02041650 APPOMATTOX RIVER AT MATOACA, VA

LOCATION.--Lat 37°13'28", long 77°28'32", Chesterfield County, Hydrologic Unit 02080207, on left bank at upstream side of bridge on State Highway 600, 0.2 mi south of Matoaca, 2.0 mi upstream from Rohoic Creek, 2.8 mi downstream from Lake Chesdin, 3.5 mi west of Petersburg, and at mile 15.9

DRAINAGE AREA.--1,344 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 68.30 ft above sea level.

REMARKS.--Records good except those for periods with ice effect, Jan. 21-24, 27-29, and period of no gage-height record, May 10, which are fair. Flow regulated by Appomattox Water Authority at Lake Chesdin, capacity, 36,000 acre-ft, 2.8 mi upstream from which an average of 3613 ft^3/s is diverted for industrial and municipal use. Records do not include flow of Upper Appomattox Canal of city of Petersburg which diverts about an average 24.1 ft^3/s around station. National Weather Service gage-height telemeter at station.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,820 ft^3/s, Apr. 19, gage height, 9.13 ft; minimum discharge, 85 ft^3/s, Aug. 24, 25, result of regulation; minimum daily discharge, 88 ft^3/s, Aug. 24, result of regulation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1420	364	550	521	2430	1240	1430	1590	838	1390	877	489
2	2000	514	310	408	2890	1140	1180	1390	632	665	1210	435
3	1840	652	457	472	2790	937	1070	1150	480	367	737	686
4	1290	950	609	471	2310	693	895	858	403	377	378	1330
5	623	793	241	886	2120	672	869	708	394	293	987	830
6	532	804	619	1030	2060	588	763	766	593	251	778	626
7	468	425	349	1300	1990	582	717	641	706	283	378	507
8	453	641	335	1140	1850	577	800	629	758	330	273	323
9	430	347	482	875	1710	527	1350	540	497	301	244	285
10	376	444	373	919	1580	537	1200	e506	413	249	225	234
11	410	460	468	1630	1490	506	1520	482	347	229	221	183
12	404	387	322	2790	1420	877	1320	435	228	213	224	168
13	427	428	424	3180	1360	443	1470	426	204	195	185	154
14	414	456	933	2040	1310	415	1240	408	300	165	195	143
15	298	376	1130	1380	1270	502	888	331	869	165	184	253
16	391	375	1410	1160	1250	521	790	276	1570	390	174	258
17	432	358	1630	907	1190	1080	1080	277	1850	458	160	279
18	661	328	1290	584	1240	2460	5340	276	1530	299	147	377
19	365	366	1020	760	2480	3340	8650	269	1310	194	135	373
20	1050	306	536	715	3740	2310	8290	188	844	1110	138	303
21	1460	353	675	e580	3850	1800	7780	383	819	936	140	314
22	1520	321	699	e510	2590	2140	7200	1080	639	492	318	286
23	1460	322	771	e450	1770	2620	6280	799	526	445	113	288
24	1050	330	781	e530	1380	2350	3330	1080	345	585	88	286
25	609	362	737	798	1180	1770	2170	925	250	1180	90	338
26	501	363	581	568	1070	1440	2250	558	237	1400	105	997
27	535	499	615	e480	891	1230	2820	485	225	1460	115	978
28	375	843	488	e420	957	1710	3060	722	222	1160	272	986
29	401	1090	606	e490	1160	2380	2510	1040	519	1020	238	695
30	451	923	436	553	---	2470	1920	1100	1370	770	153	410
31	388	---	476	1520	---	1920	---	1120	---	518	398	---
TOTAL	23034	15180	20353	30067	53328	41777	80182	21438	19918	17890	9880	13814
MEAN	743	506	657	970	1839	1348	2673	692	664	577	319	460
MAX	2000	1090	1630	3180	3850	3340	8650	1590	1850	1460	1210	1330
MIN	298	306	241	408	891	415	717	188	204	165	88	143
(†)	1015	893	904	917	866	876	913	1180	1151	1235	1193	1123

CAL YR 1999 TOTAL 286419 MEAN 1794 MAX 11300 MIN 47 (†) 12400
WTR YR 2000 TOTAL 346861 MEAN 672 MAX 8650 MIN 88 (†) 12266

† Total diversion, in cubic feet per second, at Lake Chesdin, provided by Appomattox Water Authority.

