAX	MIN MARCH	MEAN	MAX	MIN <b>APRIL</b>	MEAN	MAX	MIN <b>MAY</b>	MEAN
		FEBRUAR	Y		MARCH			APRIL			MAY	
1		FEBRUAR	Y 		MARCH		271	APRIL 243	258	304	<b>MAY</b> 271	293
1 2		FEBRUAR	Y	 310	<b>MARCH</b> 290	 299	271 278	<b>APRIL</b> 243 265	258 270	304 312	<b>MAY</b> 271 289	293 300
1		FEBRUAR	Y 		MARCH		271	APRIL 243	258	304	<b>MAY</b> 271	293
1 2 3		FEBRUAR  	Y  	 310 308	MARCH  290 291	 299 298	271 278 291	243 265 271	258 270 278	304 312 326	<b>MAY</b> 271 289 306	293 300 316
1 2 3 4 5		FEBRUAR	Y	 310 308 408 677	MARCH 290 291 294 352	 299 298 316 496	271 278 291 303 303	243 265 271 278 282	258 270 278 284 290	304 312 326 327 331	271 289 306 307 310	293 300 316 318 319
1 2 3 4 5		FEBRUAR	Y   	310 308 408 677	MARCH 290 291 294 352 342	 299 298 316 496	271 278 291 303 303	243 265 271 278 282 277	258 270 278 284 290	304 312 326 327 331	MAY 271 289 306 307 310	293 300 316 318 319
1 2 3 4 5		FEBRUAR	Y	 310 308 408 677 402 370	MARCH 290 291 294 352 342 328	299 298 316 496 361 345	271 278 291 303 303 298 292	243 265 271 278 282 277 273	258 270 278 284 290 288 282	304 312 326 327 331 328 328	MAY 271 289 306 307 310 304 309	293 300 316 318 319 316 318
1 2 3 4 5 6 7 8 9		FEBRUAR	Y	310 308 408 677 402 370 362 443	MARCH 290 291 294 352 342 328 312 296	 299 298 316 496 361 345 332 325	271 278 291 303 303 298 292 293 285	243 265 271 278 282 277 273 277 268	258 270 278 284 290 288 282 283 276	304 312 326 327 331 328 328 324 326	271 289 306 307 310 304 309 303 309	293 300 316 318 319 316 318 314 319
1 2 3 4 5	==== ==== ====	FEBRUAR	Y	 310 308 408 677 402 370 362	MARCH 290 291 294 352 342 328 312	299 298 316 496 361 345 332	271 278 291 303 303 298 292 293	243 265 271 278 282 277 273 277	258 270 278 284 290 288 282 283	304 312 326 327 331 328 328 324	271 289 306 307 310 304 309 303	293 300 316 318 319 316 318 314
1 2 3 4 5 6 7 8 9		FEBRUAR	Y	310 308 408 677 402 370 362 443 313	290 291 294 352 342 328 312 296 281	299 298 316 496 361 345 332 325 295	271 278 291 303 303 298 292 293 285 277	243 265 271 278 282 277 273 277 268 252	258 270 278 284 290 288 282 283 276 263	304 312 326 327 331 328 328 324 326 326	MAY 271 289 306 307 310 304 309 303 309 303	293 300 316 318 319 316 318 314 319 315
1 2 3 4 5 6 7 8 9		FEBRUAR	Y	310 308 408 677 402 370 362 443	MARCH 290 291 294 352 342 328 312 296	 299 298 316 496 361 345 332 325	271 278 291 303 303 298 292 293 285	243 265 271 278 282 277 273 277 268	258 270 278 284 290 288 282 283 276	304 312 326 327 331 328 328 324 326	MAY  271 289 306 307 310  304 309 303 309 303 306	293 300 316 318 319 316 318 314 319
1 2 3 4 5 6 7 8 9 10		FEBRUAR	Y	310 308 408 677 402 370 362 443 313	MARCH 290 291 294 352 342 328 312 296 281	299 298 316 496 361 345 332 325 295	271 278 291 303 303 298 292 293 285 277	243 265 271 278 282 277 273 277 268 252	258 270 278 284 290 288 282 283 276 263	304 312 326 327 331 328 328 324 326 326	MAY 271 289 306 307 310 304 309 303 309 303	293 300 316 318 319 316 318 314 319 315
1 2 3 4 5 6 7 8 9 10 11 12 13 14		FEBRUAR	Y	 310 308 408 677 402 370 362 443 313 308 371 291	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254	299 298 316 496 361 345 332 325 295 302 297 267 267	271 278 291 303 303 298 292 293 285 277 280 271 291 293	243 265 271 278 282 277 273 277 268 252 257 244 266 276	258 270 278 284 290 288 282 283 276 263 269 258 274 282	304 312 326 327 331 328 328 324 326 326 331 332 331 373	MAY  271 289 306 307 310  304 309 303 309 303 306 310 306 315	293 300 316 318 319 316 318 314 319 315 320 323 320 338
1 2 3 4 5 6 7 8 9 10		FEBRUAR	Y	310 308 408 677 402 370 362 443 313 313 308 371	290 291 294 352 342 328 312 296 281 294 288 210	299 298 316 496 361 345 332 325 295 302 297 267	271 278 291 303 303 298 292 293 285 277 280 271 291	243 265 271 278 282 277 273 277 268 252 257 244 266	258 270 278 284 290 288 282 283 276 263 269 258 274	304 312 326 327 331 328 328 324 326 326 331 332 331	MAY  271 289 306 307 310  304 309 303 309 303 309 303 306 310 306	293 300 316 318 319 316 318 314 319 315 320 323 320
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		FEBRUAR	Y	310 308 408 677 402 370 362 443 313 313 308 371 291 307	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283	299 298 316 496 361 345 332 325 295 302 297 267 267 290	271 278 291 303 303 298 292 293 285 277 280 271 291 293 296	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287	304 312 326 327 331 328 328 324 326 326 326 331 332 331 373 354	MAY  271 289 306 307 310  304 309 303 309 303 306 310 306 315 311	293 300 316 318 319 316 318 314 319 315 320 323 320 338 332
1 2 3 4 5 6 7 8 9 10 11 12 13 14		FEBRUAR	Y	 310 308 408 677 402 370 362 443 313 308 371 291	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254	299 298 316 496 361 345 332 325 295 302 297 267 267	271 278 291 303 303 298 292 293 285 277 280 271 291 293	243 265 271 278 282 277 273 277 268 252 257 244 266 276	258 270 278 284 290 288 282 283 276 263 269 258 274 282	304 312 326 327 331 328 328 324 326 326 331 332 331 373	MAY  271 289 306 307 310  304 309 303 309 303 306 310 306 315	293 300 316 318 319 316 318 314 319 315 320 323 320 338
1 2 3 4 4 5 5 6 7 8 8 9 10 11 12 13 14 15 16 17 18		FEBRUAR	Y	310 308 408 677 402 370 362 443 313 313 308 371 291 307 299 296 301	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283	299 298 316 496 361 345 332 325 295 302 297 267 290 287 278 286	271 278 291 303 303 298 292 293 285 277 280 271 291 293 296	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272	258 270 278 284 290 288 282 283 276 263 269 258 274 287 253 253 258 252	304 312 326 327 331 328 328 324 326 326 331 332 331 373 354	MAY  271 289 306 307 310  304 309 303 309 303 306 315 311  315 324 327	293 300 316 318 319 316 318 314 319 315 320 323 320 338 332 327 338 341
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18		FEBRUAR	Y	 310 308 408 677 402 370 362 443 313 308 371 291 307	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283 250 251 277 293	299 298 316 496 361 345 332 325 295 302 297 267 267 290 287 278 286 298	271 278 291 303 303 298 2992 293 285 277 280 271 291 293 296 274 265 268 273	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 251 240 247	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 258 252 260	304 312 326 327 331 328 328 324 326 326 331 332 331 373 354	MAY  271 289 306 307 310  304 309 303 309 303 306 310 306 315 311  315 324 327 316	293 300 316 318 319 316 318 314 319 315 320 323 320 338 332 327 338 341 328