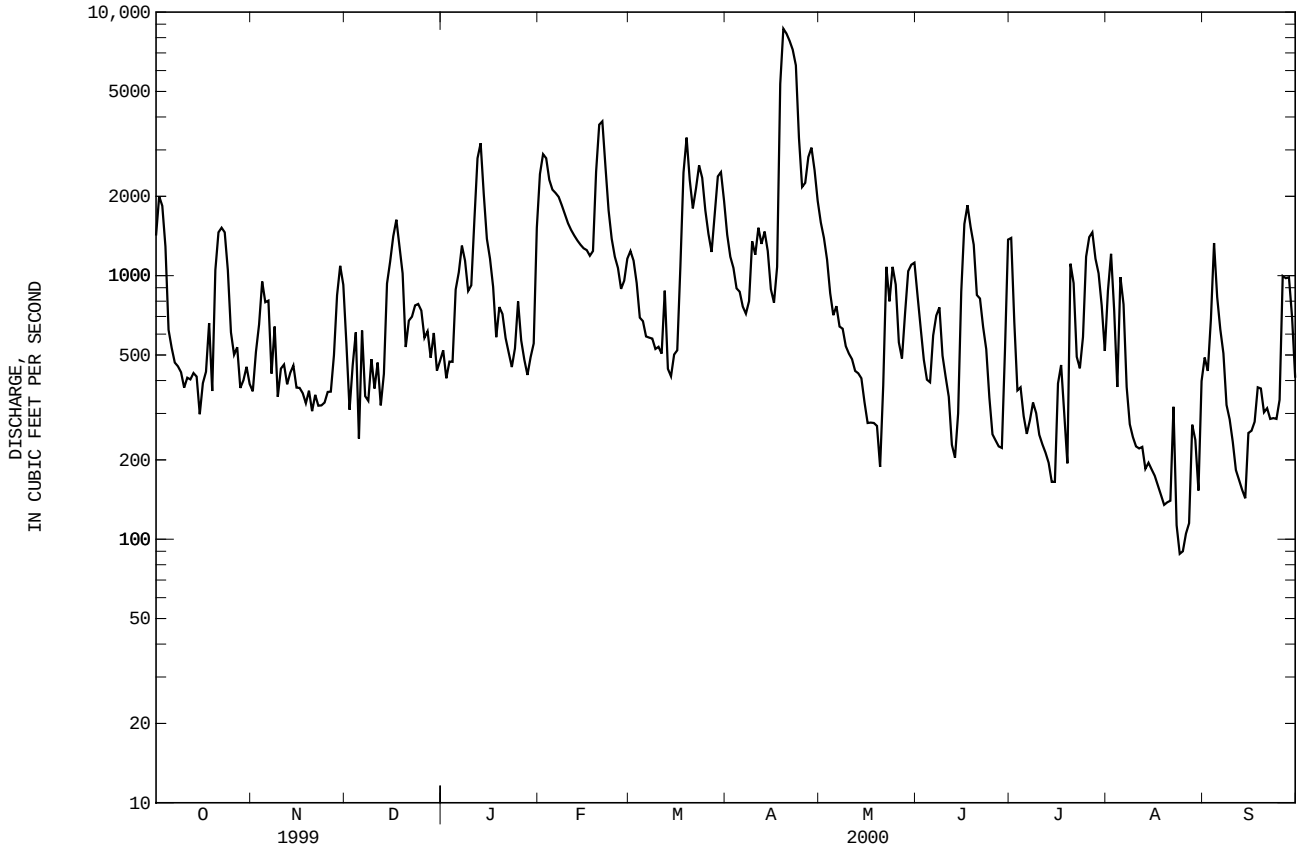
02041650 APPOMATTOX RIVER AT MATOACA, VA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2000, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1055	1063	1394	2044	2253	2536	2113	1319	890	557	479	755
MAX	6869	5648	3857	5868	6532	6098	5003	4452	5293	2123	1818	5312
(WY)	1973	1986	1997	1978	1998	1993	1983	1978	1972	1995	1978	1979
MIN	87.8	92.5	382	384	591	478	498	411	105	99.2	60.5	85.1
(WY)	1994	1999	1999	1981	1999	1981	1985	1985	1999	1986	1999	1993