1 2 3 4 4 5 5 6 7 8 8 9 10 11 12 13 14 15 16 17 18		FEBRUAR	Y	310 308 408 677 402 370 362 443 313 313 308 371 291 307 299 296 301	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283	299 298 316 496 361 345 332 325 295 302 297 267 290 287 278 286	271 278 291 303 303 298 292 293 285 277 280 271 291 293 296	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272	258 270 278 284 290 288 282 283 276 263 269 258 274 287 253 253 258 252	304 312 326 327 331 328 328 324 326 326 331 332 331 373 354	MAY  271 289 306 307 310  304 309 303 309 303 306 315 311  315 324 327	293 300 316 318 319 316 318 314 319 315 320 323 320 338 332 327 338 341
1 2 3 4 4 5 5 6 7 8 8 9 10 11 12 13 14 15 16 17 18 19 20		FEBRUAR	Y	 310 308 408 677 402 370 362 443 313 308 371 291 307	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283 250 251 277 293 288	299 298 316 496 361 345 332 325 295 302 297 267 290 287 278 286 298 298	271 278 291 303 303 298 292 293 285 277 280 271 291 293 296 274 265 268 273 283	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 251 240 247 268	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 252 260 273	304 312 326 327 331 328 328 324 326 326 331 332 331 373 354 339 351 351 341 336	MAY  271 289 306 307 310  304 309 303 309 303 306 310 306 315 311  315 324 327 316	293 300 316 318 319 316 318 314 319 315 320 323 320 338 332 327 338 341 328
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22		FEBRUAR	Y	 310 308 408 677 402 370 362 443 313 313 308 371 291 307 299 301 307 310	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283 250 251 277 293 288	299 298 316 496 361 345 325 295 302 297 267 267 290 287 278 286 298 298	271 278 291 303 303 298 292 293 285 277 280 271 291 293 296 274 265 268 273 283	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 251 240 247 268	258 270 278 284 290 288 282 276 263 269 258 274 282 287 253 258 252 260 273 281 279	304 312 326 327 331 328 328 324 326 326 331 332 331 373 354 339 351 351 341 336	MAY  271 289 306 307 310  304 309 303 309 303 306 310 306 315 311  315 324 327 316 318  224 203	293 300 316 318 319 316 318 319 315 320 323 320 323 322 327 338 341 328 329 291 240
1 2 3 4 4 5 5 6 7 8 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23		FEBRUAR	Y	310 308 408 677 402 370 362 443 313 313 308 371 291 307 299 296 301 307 310 306 268 301	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283 250 251 277 293 288	299 298 316 496 361 345 332 325 295 302 297 267 290 287 278 286 298 298 298 298	271 278 291 303 303 298 292 293 285 277 280 271 291 293 296 274 265 268 273 283	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 251 240 247 268 277 273 277	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 252 260 273 281 279 284	304 312 326 327 331 328 328 324 326 326 331 332 331 373 354 339 351 351 341 336	MAY  271 289 306 307 310  304 309 303 309 303 310 306 315 311  315 324 327 316 318  224 203 220	293 300 316 318 319 316 318 319 315 320 323 320 338 341 328 327 338 341 328 329
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24		FEBRUAR		 310 308 408 677 402 370 362 443 313 313 308 371 291 307 299 296 301 307 310	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283 250 251 277 293 288 192 193 264 297	299 298 316 496 361 345 332 325 295 302 297 267 290 287 278 288 298 298 298 298	271 278 291 303 303 298 2992 293 285 277 280 271 291 293 296 274 265 268 273 283 286 289 290 297	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 251 240 247 268 277 273 277	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 252 260 273 281 279 284 286	304 312 326 327 331 328 328 324 326 326 331 332 331 333 351 351 351 351 36 373 373 373 373 373 373 373 373 373	MAY  271 289 306 307 310  304 309 303 309 303 306 310 316 315 311  315 324 327 316 318  224 203 229 259	293 300 316 318 319 316 318 319 315 320 323 320 338 332 327 338 341 328 329 291 240 242 276
1 2 3 4 4 5 5 6 7 8 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23		FEBRUAR	Y	310 308 408 677 402 370 362 443 313 313 308 371 291 307 299 296 301 307 310 306 268 301	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283 250 251 277 293 288	299 298 316 496 361 345 332 325 295 302 297 267 290 287 278 286 298 298 298 298	271 278 291 303 303 298 292 293 285 277 280 271 291 293 296 274 265 268 273 283	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 251 240 247 268 277 273 277	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 252 260 273 281 279 284	304 312 326 327 331 328 328 324 326 326 331 332 331 373 354 339 351 351 341 336	MAY  271 289 306 307 310  304 309 303 309 303 310 306 315 311  315 324 327 316 318  224 203 220	293 300 316 318 319 316 318 319 315 320 323 320 338 341 328 327 338 341 328 329
1 2 3 4 4 5 6 7 8 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25		FEBRUAR		310 308 408 677 402 370 362 443 313 313 308 371 291 307 299 296 301 307 310 306 268 301 320 324	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283 250 251 277 293 288 192 193 264 297	299 298 316 496 361 345 332 325 295 302 297 267 290 287 278 286 298 298 298 298 264 232 284 306 313	271 278 291 303 303 298 2992 293 285 277 280 271 291 293 296 274 265 268 273 283 286 289 290 297	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 251 240 247 268 277 279 279 279 289	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 252 260 273 281 279 284 286 295	304 312 326 327 331 328 328 324 326 326 331 332 331 373 354 339 351 351 341 336 338 271 267 299 325	MAY  271 289 306 307 310  304 309 303 306 310 306 315 311  315 324 327 316 318  224 203 220 259 299	293 300 316 318 319 316 318 319 315 320 323 327 338 341 328 329 291 240 242 276 313
1 2 3 4 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27		FEBRUAR	Y	310 308 408 677 402 370 362 443 313 313 308 371 291 307 299 296 301 307 310 306 268 301 324 315	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283 250 251 277 293 288 192 193 264 297 301	299 298 316 496 361 345 325 295 302 297 267 267 290 287 278 286 298 298 298 298 264 232 284 313 304 301	271 278 291 303 303 298 292 293 285 277 280 271 291 293 296 274 265 268 273 283 286 289 290 297 300	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 251 240 247 268 272 273 277 240 272 273 277 273 279 279 279 279 279 279 279 279 279 279	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 252 260 273 281 279 284 295 301 301	304 312 326 327 331 328 328 324 326 326 331 332 331 373 354 339 351 351 341 336	MAY  271 289 306 307 310  304 309 303 306 310 306 315 311  315 324 327 316 318  224 203 229 299	293 300 316 318 319 316 318 319 315 320 323 320 328 332 227 338 341 328 329 291 240 242 276 313
1 2 3 4 4 5 6 7 8 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28		FEBRUAR	Y	310 308 408 677 402 370 362 443 313 313 308 371 291 307 299 296 301 307 310 306 268 301 320 324 315 310 307	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283 250 251 277 293 288 192 193 264 297 301 290 292	299 298 316 496 361 345 332 325 295 302 297 267 267 290 287 278 286 298 284 306 313 304 301 298	271 278 291 303 303 298 292 293 285 277 280 271 291 293 296 274 265 268 273 283 286 289 290 297 300	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 251 240 247 268 272 235 277 249 249 279 289	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 252 260 273 281 279 284 286 295	304 312 326 327 331 328 328 324 326 326 331 332 331 351 351 351 351 36 338 271 267 299 325	MAY  271 289 306 307 310  304 309 303 309 303 310 306 315 311  315 324 327 316 318  224 220 259 299 194 143 223	293 300 316 318 319 316 318 319 315 320 323 327 338 341 328 329 291 240 242 276 313 247 201 256
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 27 28 29		FEBRUAR	Y	310 308 408 677 402 370 362 443 313 313 308 371 291 307 310 306 268 301 320 324 315 310 307 308	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283 250 251 277 293 288 192 193 264 297 301	299 298 316 496 361 345 332 325 295 302 297 267 267 290 287 278 286 298 298 298 298 298 301 301 298 301	271 278 291 303 303 298 2992 293 285 277 280 271 291 293 296 274 265 268 273 283 286 289 290 297 300	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 251 247 268 272 272 235 277 240 247 268 277 279 279 289 279 279 289 299 299 299 299 299 299 299 299 29	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 252 260 273 281 279 281 279 281 279 281 279 279 281 279 279 279 279 279 279 279 279 279 279	304 312 326 327 331 328 328 324 326 326 331 332 331 333 351 351 351 351 351 351 351 351	MAY  271 289 306 307 310  304 309 303 309 303 306 310 316 315 311  315 324 327 316 318  224 203 229 194 143 223 275	293 300 316 318 319 316 318 319 315 320 323 320 338 332 327 338 341 328 329 291 240 242 276 313 247 201 256 307
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30		FEBRUAR	Y	310 308 408 677 402 370 362 443 313 313 308 371 291 307 299 296 301 307 310 306 268 301 320 324 315 310 307 308	MARCH  290 291 294 352 342 328 312 296 281  294 288 210 254 283 250 251 277 293 288 192 193 264 297 301 290 292 279 265 159	299 298 316 496 361 345 325 295 302 297 267 290 287 278 286 298 298 298 264 232 284 301 301 298 301 189	271 278 291 303 303 298 292 293 285 277 280 271 291 293 296 274 265 268 273 283 286 289 290 297 300	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 247 247 268 272 273 277 248 272 273 279 289 292 286 292 286 272	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 252 260 273 281 279 284 295 301 301 295 301 301 295 301 301 295 301 301 301 301 301 301 301 301 301 301	304 312 326 327 331 328 328 324 326 326 331 332 331 373 354 339 351 351 351 36 338 271 267 299 325	MAY  271 289 306 307 310  304 309 303 306 310 306 315 311  315 324 327 316 318  224 203 229 299  194 143 223 275 300	293 300 316 318 319 316 318 319 315 320 323 320 328 332 327 338 332 27 338 341 328 329 291 240 242 276 313 247 201 256 307 315
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 27 28 29		FEBRUAR	Y	308 408 677 402 370 362 443 313 313 308 371 291 307 307 310 306 268 301 320 324 315 310 307 308 265 246	MARCH 290 291 294 352 342 328 312 296 281 294 288 210 254 283 250 251 277 293 288 192 193 264 297 301	299 298 316 496 361 345 332 325 295 302 297 267 267 290 287 278 286 298 298 298 298 298 301 301 298 301	271 278 291 303 303 298 2992 293 285 277 280 271 291 293 296 274 265 268 273 283 286 289 290 297 300	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 251 247 268 272 272 235 277 240 247 268 277 279 279 289 279 279 289 299 299 299 299 299 299 299 299 29	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 252 260 273 281 279 281 279 281 279 281 279 279 281 279 279 279 279 279 279 279 279 279 279	304 312 326 327 331 328 328 324 326 326 331 332 331 333 351 351 351 351 351 351 351 351	MAY  271 289 306 307 310  304 309 303 309 303 306 310 316 315 311  315 324 327 316 318  224 203 229 194 143 223 275	293 300 316 318 319 316 318 319 315 320 323 320 338 332 327 338 341 328 329 291 240 242 276 313 247 201 256 307
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30		FEBRUAR	Y	310 308 408 677 402 370 362 443 313 313 308 371 291 307 299 296 301 307 310 306 268 301 320 324 315 310 307 308	MARCH  290 291 294 352 342 328 312 296 281  294 288 210 254 283 250 251 277 293 288 192 193 264 297 301 290 292 279 265 159	299 298 316 496 361 345 325 295 302 297 267 290 287 278 286 298 298 298 264 232 284 301 301 298 301 189	271 278 291 303 303 298 292 293 285 277 280 271 291 293 296 274 265 268 273 283 286 289 290 297 300	243 265 271 278 282 277 273 277 268 252 257 244 266 276 272 235 247 247 268 272 273 277 248 272 273 279 289 292 286 292 286 272	258 270 278 284 290 288 282 283 276 263 269 258 274 282 287 253 258 252 260 273 281 279 284 295 301 301 295 301 301 295 301 301 295 301 301 301 301 301 301 301 301 301 301	304 312 326 327 331 328 328 324 326 326 331 332 331 373 354 339 351 351 351 36 338 271 267 299 325	MAY  271 289 306 307 310  304 309 303 306 310 306 315 311  315 324 327 316 318  224 203 229 299  194 143 223 275 300	293 300 316 318 319 316 318 319 315 320 323 320 328 332 327 338 332 27 338 341 328 329 291 240 242 276 313 247 201 256 307 315

#### 01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT  $25^{\circ}$  CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST		s	EPTEMBE	R
1 2 3 4 5	330 292 303 310 323	245 258 283 292 299	316 271 293 302 312	363 371 367 374 355	341 333 329 336 281	352 351 352 354 339	403 404 410 416 378	368 375 395 133 258	390 391 401 345 325	414 395 356 359 329	304 327 230 149 226	369 353 327 305 289
6 7 8 9 10	334 336 338 	309 310 315 	321 322 328 	361 370 367 365 359	286 331 343 346 249	344 353 357 355 329	388 406 423 429 416	371 375 404 388 255	381 390 413 410 377	 412 426 428	 382 396 321	 402 414 407
11 12 13 14 15	 353 359 357	 325 340 334	 341 351 347	336 344 353 372 380	257 312 327 337 348	298 331 343 355 366	358 365 254 335 368	190 187 157 254 334	310 311 198 298 350	402 413 424 419 413	321 394 383 307 390	381 405 404 379 403
16 17 18 19 20	355 302 332 338 342	215 259 295 318 318	304 288 313 330 331	398 398 390 365 376	361 363 285 314 346	379 379 363 348 363	381 394 399 397 383	359 366 367 372 237	373 380 384 382 333	423 430 427 408 421	392 395 394 374 221	407 415 409 398 344
21 22 23 24 25	354 356 349 302 326	329 330 132 230 298	345 344 216 267 311	382 380 387 395 392	350 351 352 356 352	370 370 372 378 374	360 376 381 367 386	337 346 332 305 331	346 361 360 350 363	326 394 406 412 283	143 326 376 142 142	270 358 393 389 230