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1970 - 2000	
ANNUAL TOTAL	286419		346861			
ANNUAL MEAN	785		948		1367	
HIGHEST ANNUAL MEAN					2559	1973
LOWEST ANNUAL MEAN					460	1981
HIGHEST DAILY MEAN	11300	Sep 17	8650	Apr 19	39400	Oct 7 1972
LOWEST DAILY MEAN	a47	Aug 31	a88	Aug 24	a32	Aug 31 1993
ANNUAL SEVEN-DAY MINIMUM	a51	Aug 28	a138	Aug 21	a48	Aug 25 1980
INSTANTANEOUS PEAK FLOW			8820	Apr 19	40800	Oct 7 1972
INSTANTANEOUS PEAK STAGE			9.13	Apr 19	18.39	Oct 7 1972
INSTANTANEOUS LOW FLOW			85	bAug 24	a26	Aug 31 1993
ANNUAL RUNOFF (CFSM)	.58		.71		1.02	
ANNUAL RUNOFF (INCHES)	7.93		9.60		13.82	
10 PERCENT EXCEEDS	1580		1920		3350	
50 PERCENT EXCEEDS	460		608		686	
90 PERCENT EXCEEDS	86		240		150	

a Result of regulation.
b Also Aug. 25, 2000.
e Estimated.



02041650 APPOMATTOX RIVER AT MATOACA, VA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years l978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1991 to September 1993.
WATER TEMPERATURE: October 1991 to September 1993.