26 27 28 29 30 31	343 355 360 360 365	312 326 336 338 336 	329 340 349 351 353	402 392 402 422 410 401	340 370 377 390 363 372	372 382 392 404 385 389	390 400 406 405 395 415	351 358 355 303 296 358	378 383 383 366 365 391	365 382 391 399 434	283 358 366 364 376	326 371 383 384 401
MONTH	365	132	318	422	249	361	429	133	361	434	142	368

### 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		N	OVEMBER	R	:	DECEMBE	R		JANUAR	Y
1 2 3 4 5	8.5 8.7 8.9 9.0 7.6	7.6 7.6 7.5 7.5 7.2	7.8 7.9 8.1 7.9 7.4	8.8 8.7 8.8 8.9 8.7	7.5 7.4 7.4 7.4 7.4	7.9 7.9 8.0 8.1			  		  	  
6 7 8 9 10	7.6 7.8 8.0 8.0	7.4 7.4 7.5 7.5 7.6	7.4 7.6 7.7 7.7	8.7 8.8 8.8 8.5 7.9	7.4 7.4 7.4 7.3 7.3	7.9 7.9 7.9 7.7 7.4	  		  	  		  
11 12 13 14 15	8.1 8.6 8.8 8.9	7.5 7.5 7.6 7.6 7.5	7.7 7.7 8.0 8.2 8.2	8.4 8.6 8.7 7.7 8.5	7.4 7.5 7.5 7.5 7.5	7.6 7.8 7.8 7.5 7.7			  			  
16 17 18 19 20	8.6 8.2 7.8 8.4 8.6	7.5 7.5 7.5 7.5 7.5	7.9 7.7 7.5 7.7	8.6 8.6 8.7 8.6 8.6	7.5 7.5 7.5 7.5 7.5	7.8 7.8 7.8 7.8 7.8	  	  	  	  		  
21 22 23 24 25	8.6 8.5 8.6 8.8	7.5 7.4 7.4 7.5 7.5	7.8 7.8 7.9 8.0 7.8	8.7 8.5 8.4 8.5 8.3	7.5 7.5 7.5 7.5 7.5	7.9 7.8 7.7 7.8 7.7	  	  	  	  		  
26 27 28 29 30 31	8.8 9.0 8.8 8.8 8.8	7.4 7.4 7.5 7.5 7.5	7.9 8.0 8.0 8.0 7.9 8.0	7.6 7.5 7.7 7.9 7.8	7.3 7.2 7.3 7.4 7.3	7.4 7.3 7.5 7.5 7.5	   	  	   	   		  
MAX MIN	9.0 7.6	7.6 7.2	8.2 7.4	8.9 7.5	7.5 7.2	8.1 7.3						

# 01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, 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
	1	FEBRUAR	Y		MARCH			APRIL			MAY	
1 2 3 4	  		  	9.1 9.3 8.6	7.6 7.6 7.6	8.0 8.1 7.8	8.1 8.3 8.7 8.8	7.5 7.5 7.5 7.5	7.6 7.6 7.7 7.8	8.8 8.7 8.5 8.3	7.4 7.4 7.3 7.3	7.8 7.7 7.6 7.5
5 6 7				9.2 9.2 9.3	7.7 7.7 7.7	7.9 8.0 8.0	8.9 8.6 8.8	7.5 7.5 7.5	7.8 7.7 7.7	8.1 8.2 8.2	7.3 7.4 7.4	7.5 7.6 7.6
8 9 10				9.1 9.1 9.2	7.6 7.6 7.6	7.9 7.9 8.0	9.0 9.1 9.1	7.5 7.5 7.4	7.8 7.9 7.9	8.4 8.4 8.4	7.4 7.5 7.4	7.7 7.6 7.7
11 12 13 14 15	  			9.3 9.3 7.9 8.6 8.7	7.6 7.6 7.6 7.6 7.6	8.1 8.2 7.7 7.8 7.8	8.1 8.7 9.0 9.0 9.1	7.5 7.5 7.5 7.5 7.5	7.6 7.7 7.8 8.0 7.9	8.4 8.3 8.4 8.5	7.4 7.3 7.4 7.5	7.6 7.6 7.7 7.7 7.8
16 17 18 19 20	  	  	  	8.8 8.0 8.9 9.0 9.1	7.6 7.6 7.6 7.6 7.6	7.8 7.7 7.9 8.0 8.1	8.7 9.0 9.0 9.1 9.2	7.5 7.5 7.6 7.6 7.5	7.6 7.9 7.8 8.0 8.0	8.6 8.4 8.1 8.5 8.1	7.4 7.4 7.5 7.5 7.4	7.8 7.8 7.6 7.7 7.6
21 22 23 24 25		  		8.1 7.7 8.4 8.4 8.7	7.6 7.6 7.6 7.6 7.6	7.7 7.6 7.7 7.8 7.9	9.1 9.3 9.1 9.0 9.2	7.5 7.4 7.4 7.3 7.4	7.9 8.4 8.2 7.9 8.1	7.6 7.5 7.8 7.9 7.9	7.4 7.2 7.2 7.4 7.4	7.5 7.3 7.3 7.6 7.6
26 27 28 29 30 31	  		  	8.9 9.0 9.0 8.9 7.8 7.8	7.6 7.6 7.6 7.6 7.5 7.5	7.9 8.0 8.0 7.8 7.5	9.1 9.1 9.1 9.0 8.9	7.5 7.5 7.5 7.5 7.5	8.2 8.2 8.2 8.1 7.9	7.6 7.5 7.6 7.7 7.8 8.1	7.4 7.3 7.4 7.5 7.5	7.5 7.4 7.5 7.6 7.6 7.7
MAX MIN				9.3 7.7	7.7 7.5	8.2 7.5	9.3 8.1	7.6 7.3	8.4 7.6	8.8	7.5 7.2	7.8 7.3
DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
DAY	MAX	MIN <b>JUNE</b>	MEDIAN	MAX	MIN JULY	MEDIAN	MAX	MIN AUGUST		MAX	MIN SEPTEMB	
DAY  1 2 3 4 5	MAX 8.0 7.8 8.0 8.1 8.2		7.8 7.6 7.7 7.7	MAX 8.9 8.9 9.0 8.9 8.7		MEDIAN  8.3 8.3 8.5 8.3 8.1	MAX 8.4 8.3 8.5 8.3 7.7			MAX 8.7 8.7 8.8 8.7 8.2		
1 2 3 4	8.0 7.8 8.0 8.1	7.6 7.6 7.6 7.6 7.6	7.8 7.6 7.7 7.7	8.9 8.9 9.0 8.9	7.4 7.4 7.6 7.6	8.3 8.3 8.5 8.3	8.4 8.3 8.5 8.3	7.5 7.5 7.4 7.2	7.9 7.9 8.1 7.5	8.7 8.7 8.8 8.7	7.3 7.5 7.6 7.5	8.4 8.5 8.5 8.0
1 2 3 4 5 6 7 8 9	8.0 7.8 8.0 8.1 8.2 8.1 8.3	7.6 7.6 7.6 7.6 7.5 7.5 7.5	7.8 7.6 7.7 7.7 7.7 7.7 7.8 7.8	8.9 9.0 8.9 8.7 8.6 8.6 8.4	7.4 7.4 7.6 7.6 7.5 7.4 7.5	8.3 8.3 8.5 8.3 8.1 8.1 7.9	8.4 8.3 8.5 8.3 7.7 8.0 8.1 8.4	7.5 7.5 7.4 7.2 7.2 7.3 7.3 7.3	7.9 7.9 8.1 7.5 7.4 7.5 7.7 8.0	8.7 8.7 8.8 8.7 8.2 8.4 8.5 8.5	7.3 7.5 7.6 7.5 7.5 7.6 7.6 7.6 7.6	8.4 8.5 8.5 8.0 7.8 8.0 8.1 8.2 8.3
1 2 3 4 5 6 7 8 9 10 11 12 13 14	8.0 7.8 8.0 8.1 8.2 8.1 8.3 8.2  8.0 7.9	7.6 7.6 7.6 7.5 7.5 7.5 7.6 7.6 7.6 7.7	7.8 7.6 7.7 7.7 7.7 7.8 7.8 	8.9 8.9 9.0 8.7 8.6 8.4 8.5 8.3	7.4 7.4 7.6 7.6 7.5 7.4 7.5 7.3 7.3 7.4 7.4	8.3 8.3 8.5 8.3 8.1 8.1 7.9 7.5 7.7 7.9 8.0	8.4 8.3 8.5 8.3 7.7 8.0 8.1 8.4 8.3 7.4 7.9 7.2	7.5 7.5 7.5 7.2 7.2 7.3 7.3 7.2 7.2 7.2 7.1	7.9 7.9 8.1 7.5 7.4 7.5 7.7 8.0 7.5 7.5 7.3 7.5	8.7 8.8 8.7 8.2 8.4 8.5 8.5 8.3 8.3 8.4 8.5	7.3 7.5 7.6 7.5 7.5 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.7	8.4 8.5 8.5 8.0 7.8 8.0 8.1 8.2 8.3 7.9
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	8.0 7.8 8.0 8.1 8.2 8.1 8.3 8.2  8.0 7.9 7.8 7.6 7.6 7.7	7.6 7.6 7.6 7.5 7.5 7.5 7.6 7.6 7.6 7.4 7.4 7.4 7.3 7.3 7.3	7.8 7.6 7.7 7.7 7.7 7.8 7.8   7.5 7.5 7.5 7.5 7.5	8.9 8.9 8.7 8.6 8.4 8.5 8.3 8.4 8.4 8.5 8.7 8.7 8.5	7.4 7.4 7.6 7.6 7.5 7.4 7.5 7.3 7.4 7.4 7.4 7.4 7.3 7.4	8.3 8.3 8.5 8.3 8.1 8.1 7.9 7.5 7.7 7.9 8.0 8.0 8.0 8.0	8.4 8.3 8.5 8.3 7.7 8.0 8.1 8.4 8.3 7.4 7.9 7.2 7.4 8.1	7.5 7.5 7.5 7.2 7.2 7.3 7.3 7.2 7.2 7.2 7.1 7.2 7.4 7.5 7.5	7.9 7.9 8.1 7.5 7.4 7.5 7.7 8.0 7.5 7.3 7.5 7.1 7.3 7.5 7.9 7.9 8.2 8.1	8.7 8.7 8.8 8.7 8.2 8.4 8.5 8.3 8.3 8.4 8.5 8.3 8.4 8.5 8.6	7.3 7.5 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6	8.4 8.5 8.5 8.0 7.8 8.0 8.1 8.2 8.3 7.9 7.9 8.1 8.2 8.2 8.2 8.2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	8.0 7.8 8.0 8.1 8.2 8.1 8.3 8.2  8.0 7.9 7.8 7.6 7.6 7.7 7.9	7.6 7.6 7.6 7.5 7.5 7.5 7.4 7.4 7.4 7.3 7.3 7.3 7.3 7.3 7.3 7.3	7.8 7.6 7.7 7.7 7.7 7.8 7.8  7.5 7.5 7.5 7.5 7.6 7.6 7.6 7.6	8.9 8.9 8.9 8.6 8.6 8.4 8.5 8.3 8.4 8.4 8.5 8.7 8.2 8.5 8.4 8.5 8.5 8.6	7.4 7.4 7.6 7.6 7.5 7.4 7.5 7.3 7.4 7.4 7.4 7.3 7.4 7.4 7.3 7.4 7.4 7.3 7.4 7.3	8.3 8.3 8.5 8.3 8.1 8.1 7.9 7.5 7.7 7.9 8.0 8.0 8.0 8.0 8.2 7.6 7.8 7.9 7.9	8.4 8.3 8.5 8.3 7.7 8.0 8.1 8.4 8.3 7.4 7.9 7.2 7.4 8.1 8.5 8.5 8.7 8.5 8.7 8.7 8.8	7.5 7.5 7.4 7.2 7.3 7.3 7.2 7.2 7.3 7.2 7.2 7.1 7.1 7.5 7.5 7.4 7.5 7.5	7.9 7.9 7.9 8.1 7.5 7.4 7.5 7.7 8.0 7.5 7.3 7.5 7.3 7.5 7.9 7.9 8.1 8.0 8.1 8.0 8.1 8.1 8.1 8.1 8.1 8.1 8.1 8.1 8.1 8.1	8.7 8.7 8.8 8.7 8.2 8.4 8.5 8.3 8.3 8.4 8.4 8.5 8.6 8.6 8.6 8.6 8.1	7.3 7.5 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6	8.4 8.5 8.0 7.8 8.0 8.1 8.2 8.3 7.9 7.9 8.1 8.2 8.2 8.2 8.2 8.3 7.7

# 01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, 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 2	16.5 17.0	12.5 13.5	14.5 15.0	11.0 11.0	9.0 8.5	10.0 10.0						
3 4	18.5 19.0	14.5 15.5	16.0 17.5	12.0 13.0	9.0 11.0	10.5 11.5						
5	17.5	17.0	17.0	12.0	9.5	11.0						
6	19.0	17.0	17.5	10.0	8.5	9.5						
7 8	17.5 14.5	14.5 11.5	16.0 13.0	10.0 11.5	8.0 9.0	9.0 10.5						
9 10	11.5 11.0	10.0 9.5	11.0 10.0	12.5 13.5	11.0 12.0	12.0 13.0						
11	13.0	9.5	11.0	12.5	11.0	12.0						
12 13	14.0 14.5	10.5 11.0	12.0 12.5	11.5 11.5	10.0 10.0	11.0 11.0						
14	15.5	12.0	13.5	11.0	9.0	10.5						
15	16.0	13.0	14.5	9.0	7.5	8.0						
16 17	15.0 15.0	14.0 14.5	14.5 14.5	8.0 9.0	6.5 7.5	7.5 8.0						
18	15.5	14.5	14.5	8.0	6.0	7.0						
19 20	15.0 14.5	13.0 11.5	14.0 13.0	7.0 6.0	5.5 4.0	6.0 5.0						
21	15.5	12.0	13.5	5.0	3.5	4.5						
22 23	15.0 13.5	13.0 10.5	13.5 12.0	4.0 4.0	2.5 2.0	3.5 3.0						
24 25	13.5 15.5	11.0 12.0	12.0 13.5	4.0	2.0	3.0						
26	15.0	13.5	14.0	7.5	4.0	6.5						
27	15.5	13.0	14.5	8.0	5.5	7.0						
28 29	14.5 12.0	12.0 9.5	14.0 10.5	9.0 8.0	7.0 6.0	8.0 7.0						
30 31	10.5 11.0	8.5 8.5	9.5 9.5	7.5	6.5	7.0						
MONTH	19.0	8.5	13.5	13.5	2.0	8.2						
11011111	10.0	0.5	13.3	13.3	2.0	0.2						
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
DAY		MIN <b>FEBRUARY</b>		MAX	MIN MARCH	MEAN	MAX	MIN <b>APRIL</b>	MEAN	MAX	MIN <b>MAY</b>	MEAN
1		FEBRUARY			MARCH		8.5	APRIL 6.5	7.5	19.0	<b>MAY</b> 13.5	16.5
1 2		FEBRUARY		 7.0	<b>MARCH</b> 4.5	 5.5	8.5 9.0	<b>APRIL</b> 6.5 7.5	7.5 8.0	19.0 20.5	MAY 13.5 15.0	16.5 18.0
1 2 3 4	  	FEBRUARY	  	 7.0 8.0 7.0	MARCH  4.5 6.0 3.5	 5.5 7.0 5.5	8.5 9.0 11.0 12.5	APRIL 6.5 7.5 6.5 8.5	7.5 8.0 8.5 10.5	19.0 20.5 21.5 22.0	MAY 13.5 15.0 16.5 17.5	16.5 18.0 19.0 20.0
1 2 3 4 5		FEBRUARY		7.0 8.0 7.0 4.5	MARCH 4.5 6.0 3.5 3.0	5.5 7.0 5.5 3.5	8.5 9.0 11.0 12.5 12.5	APRIL 6.5 7.5 6.5 8.5 7.5	7.5 8.0 8.5 10.5	19.0 20.5 21.5 22.0 21.0	MAY 13.5 15.0 16.5 17.5 18.0	16.5 18.0 19.0 20.0 20.0
1 2 3 4 5		FEBRUARY		7.0 8.0 7.0 4.5	MARCH 4.5 6.0 3.5 3.0 2.0 3.0	5.5 7.0 5.5 3.5 3.5	8.5 9.0 11.0 12.5 12.5	APRIL 6.5 7.5 6.5 8.5 7.5 9.5 10.0	7.5 8.0 8.5 10.5 10.5	19.0 20.5 21.5 22.0 21.0	MAY 13.5 15.0 16.5 17.5 18.0 15.0 13.5	16.5 18.0 19.0 20.0 20.0
1 2 3 4 5 6 7 8 9		FEBRUARY	    	7.0 8.0 7.0 4.5 4.5 7.0 6.5	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5	5.5 7.0 5.5 3.5 3.5 5.0 5.0	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0	6.5 7.5 6.5 8.5 7.5 9.5 10.0 9.0	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.0	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 15.5
1 2 3 4 5 6 7 8 9		FEBRUARY	    	7.0 8.0 7.0 4.5 4.5 7.0 6.5 6.5	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5 3.5	5.5 7.0 5.5 3.5 3.5 5.0 5.0 5.5	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0	6.5 7.5 6.5 8.5 7.5 9.5 10.0 9.0 9.0	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0 14.0	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 13.5 14.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0
1 2 3 4 5 6 7 8 9		FEBRUARY	    	7.0 8.0 7.0 4.5 4.5 7.0 6.5	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5	5.5 7.0 5.5 3.5 3.5 5.0 5.0	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0	6.5 7.5 6.5 8.5 7.5 9.5 10.0 9.0	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.0	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 15.5
1 2 3 4 5 6 7 8 9 10		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 6.5 7.0	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5 3.5 4.5 5.5	5.5 7.0 5.5 3.5 3.5 5.0 5.0 5.5 5.0	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5	APRIL 6.5 7.5 6.5 8.5 7.5 9.5 10.0 9.0 9.0 12.5 11.5 11.5 11.5	7.5 8.0 8.5 10.5 10.5 10.5 12.0 14.0 12.0 11.5 13.5	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.0 18.5 19.5	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 13.5 14.5 15.0  16.0 17.0 15.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 15.5 16.5 17.0
1 2 3 4 5 6 7 8 9 10		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 7.0	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5 3.5	5.5 7.0 5.5 3.5 3.5 5.0 5.0 5.5 5.0	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5	6.5 7.5 6.5 8.5 7.5 9.5 10.0 9.0 9.0 12.5	7.5 8.0 8.5 10.5 10.5 10.5 12.0 14.0	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.0 18.5 19.5	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5 14.5 15.0  16.0 17.0	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 6.5 7.0 7.0 8.0 7.0	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5 3.5 4.5 5.5 5.0 6.5	5.5 7.0 5.5 3.5 3.5 5.0 5.5 5.0 6.5 6.0 7.5	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5 12.5 16.0 15.5	APRIL 6.5 7.5 6.5 8.5 7.5 9.5 10.0 9.0 9.0 12.5 11.5 11.5 11.5 11.5	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0 14.0 11.5 13.5 13.5	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5 21.0 20.5 19.5 18.0 18.5	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5 15.0  16.0 17.0 15.5 14.0 13.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0 18.5 19.0 17.5 16.0 15.5
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 7.0 7.0 7.0 7.5 7.0	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5 3.5 4.0 5.5 5.0 6.5 7.0	5.5 7.0 5.5 3.5 3.5 5.0 5.5 5.0 5.5 6.0 7.0	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5	APRIL 6.5 7.5 6.5 8.5 7.5 9.5 10.0 9.0 12.5 11.5 11.5 11.5 11.5 11.5	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0 14.0 12.0 11.5 13.5 13.5 13.5	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5 21.0 20.5 19.5 18.0 18.5	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5 14.5 15.0  16.0 17.0 15.5 14.0 13.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0 18.5 19.0 17.5 16.0 15.5
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 7.0 7.0 8.0 7.5 7.0	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5 3.5 4.5 5.5 5.0 6.5 7.0 5.5 5.0	5.5 7.0 5.5 3.5 3.5 5.0 5.5 5.0 6.5 6.5 6.0 7.0 7.0	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5	APRIL 6.5 7.5 8.5 7.5 9.5 10.0 9.0 9.0 12.5 11.5 11.5 11.5 11.5 11.7 9.5 8.0 7.0	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0 14.0 11.5 13.5 13.5 13.5 10.0	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5 21.0 20.5 19.5 18.0 18.5	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5 15.0  16.0 17.0 15.5 14.0 13.5 14.5 14.0 14.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0 18.5 19.0 17.5 16.0 15.5
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 7.0 7.0 7.0 7.0 8.5 7.0 8.5 7.0	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5 3.5 4.0 5.5 5.5 5.0 6.5 7.0 5.5 5.0	5.5 7.0 5.5 3.5 3.5 5.0 5.0 5.5 5.0 6.5 6.5 6.0 7.0 7.0 7.5	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5 13.5 12.5 16.0 15.5 11.5 11.5 11.5	APRIL 6.5 7.5 6.5 8.5 7.5 9.5 10.0 9.0 12.5 11.5 11.5 11.5 11.5 11.5 11.5 8.0 7.0 8.5	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0 14.0 12.0 11.5 13.5 13.5 13.5 10.0 10.0	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5 21.0 20.5 19.5 18.5 18.0 16.0 15.0 19.0	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 13.5 14.5 15.0  16.0 17.0 15.5 14.0 13.5 14.5 14.5 15.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0 18.5 19.0 17.5 16.0 15.5