COOPERATION.--Water samples as noted were collected by the U.S. Geological Survey and analyzed by the Virginia Division of Consolidated Laboratory Services (VDCLS), and using analytical methods approved by the U.S. Geological Survey. Results of Chemical analyses provided by VDCLS were quality-assured and approved by the U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	SAMPLE TYPE	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	GAGE HEIGHT (FEET) (00065)	TUR-BID-ITY (NTU) (00076)
OCT										
12...	0840	BLANK	--	--	--	USGS	VDCLS	--	--	.4
12...	0845	ENVIRONMENTAL	18.7	14.0	765	USGS	VDCLS	448	2.65	6.5
18...	0930	ENVIRONMENTAL	18.5	24.5	751	USGS	VDCLS	670	3.49	6.4
18...	0945	REPLICATE	18.5	24.5	751	USGS	VDCLS	617	3.49	7.8
NOV										
04...	1130	ENVIRONMENTAL	13.6	13.0	760	USGS	VDCLS	1300	3.97	10
18...	1015	ENVIRONMENTAL	11.1	8.0	762	USGS	VDCLS	327	2.53	4.5
DEC										
08...	0745	ENVIRONMENTAL	9.2	.5	765	USGS	VDCLS	297	2.53	--
16...	0945	ENVIRONMENTAL	9.3	9.0	754	USGS	VDCLS	1330	4.15	7.7
JAN										
04...	1000	ENVIRONMENTAL	8.1	19.0	752	USGS	VDCLS	389	2.75	6.5
19...	1000	ENVIRONMENTAL	5.1	1.0	752	USGS	VDCLS	629	3.25	34
FEB										
07...	1200	ENVIRONMENTAL	2.3	14.0	759	USGS	VDCLS	2010	4.85	14
07...	1215	REPLICATE	2.3	14.0	759	USGS	VDCLS	2020	4.85	13
09...	1015	ENVIRONMENTAL	2.1	4.0	762	USGS	VDCLS	1730	4.56	17
20...	0900	ENVIRONMENTAL	6.0	5.5	762	USGS	VDCLS	3660	6.13	14
28...	1045	ENVIRONMENTAL	9.5	17.0	760	USGS	VDCLS	1160	3.97	34
MAR										
03...	1400	ENVIRONMENTAL	11.8	15.2	754	USGS	VDCLS	986	3.80	17
10...	1130	ENVIRONMENTAL	16.4	22.5	760	USGS	VDCLS	555	3.14	8.6
18...	0915	ENVIRONMENTAL	12.7	2.0	770	USGS	VDCLS	2300	5.12	5.7
24...	1100	ENVIRONMENTAL	12.2	16.5	763	USGS	VDCLS	2400	5.23	23
24...	1105	REPLICATE	12.2	16.5	763	USGS	USGS	2401	5.23	--
APR										
10...	1245	ENVIRONMENTAL	15.9	20.5	760	USGS	VDCLS	748	3.29	11
14...	1315	ENVIRONMENTAL	15.1	15.0	763	USGS	VDCLS	1180	4.02	6.3
14...	1320	REPLICATE	15.1	15.0	763	USGS	USGS	1174	4.02	--
18...	1030	ENVIRONMENTAL	15.6	12.5	749	USGS	VDCLS	5250	6.80	18
19...	0930	ENVIRONMENTAL	15.7	11.0	754	USGS	VDCLS	8820	9.15	14
25...	0900	ENVIRONMENTAL	15.7	13.0	748	USGS	VDCLS	2190	4.85	26
27...	1115	ENVIRONMENTAL	15.5	13.5	755	USGS	VDCLS	2850	5.41	21
27...	1115	BLANK	--	--	--	USGS	VDCLS	--	--	1.4
MAY										
11...	0945	ENVIRONMENTAL	22.3	20.5	756	USGS	VDCLS	470	2.68	5.5
22...	1000	ENVIRONMENTAL	21.8	17.5	747	USGS	VDCLS	1480	4.04	37
24...	0900	ENVIRONMENTAL	22.0	23.5	743	USGS	VDCLS	844	3.60	6.8
30...	0845	ENVIRONMENTAL	20.3	14.0	759	USGS	VDCLS	1160	3.71	5.1
JUN										
09...	0915	ENVIRONMENTAL	21.8	23.0	760	USGS	VDCLS	528	2.80	5.6
16...	1000	ENVIRONMENTAL	24.9	28.5	755	USGS	VDCLS	1600	4.19	7.0
16...	1015	REPLICATE	24.9	28.5	755	USGS	VDCLS	1600	4.19	7.4
23...	1045	ENVIRONMENTAL	26.9	26.5	755	USGS	VDCLS	539	2.94	5.6
29...	1300	ENVIRONMENTAL	27.2	25.0	751	USGS	VDCLS	629	3.10	6.1
JUL										
06...	0915	ENVIRONMENTAL	27.9	26.5	752	USGS	VDCLS	251	2.16	8.2
17...	1015	ENVIRONMENTAL	26.9	25.0	754	USGS	VDCLS	482	2.71	3.6
21...	1010	BLANK	--	--	--	USGS	VDCLS	--	--	.7
21...	1015	ENVIRONMENTAL	27.2	26.0	753	USGS	VDCLS	1110	3.65	5.3
26...	1000	ENVIRONMENTAL	25.1	20.5	758	USGS	VDCLS	1440	4.02	6.4
AUG										
04...	0900	ENVIRONMENTAL	26.0	26.5	756	USGS	VDCLS	347	2.42	3.7
18...	1015	ENVIRONMENTAL	23.7	21.0	751	USGS	VDCLS	184	1.93	6.8
SEP										
11...	1100	ENVIRONMENTAL	25.2	26.0	760	USGS	VDCLS	190	2.03	5.6
25...	0910	BLANK	--	--	--	USGS	VDCLS	--	--	.2
25...	0915	ENVIRONMENTAL	22.9	18.5	753	USGS	VDCLS	282	2.25	2.5