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 7.0 7.0 8.0 7.5 7.0	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5 3.5 4.5 5.5 5.0 6.5 7.0 5.5 5.0	5.5 7.0 5.5 3.5 3.5 5.0 5.5 5.0 6.5 6.5 6.0 7.0 7.0	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5	APRIL 6.5 7.5 8.5 7.5 9.5 10.0 9.0 9.0 12.5 11.5 11.5 11.5 11.5 11.7 9.5 8.0 7.0	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0 14.0 11.5 13.5 13.5 13.5 10.0	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5 21.0 20.5 19.5 18.0 18.5	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5 15.0  16.0 17.0 15.5 14.0 13.5 14.5 14.0 14.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0 18.5 19.0 17.5 16.0 15.5
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 7.0 7.0 7.0 7.5 7.0 8.5 7.0 9.0 9.0 9.0 8.0	MARCH 4.5 6.0 3.5 3.0 2.0 3.5 4.5 3.5 4.0 5.5 5.0 6.5 6.5 6.0 5.5	5.5 7.0 5.5 3.5 3.5 5.0 5.0 5.5 5.0 6.5 6.0 7.0 7.0 7.0 7.5	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5 13.5 12.5 16.0 15.5 11.5 11.5 12.5 16.0 15.5	APRIL  6.5 7.5 6.5 8.5 7.5  9.5 10.0 9.0 12.5  11.5 11.5 11.5 11.5 11.5 11.5 11.	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0 14.0 12.0 11.5 13.5 13.5 10.5 10.0 10.5	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5 21.0 20.5 19.5 18.0 16.0 15.0 19.0 17.5	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5 14.5 15.0  16.0 17.0 15.5 14.0 13.5 14.5 14.0 14.5 15.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0 18.5 19.0 17.5 16.5 15.5 16.0 14.5 16.5
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 7.0 7.0 8.0 7.0 7.0 8.5 7.0 9.0 8.5	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5 3.5 4.0 5.5 5.0 6.5 7.0 5.5 6.0	5.5 7.0 5.5 3.5 3.5 5.0 5.5 5.0 5.5 6.0 7.0 7.0 7.0 7.0	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5 12.5 16.0 15.5 12.5 12.5 11.5 12.5 11.5	APRIL 6.5 7.5 6.5 8.5 7.5 9.5 10.0 9.0 12.5 11.5 11.5 11.5 11.5 11.0 9.5 8.0 7.0 8.5	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0 14.0 12.0 11.5 13.5 13.5 10.0 10.5 10.5	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5 21.0 20.5 19.5 18.0 16.0 15.0 19.0 17.5	13.5 15.0 16.5 17.5 18.0 15.0 13.5 13.5 14.5 15.0 16.0 17.0 15.5 14.0 13.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0 18.5 19.0 17.5 16.0 14.5 16.0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 7.0 7.0 7.5 7.0 8.5 7.5 9.0 8.5 8.0 8.0 8.0	MARCH 4.5 6.0 3.5 3.0 2.0 3.0 3.5 4.5 3.5 4.5 5.5 5.0 6.5 6.0 5.5 6.0 4.5 5.5	5.5 7.0 5.5 3.5 5.0 5.5 5.0 5.5 6.5 6.5 7.0 7.0 7.5 7.0 7.5 7.0 7.0 7.0	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5 12.5 12.5 12.5 12.5 12.5 11.5 12.5 11.5 12.5 11.5	APRIL  6.5 7.5 8.5 7.5  9.5 10.0 9.0 9.0 12.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0 14.0 11.5 13.5 13.5 10.0 10.0 10.0 10.0 10.5	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5 21.0 20.5 19.5 19.5 18.0 16.0 15.0 15.0 17.5	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5 14.5 15.0  16.0 17.0 13.5 14.5 14.0 14.5 15.5 14.0 14.0 15.5 14.0 15.5 14.0 15.5	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0 18.5 19.0 17.5 16.0 15.5 15.0 14.5 16.0 14.5 16.0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 5 7.0 7.0 7.0 7.0 7.0 9.0 9.0 9.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	MARCH	5.5 7.0 5.5 3.5 5.0 5.5 5.0 5.5 6.0 7.0 7.0 7.5 7.0 7.5 7.0 6.5 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5 12.5 16.0 15.5 12.5 11.5 12.5 16.0 15.5 17.0	APRIL  6.5 7.5 6.5 8.5 7.5 9.5 10.0 9.0 12.5 11.5 11.5 11.5 11.0 9.5 8.0 7.0 8.5 11.0 12.5 11.0 13.5	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0 14.0 12.0 11.5 13.5 13.5 10.0 10.5 10.0 10.5 12.5 13.5 13.5	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5 21.0 20.5 18.5 19.5 18.0 15.0 15.0 17.5 17.0 19.0 20.5 19.0 17.5 19.0	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5 14.5 14.0 13.5 14.0 14.5 14.0 17.0 16.0 17.0 17.0 18.5 18.0 18.5 18.0 19.5 19.5 19.5 19.6 19.6 19.6 19.6 19.6 19.6 19.6 19.6	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0 18.5 16.0 17.5 16.0 14.5 16.0 14.5 16.0 18.0 18.0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 7.0 7.5 7.5 9.0 8.5 7.5 8.0 8.0 8.0 8.5 8.0 8.0 8.5 8.0 8.5 8.0 8.5 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	MARCH 4.5 6.0 3.5 3.0 2.0 3.05 4.5 3.5 4.5 5.5 5.0 6.5 6.0 5.5 6.0 4.5 5.5 6.0 4.5	5.5 7.0 5.5 3.5 5.0 5.5 5.0 6.5 6.5 7.0 7.0 7.0 7.0 7.0 7.0 7.0 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5 12.5 12.5 12.5 11.5 12.5 11.5 12.5 11.5 12.5 11.5 12.5 11.5	APRIL  6.5 7.5 8.5 7.5 9.5 10.0 9.0 9.0 12.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5	7.5 8.0 8.5 10.5 10.5 10.5 12.0 14.0 12.0 11.5 13.5 13.5 13.5 10.0 10.0 10.0 10.5 12.5 14.0 14.0	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5 21.0 20.5 19.5 19.5 18.0 16.0 15.0 17.5 17.0 19.0 17.5 17.0 19.0	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5 14.5 15.0  16.0 17.0 13.5 14.0 14.5 14.5 15.5 14.0 14.0 15.5 14.0 17.0 15.5 14.0 16.0 17.0	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0 18.5 19.0 17.5 16.0 15.5 16.0 14.5 16.5 17.0 18.5 16.5 17.0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28		FEBRUARY		7.0 8.0 7.0 4.5 4.5 7.0 6.5 5 7.0 7.0 7.0 7.0 7.0 9.0 9.0 9.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 10.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	MARCH	5.5 7.0 5.5 3.5 5.0 5.5 5.0 5.5 6.0 7.0 7.0 7.5 7.0 7.5 7.0 6.5 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0	8.5 9.0 11.0 12.5 12.5 11.5 11.0 10.5 16.0 15.5 12.5 16.0 15.5 12.5 11.5 12.5 16.0 15.5 17.0	APRIL  6.5 7.5 6.5 8.5 7.5 9.5 10.0 9.0 12.5 11.5 11.5 11.5 11.0 9.5 8.0 7.0 8.5 11.0 12.5 11.0 13.5	7.5 8.0 8.5 10.5 10.5 10.0 10.5 9.5 12.0 14.0 12.0 11.5 13.5 13.5 10.0 10.5 10.0 10.5 12.5 13.5 13.5	19.0 20.5 21.5 22.0 21.0 19.0 18.0 18.5 19.5 21.0 20.5 18.5 19.5 18.0 15.0 15.0 17.5 17.0 19.0 20.5 19.0 17.5 19.0	MAY  13.5 15.0 16.5 17.5 18.0  15.0 13.5 14.5 14.5 14.0 13.5 14.0 14.5 14.0 17.0 16.0 17.0 17.0 18.5 18.0 18.5 18.0 19.5 19.5 19.5 19.6 19.6 19.6 19.6 19.6 19.6 19.6 19.6	16.5 18.0 19.0 20.0 20.0 17.0 15.5 16.5 17.0 18.5 19.0 17.5 16.0 14.5 16.0 14.5 16.5 17.0

### 01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, 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		S	EPTEMBER	
1 2 3 4 5	16.0 17.5 18.5 19.5 21.0	14.0 14.0 16.0 15.0 16.5	14.5 15.5 17.0 17.0 18.5	26.0 23.5 22.0 22.5 23.0	22.5 19.5 18.0 19.5 20.0	24.0 21.5 20.0 20.5 21.5	25.0 25.5 25.5 24.5 26.0	20.0 20.0 21.0 22.0 21.5	22.5 23.0 23.5 23.5 23.5	24.5 23.0 22.0 24.0 22.5	22.5 19.5 18.0 19.5 20.0	23.5 21.5 20.5 21.5 21.5
6 7 8 9 10	19.0 20.5 21.0 	17.5 17.0 16.5 	18.5 18.5 18.5 	23.5 23.5 22.0 25.5 24.5	19.0 18.0 20.0 20.0 21.0	21.0 21.0 21.0 22.5 23.0	27.0 28.0 28.5 28.5 28.0	23.0 23.5 24.0 24.0 25.0	25.0 26.0 26.5 26.5 26.5	22.0 22.5 23.0 24.0 23.5	18.0 18.0 19.0 20.0 21.5	20.5 20.5 21.0 22.0 22.5
11 12 13 14 15	25.0 23.5 24.0	20.0 21.0 20.5	22.5 22.0 22.0	25.0 24.0 23.0 23.5 24.0	20.5 20.0 19.0 19.0 19.0	22.5 22.0 21.0 21.0 21.5	26.0 24.5 24.5 25.5 26.0	22.5 22.5 22.5 22.0 22.0	24.0 23.0 23.0 23.5 23.5	23.0 22.0 22.0 21.5 18.5	20.5 18.5 18.0 17.5 15.5	22.0 20.5 20.5 19.0 17.5
16 17 18 19 20	23.0 24.0 24.5 25.0 25.5	21.0 19.5 19.5 19.5 20.5	21.5 21.5 22.0 22.5 23.0	24.5 25.5 24.0 24.5 24.5	20.0 21.0 21.5 20.5 20.0	22.5 23.0 22.5 22.5 22.5	25.5 25.0 24.5 23.0 25.5	21.5 22.5 21.5 21.5 21.5	23.5 23.5 23.0 22.0 23.0	19.0 19.5 19.0 19.5 20.0	15.0 15.5 16.0 16.0 18.5	17.0 17.5 17.5 18.0 19.0
21 22 23 24 25	24.5 24.0 23.0 22.5 24.0	21.0 21.5 20.5 19.0 19.0	22.5 22.5 21.5 21.0 21.0	25.0 25.0 26.0 27.0 28.5	19.5 19.5 20.5 22.5 23.5	22.0 22.5 23.5 24.5 26.0	24.5 24.5 23.5 25.0 24.5	21.5 20.5 21.0 21.0 22.0	23.0 23.0 22.5 23.0 23.5	21.0 22.0 22.0 22.0 21.5	18.5 19.0 19.0 19.5 17.5	20.0 20.5 20.5 20.5 19.5
26 27 28 29 30 31	25.0 26.0 26.5 26.0 26.5	19.5 20.5 22.0 22.0 22.5	22.0 23.0 24.0 24.0 24.5	27.0 24.5 23.5 22.0 23.0 24.0	22.5 20.5 19.5 19.5 19.5	24.5 22.5 21.5 20.5 21.0 21.5	24.5 25.0 25.5 25.0 24.0 25.5	20.5 21.5 22.0 21.5 21.5 22.0	22.5 23.0 23.5 23.5 23.0 24.0	17.5 17.0 16.0 15.5	15.0 15.0 14.5 14.5 13.5	16.5 16.0 15.5 15.5 14.5
MONTH	26.5	14.0	20.8	28.5	18.0	22.2	28.5	20.0	23.6	24.5	13.5	19.4

#### OXYGEN, DISSOLVED (MG/L), 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 2 3 4 5	11.8 11.9 12.6 13.6 9.5	9.3 9.1 9.0 8.6 9.1	10.3 10.2 10.3 10.4 9.4	14.3 14.2 14.5 14.6 13.6	10.0 10.0 10.1 9.6 9.3	11.7 11.7 11.8 11.4 11.2	  			  	  		
6 7 8 9 10	9.5 10.6 11.6 12.5 13.0	8.9 9.0 9.7 10.4 10.9	9.2 9.8 10.7 11.3 11.8	14.3  14.1 13.1 10.6	9.9 9.3 8.6 8.2 8.1	11.7 11.9 10.8 10.2 9.3	  		  	  	  		
11 12 13 14 15	13.3 13.6 13.9 13.9	10.8 10.5 10.5 9.9 9.3	11.8 11.8 11.8 11.4 11.1		  	  	  	  		  	  		
16 17 18 19 20	12.7 11.2 9.9 11.3 12.5	8.9 8.7 8.5 8.9	10.2 9.5 9.1 9.8 10.3	14.2 13.5 14.4 14.5 15.2	10.8 10.6 11.0 11.3 11.6	12.1 11.7 12.3 12.5 13.0	  			  	  		
21 22 23 24 25	12.5 12.2 13.2 13.4 13.0	9.1 9.0 9.0 9.6 9.3	10.4 10.3 10.9 11.1 10.7	15.5 15.6 15.5 15.6 15.2	11.9 12.5 12.7 12.8 12.2	13.3 13.7 13.7 13.8 13.6	  			  	  		
26 27 28 29 30 31	13.0 13.9 13.4 13.8 14.4	8.9 9.0 8.6 9.5 9.7	10.4 10.7 10.4 11.3 11.7	12.3 12.3 12.6 13.3 13.1	11.1 11.1 10.9 10.9	11.7 11.8 11.5 11.9 11.7	  		  	  	  		
MONTH	14.5	8.5	10.6	15.6	8.1	12.0							

# 01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUAR	Y		MARCH			APRIL			MAY	
1 2 3 4	  		  	14.0 14.4 13.2	10.3 10.3 10.3	11.8 11.8 11.6	12.1 12.4 12.7 12.5	9.7 9.4 9.9 9.9	10.9 10.9 11.2 11.1	11.8 11.2 10.5 10.1	8.1 7.5 7.4 7.1	9.7 9.2 8.7 8.4
5				14.7	11.6	12.8	12.8	9.5	11.1	9.8	7.1	8.3
6 7 8				15.2 15.2 14.8	11.5 11.2 11.0	13.0 12.8 12.7	12.1 12.3 13.1	9.6 9.8 9.9	10.7 10.8 11.1	10.6 11.1 11.4	7.9 8.4 8.7	9.2 9.7 9.8
9 10				14.1 14.8	11.1	12.3	13.0 12.4	7.9 7.9	10.7	11.1 11.0	8.6 8.1	9.6 9.5
11 12				15.0 15.3	10.9	12.7 12.6	11.1	8.9	9.9 10.6	10.9 10.6	7.7 7.7	9.2 8.9
13 14				12.0 12.7	10.5 10.5 11.0	11.3 11.7	12.1 12.7 13.0	9.6 8.7 8.6	10.4	10.6 11.1 11.4	7.7 7.9 8.3	9.2 9.6
15				13.5	10.9	12.0	13.0	8.6	10.5	11.4	8.2	9.6
16 17				13.4 12.1	10.8 10.9	11.6 11.5	12.1 12.9	8.6 9.7	10.2 11.1	11.6 11.1	8.2	9.7 9.6
18 19				13.7	11.1 10.7	12.1 12.3	13.1 13.7	9.9 9.7	11.3 11.7	10.5	8.6	9.3 9.4
20				14.4	10.6	12.3	13.8	9.6	11.4	10.5	7.9	9.1
21 22				12.4 11.5	10.6 11.0	11.3 11.3	13.6 13.5	9.0 7.6	10.8 10.5	9.5 9.2	8.4 8.5	9.0 9.0
23 24				12.4 12.6	10.6 10.7	11.5 11.7	12.9 12.0	7.0 7.0	9.6 8.9	9.6 9.9	8.5 8.3	9.0 9.1
25				13.3	10.7	12.0	12.8	7.4	10.1	9.8	8.1	8.9
26 27				13.4 13.9	10.8 10.8	11.9 12.2	12.9 13.0	8.5 8.2	10.5 10.4	9.3 9.2	8.1 8.5	8.8 8.9
28 29				13.7 14.1	10.1 10.1	11.9 11.8	12.5 12.8	8.2 8.6	10.1 10.5	9.3 9.5	8.4 8.2	8.8 8.9
30 31				11.5 11.9	10.2 9.7	$\frac{11.1}{11.1}$	12.4	8.4	10.3	9.6 10.7	8.3 8.8	8.9 9.6
MONTH				15.3	9.7	12.0	13.8	7.0	10.6	11.8	7.1	9.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
DAY	MAX	MIN <b>JUNE</b>	MEAN	MAX	MIN <b>JULY</b>	MEAN	MAX	MIN AUGUST	MEAN		MIN SEPTEMBE	
1	10.5	<b>JUNE</b> 9.1	9.8	11.3	<b>JULY</b> 6.6	8.5	10.4	AUGUST	8.5	10.4	<b>SEPTEMBE</b> 7.1	8.5
1 2 3	10.5 10.0 9.9	<b>JUNE</b> 9.1 8.8 8.5	9.8 9.5 9.2	11.3 11.2 11.2	<b>JULY</b> 6.6 6.3 7.4	8.5 8.7 9.1	10.4 10.8 11.1	7.1 6.6 6.6	8.5 8.2 8.2	10.4 11.0 11.3	7.1 7.5 7.9	8.5 9.0 9.3
1 2	10.5 10.0	<b>JUNE</b> 9.1 8.8	9.8 9.5	11.3 11.2	<b>JULY</b> 6.6 6.3	8.5 8.7	10.4 10.8	7.1 6.6	8.5 8.2	10.4 11.0	7.1 7.5	8.5 9.0
1 2 3 4	10.5 10.0 9.9 10.2	9.1 8.8 8.5 8.5	9.8 9.5 9.2 9.3	11.3 11.2 11.2 11.0	<b>JULY</b> 6.6 6.3 7.4 6.2	8.5 8.7 9.1 8.7	10.4 10.8 11.1 10.5	7.1 6.6 6.6 6.0	8.5 8.2 8.2 7.5	10.4 11.0 11.3 11.1	7.1 7.5 7.9 7.8	8.5 9.0 9.3 9.0
1 2 3 4 5	10.5 10.0 9.9 10.2 10.0	9.1 8.8 8.5 8.5 8.1	9.8 9.5 9.2 9.3 9.0	11.3 11.2 11.2 11.0 10.7	JULY 6.6 6.3 7.4 6.2 6.4	8.5 8.7 9.1 8.7 8.5	10.4 10.8 11.1 10.5 8.4	7.1 6.6 6.6 6.0 6.6	8.5 8.2 8.2 7.5 7.5	10.4 11.0 11.3 11.1 10.0	7.1 7.5 7.9 7.8 7.9 8.5	8.5 9.0 9.3 9.0 8.9
1 2 3 4 5 6 7 8 9	10.5 10.0 9.9 10.2 10.0 9.8 10.0 9.8	9.1 8.8 8.5 8.5 8.1 7.9 7.8 7.9	9.8 9.5 9.2 9.3 9.0 8.9 8.8 8.7	11.3 11.2 11.2 11.0 10.7 10.4 10.8 10.1	6.6 6.3 7.4 6.2 6.4 6.5 7.3 6.5 7.1	8.5 8.7 9.1 8.7 8.5 8.4 8.6 8.2 8.4	10.4 10.8 11.1 10.5 8.4 8.9 9.5 10.5 10.8 10.9	7.1 6.6 6.6 6.0 6.6 6.3 6.4 6.2 5.9	8.5 8.2 8.2 7.5 7.5 7.4 7.6 7.8 8.1 7.5	10.4 11.0 11.3 11.1 10.0 10.6 11.0 10.8 10.7	7.1 7.5 7.9 7.8 7.9 8.5 7.6 7.5 7.2	8.5 9.0 9.3 9.0 8.9 9.3 9.2 8.7 8.6
1 2 3 4 5 6 7 8 9	10.5 10.0 9.9 10.2 10.0 9.8 10.0 9.8	9.1 8.8 8.5 8.5 8.1 7.9 7.8 7.9	9.8 9.5 9.2 9.3 9.0 8.9 8.8 8.7	11.3 11.2 11.2 11.0 10.7 10.4 10.8 10.1	G.6 6.3 7.4 6.2 6.4 6.5 7.3 6.5 7.1	8.5 8.7 9.1 8.7 8.5 8.4 8.6 8.2 8.4	10.4 10.8 11.1 10.5 8.4 8.9 9.5 10.5 10.8	7.1 6.6 6.6 6.0 6.6 6.3 6.4 6.2 5.9	8.5 8.2 8.2 7.5 7.5 7.4 7.6 7.8 8.1	10.4 11.0 11.3 11.1 10.0 10.6 11.0 10.8 10.7	7.1 7.5 7.9 7.8 7.9 8.5 7.6 7.5 7.2	8.5 9.0 9.3 9.0 8.9 9.3 9.2 8.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14	10.5 10.0 9.9 10.2 10.0 9.8 10.0 9.8 	9.1 8.8 8.5 8.5 8.1 7.9 7.8 7.9	9.8 9.5 9.2 9.3 9.0 8.9 8.8 8.7 	11.3 11.2 11.0 10.7 10.4 10.8 10.1 10.5 10.1 9.4 10.0 10.8 10.8	5012 6.6 6.3 7.4 6.2 6.4 6.5 7.3 6.5 7.1 7.0	8.5 8.7 9.1 8.7 8.5 8.4 8.6 8.4 8.0 8.3 8.4 8.6	10.4 10.8 11.1 10.5 8.4 8.9 9.5 10.5 10.8 10.9	7.1 6.6 6.6 6.0 6.6 6.3 6.4 5.9 5.9 7.2 7.0 6.9	8.5 8.2 7.5 7.5 7.4 7.6 7.8 8.1 7.5 7.8 7.6	10.4 11.0 11.3 11.1 10.0 10.6 11.0 10.8 10.7 10.2	7.1 7.5 7.9 7.8 7.9 8.5 7.6 7.6 7.2 6.7	8.5 9.0 9.3 9.0 8.9 9.3 9.2 8.7 8.6 8.1 9.2 9.1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	10.5 10.0 9.9 10.2 10.0 9.8 10.0 9.8  8.9 9.0 8.8	9.1 8.8 8.5 8.5 8.1 7.9 7.8 7.9  7.1 7.1	9.8 9.5 9.2 9.3 9.0 8.9 8.8 8.7  7.9 7.8 7.8	11.3 11.2 11.2 11.0 10.7 10.4 10.8 10.1 10.5 10.1 9.4 10.0 10.8 10.8	6.6 6.3 7.4 6.2 6.4 6.5 7.3 6.5 7.1 7.0 7.3 7.2 7.2	8.5 8.7 9.1 8.7 8.5 8.4 8.6 8.2 8.4 8.0 8.3 8.4 8.6 8.6 8.6	10.4 10.8 11.1 10.5 8.4 8.9 9.5 10.5 10.8 10.9 7.5 8.8 8.0 7.9 8.8	7.1 6.6 6.6 6.0 6.6 6.3 6.4 6.2 5.9 5.9 7.2 7.0 6.9	8.5 8.2 7.5 7.5 7.4 7.6 7.8 8.1 7.5 7.0 7.8 7.6 7.4	10.4 11.0 11.3 11.1 10.0 10.6 11.0 10.8 10.7 10.2	7.1 7.5 7.9 7.8 7.9 8.5 7.6 7.5 7.2 6.7	8.5 9.0 9.3 9.0 8.9 9.3 9.2 8.7 8.6 8.1 9.2 9.1 9.3 9.1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	10.5 10.0 9.9 10.2 10.0 9.8 10.0 9.8  8.9 9.0 8.8	9.1 8.8 8.5 8.5 8.1 7.9 7.8 7.9  7.1 7.1 7.1	9.8 9.5 9.2 9.3 9.0 8.9 8.8 8.7  7.9 7.8 7.8	11.3 11.2 11.2 11.0 10.7 10.4 10.8 10.1 10.5 10.1 9.4 10.0 10.8 10.8	G.6 6.3 7.4 6.2 6.4 6.5 7.3 6.5 7.1 7.0 7.3 7.2 7.2 7.2	8.5 8.7 9.1 8.7 8.5 8.4 8.6 8.2 8.4 8.5 8.4 8.5 8.6 8.5	10.4 10.8 11.1 10.5 8.4 8.9 9.5 10.5 10.8 10.9 7.5 8.8 8.0 7.9 8.8	7.1 6.6 6.6 6.0 6.6 6.3 6.4 6.2 5.9 7.2 7.0 6.9 6.9	8.5 8.2 7.5 7.4 7.6 7.8 8.1 7.5 7.8 7.6 7.6 7.5	10.4 11.0 11.3 11.1 10.0 10.6 11.0 10.8 10.7 10.2 12.1 11.0 11.4 11.8	7.1 7.5 7.9 7.8 7.9 8.5 7.6 7.5 7.2 6.7 6.6 7.9 8.0 8.1 8.9	8.5 9.0 9.3 9.0 8.9 9.3 9.2 8.7 8.6 8.1 9.2 9.1 9.3 9.1 9.3 9.3
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	10.5 10.0 9.9 10.2 10.0 9.8 10.0 9.8  8.9 9.0 8.8 8.0 8.3 8.3 8.8	9.1 8.8 8.5 8.5 8.1 7.9 7.8 7.9  7.1 7.1 7.1 7.1 6.8 7.0 6.7	9.8 9.5 9.2 9.3 9.0 8.9 8.8 8.7  7.9 7.8 7.7 7.7	11.3 11.2 11.2 11.0 10.7 10.4 10.8 10.1 10.5 10.1 9.4 10.0 10.8 10.8 10.8 10.6	501 JULY  6.6 6.3 7.4 6.2 6.4 6.5 7.3 6.5 7.1 7.0 7.3 7.2 7.2 7.2 6.6 6.3 6.5	8.5 8.7 8.7 8.7 8.6 8.4 8.6 8.4 8.6 8.6 8.5 7.5 8.1	10.4 10.8 11.1 10.5 8.4 8.9 9.5 10.5 10.8 10.9 7.5 8.8 8.0 7.9 8.8 8.9 9.3 9.6 9.6	7.1 6.6 6.6 6.0 6.6 6.3 6.4 5.9 5.9 6.3 7.2 7.2 7.2 6.9 6.4 6.5	8.5 8.2 7.5 7.4 7.6 8.1 7.5 7.8 8.1 7.6 7.8 7.6 7.5 7.9	10.4 11.0 11.3 11.1 10.0 10.6 11.0 10.8 10.7 10.2 12.1 11.4 11.4 11.8	7.1 7.5 7.9 7.8 7.9 8.5 7.6 7.5 7.2 6.7 6.6 7.9 8.1 8.9 8.8 8.8 8.8 8.8 7.8	8.5 9.0 9.3 9.0 8.9 9.3 9.2 8.7 8.6 8.1 9.2 9.1 10.2
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	10.5 10.0 9.9 10.2 10.0 9.8 10.0 9.8  8.9 9.0 8.8 8.3 8.3 8.3 8.3 8.3 8.3	9.1 8.8 8.5 8.5 8.1 7.9 7.8 7.9  7.1 7.1 7.1 7.1 7.1 7.0 7.0 6.8 7.0 7.0	9.8 9.5 9.2 9.3 9.0 8.9 8.8 8.7  7.9 7.8 7.8 7.7 7.7 7.7	11.3 11.2 11.2 11.0 10.7 10.4 10.8 10.1 10.5 10.1 9.4 10.0 10.8 10.8 10.6 11.0 9.7	5.5 7.1 7.0 7.3 7.2 7.2 6.7 6.6 6.3 6.5 6.6 6.5 6.6	8.5 8.7 9.1 8.7 8.5 8.4 8.6 8.2 8.4 8.0 8.3 8.4 8.6 8.5 8.6 8.5 8.6 8.5 8.6 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7	10.4 10.8 11.1 10.5 8.4 8.9 9.5 10.5 10.8 10.9 7.5 8.8 8.0 7.9 8.8 8.0 7.9 8.8	7.1 6.6 6.0 6.6 6.3 6.4 6.2 5.9 6.3 7.2 7.9 6.9 6.4 6.5 6.6	8.5 8.2 7.5 7.4 7.6 8.1 7.5 7.8 7.6 7.5 7.6 7.5 7.6 7.5 7.6 7.5 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6	10.4 11.0 11.3 11.1 10.0 10.6 11.0 10.8 10.7 10.2 12.1 11.0 11.4 11.8 11.4 11.6 11.9 11.6 8.6	7.1 7.5 7.9 7.8 7.9 8.5 7.6 7.6 7.2 6.7 6.6 7.9 8.0 8.1 8.9 8.8 8.8 8.8 7.3	8.5 9.0 9.3 9.0 8.9 9.3 9.2 8.6 8.1 9.2 9.1 9.3 9.1 9.3 9.7 7.9
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	10.5 10.0 9.9 10.2 10.0 9.8 10.0 9.8  8.9 9.0 8.8 8.3 8.3 8.3 8.3 8.3 8.3 8.1 8.4	9.1 8.8 8.5 8.5 8.1 7.9 7.8 7.9  7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1	9.8 9.2 9.3 9.0 8.9 8.8 7.7 7.8 7.8 7.8 7.7 7.8 8.0 7.9 7.6 8.0	11.3 11.2 11.2 11.0 10.7 10.4 10.8 10.5 10.1 9.4 10.0 10.8 10.8 10.6 11.0 11.0 9.7 10.0 10.4	JULY  6.6 6.3 7.4 6.2 6.4 6.5 7.3 6.5 7.1 7.0 7.3 7.2 7.2 7.2 6.7 6.6 6.7 6.5 6.6 6.7 6.5 6.6	8.5 8.7 9.1 8.7 8.6 8.6 8.6 8.4 8.0 8.3 8.4 8.6 8.5 7.5 8.1 8.2 8.3 8.4 8.6 8.5 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7	10.4 10.8 11.1 10.5 8.4 8.9 9.5 10.5 10.8 10.9 7.5 8.8 8.0 7.9 8.8 9.3 9.6 9.1	7.1 6.6 6.0 6.6 6.3 6.4 5.9 5.9 6.3 7.2 7.0 6.9 6.4 6.4 6.5 6.6 6.6	8.5 8.2 7.5 7.4 7.6 8.1 7.5 7.8 8.1 7.6 7.5 7.5 7.6 7.5 7.5 7.5 7.6 7.5 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6	10.4 11.0 11.3 11.1 10.0 10.6 11.0 10.8 10.7 10.2 12.1 11.4 11.4 11.6 11.9 11.6 8.6 8.8 9.6 9.1 11.0	7.1 7.5 7.9 7.8 7.9 8.5 7.65 7.2 6.7 6.6 9.0 8.1 8.9 8.8 8.8 8.8 7.3 7.5	8.5 9.0 9.3 9.0 8.9 9.3 9.2 8.7 8.6 8.1 9.2 9.1 10.2 9.8 9.9 10.0 9.7 7.9
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	10.5 10.0 9.9 10.2 10.0 9.8 10.0 9.8  8.9 9.0 8.8 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3	9.1 8.8 8.5 8.5 8.1 7.9 7.8 7.9  7.1 7.1 7.1 6.8 7.0 6.7 7.1 7.1 7.1 7.2 6.9 7.4 7.5	9.8 9.5 9.2 9.3 9.0 8.9 8.8 8.7  7.9 7.8 7.7 7.7 7.8 8.0 7.6 8.0 8.1	11.3 11.2 11.0 10.7 10.4 10.8 10.1 10.5 10.1 9.4 10.0 10.8 10.6 11.0 9.7 10.0 10.4 10.6 11.0 9.7	## 10  ##	8.57 9.1 8.7 8.5 8.4 8.6 8.2 8.4 8.0 8.3 8.4 8.5 8.6 8.5 8.6 8.5 8.6 8.7 7.5 8.7	10.4 10.8 11.1 10.5 8.4 8.9 9.5 10.8 10.9 7.5 8.8 8.0 7.9 8.8 9.6 9.6 9.1 9.7 10.0 9.8 10.2	7.1 6.6 6.6 6.0 6.6 6.3 6.4 6.2 5.9 6.3 7.2 7.0 6.9 6.6 6.6 6.5 6.6 6.7	8.5 8.2 7.5 7.4 7.6 7.8 8.1 7.6 7.8 7.6 7.6 7.5 7.8 7.9 6 7.9 8.0 8.1	10.4 11.0 11.3 11.1 10.0 10.6 11.0 10.7 10.2 12.1 11.0 11.4 10.1 11.8 11.6 11.9 11.6 8.6 8.8 9.6 9.1 11.0 9.3	7.1 7.5 7.9 7.8 7.9 8.5 7.6 7.2 6.7 6.6 7.9 8.0 8.1 8.9 8.8 8.8 7.3 7.5 96.4 6.3 7.9	8.5 9.0 9.3 9.0 8.9 9.2 8.7 8.6 8.1 9.2 9.1 9.3 9.1 10.0 9.7 7.9 8.1 8.1 8.1 8.1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 25 26 27	10.5 10.0 9.9 10.2 10.0 9.8 10.0 9.8 	9.1 8.8 8.5 8.5 8.1 7.9 7.8 7.9  7.1 7.1 7.1 7.1 7.1 7.2 6.9 7.5 7.2 7.4	9.8 9.5 9.3 9.0 8.9 8.8 8.7  7.9 7.8 7.7 7.7 7.7 7.8 8.0 7.9 7.6 8.1 8.1 8.3	11.3 11.2 11.0 10.7 10.4 10.8 10.1 10.5 10.1 9.4 10.0 10.8 10.6 11.0 9.7 10.0 10.4 10.6 11.0 9.7 10.0 10.3 9.8 7.9 9.5	JULY 6.6 6.3 7.4 6.2 6.4 6.5 7.3 6.5 7.1 7.0 7.3 7.2 7.2 7.2 6.7 6.6 6.3 6.6 6.7 6.5 6.6 6.7 6.6 6.7 6.6 6.7 6.6 6.7 6.6 6.7	8.5 8.7 9.7 8.5 8.4 8.6 8.4 8.6 8.4 8.6 8.5 7.5 8.2 8.3 8.4 8.6 8.7 8.6 8.7 8.6 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7	10.4 10.8 11.1 10.5 8.4 8.9 9.5 10.8 10.9 7.5 8.8 8.0 7.9 8.8 8.0 9.3 9.6 9.1 9.7 10.0 9.8 10.2 10.0	7.1 6.6 6.0 6.6 6.4 6.2 5.9 6.3 7.2 7.2 7.9 6.9 6.4 6.5 6.6 6.6 6.7 7.7	8.52 8.22 7.55 7.46 7.68 8.15 7.86 7.64 7.55 7.89 7.66 7.55 7.89 7.60 8.02 8.1	10.4 11.3 11.1 10.0 10.6 11.0 10.8 10.7 10.2 12.1 11.0 11.4 11.6 11.9 11.6 8.6 8.8 9.6 9.1 11.0 9.3	7.1 7.5 7.9 7.8 7.9 8.5 7.6 7.5 6.7 6.7 8.0 8.1 8.9 8.8 8.8 8.8 7.3 7.5 6.4 7.9	8.5 9.0 9.3 9.0 8.9 9.2 8.7 8.6 8.1 9.2 9.1 10.2 9.8 9.9 10.0 9.7 7.9 8.1 8.1 7.4 8.8
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