02041650 APPOMATTOX RIVER AT MATOACA, VA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	RESIDUE FIXED NON FILTER-ABLE (MG/L) (00540)	NITROGN TOTAL SEDIMNT SUSP TOTAL AS N (MG/L) (00601)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
OCT											
12...	--	--	--	<3	<3	<3	.001	<.004	<.004	<.002	<.004
12...	70	9.4	7.2	<3	<3	<3	.027	.608	.038	.007	.139
18...	74	9.9	7.0	6	<3	4	.064	.601	.061	.005	.140
18...	74	9.9	7.0	5	<3	3	.062	.598	.061	.005	.141
NOV											
04...	89	11.0	6.7	9	3	6	.073	.473	.032	.002	.100
18...	90	11.1	7.9	4	3	<3	.067	.399	.007	<.002	.064
DEC											
08...	93	8.4	6.7	4	3	<3	.201	.282	<.004	<.002	.009
16...	99	12.7	7.6	7	4	3	.123	.295	.014	<.002	.032
JAN											
04...	87	11.9	7.5	5	3	<3	.055	.439	.016	<.002	.185
19...	85	12.3	6.3	14	4	10	.060	.715	.043	.002	.257
FEB											
07...	87	13.6	6.9	<3	<3	<3	.047	.564	.042	.002	.293
07...	87	13.6	6.9	<3	<3	<3	.045	.579	.035	<.002	.292
09...	83	12.8	7.1	7	5	<3	.044	.607	.037	.002	.286
20...	80	13.2	5.6	11	4	7	.075	.365	.006	<.002	.191
28...	74	12.3	7.1	16	11	5	.072	.540	.012	<.002	.215
MAR											
03...	73	11.1	7.8	8	4	4	.068	.422	.008	<.002	.155
10...	76	8.3	7.1	6	3	3	.082	.440	.012	<.002	.081
18...	76	11.7	7.6	11	<3	9	.146	.257	.013	<.002	.050
24...	79	13.2	7.1	15	4	11	.083	.621	.050	.003	.178
24...	79	13.2	7.1	12	5	7	--	.64	.050	--	--
APR											
10...	74	11.8	8.6	4	<3	<3	.049	.408	.011	.003	.097
14...	84	10.5	7.7	4	<3	<3	.050	.346	.023	.003	.073
14...	84	10.5	7.7	5	2	3	--	.40	.017	--	--
18...	83	9.5	6.3	22	5	17	.173	.386	.029	.002	.074
19...	84	9.9	6.4	12	4	8	.116	.380	.036	.002	.073
25...	61	9.3	7.0	8	3	5	.055	.583	<.004	.003	.114
27...	64	10.0	7.0	17	6	11	.049	.526	.062	.004	.110
27...	--	--	--	<3	<3	<3	<.001	.583	<.004	<.002	.006
MAY											
11...	75	9.6	7.7	5	3	<3	.042	.350	.009	.002	.058
22...	78	7.5	6.8	53	16	37	.430	.470	.049	.004	.073
24...	80	8.3	6.8	8	5	3	.138	.350	.014	<.002	.043
30...	84	8.1	7.2	6	4	<3	.140	.341	.032	.002	.044
JUN											
09...	93	8.3	7.6	3	<3	<3	.110	.400	.027	.003	.078
16...	90	7.7	7.1	9	6	3	.130	.341	.027	.003	.051
16...	90	7.7	7.1	9	5	4	.150	.361	.033	.004	.050
23...	84	7.9	7.1	4	3	<3	.080	.492	.033	.007	.121
29...	86	7.2	7.3	7	4	3	.070	.535	.050	.008	.145
JUL											
06...	82	7.9	7.0	3	3	<3	.030	.589	.022	.007	.202
17...	86	7.7	7.2	3	<3	<3	.040	.446	.016	<.002	.086
21...	--	--	--	<3	<3	<3	<.001	.048	.006	<.002	.004
21...	86	7.6	7.3	6	3	3	.070	.421	.043	<.002	.051
26...	91	7.1	7.1	8	<3	6	.070	.277	.111	.005	.084
AUG											
04...	76	7.2	7.0	<3	<3	<3	.050	.594	.022	.004	.194
18...	85	6.8	7.1	<3	<3	<3	.032	.740	.030	.008	.396
SEP											
11...	87	7.8	7.3	<3	<3	<3	.289	.666	.011	.008	.239
25...	--	--	--	<3	<3	<3	.009	<.004	.006	<.002	.004
25...	88	7.8	7.2	<3	<3	<3	.024	.612	.032	.005	.187

02041650 APPOMATTOX RIVER AT MATOACA, VA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS TOTAL SEDIMNT SUSP TOTAL AS P (MG/L) (00667)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, INORG + ORGANIC PARTIC. TOTAL (MG/L AS C) (00694)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT										
12...	--	--	<.004	--	.007	.001	.003	<.001	.1	--
12...	--	--	.146	--	.029	.011	.010	.320	15.6	3
18...	--	--	.145	--	.022	.064	.007	.536	15.3	7
18...	--	--	.146	--	.023	.018	.007	.493	16.4	--
NOV										
04...	--	--	.102	--	.038	.020	.010	.642	17.5	--
18...	--	--	.064	--	.019	.013	.006	.399	17.8	--
DEC										
08...	--	--	.009	--	.015	.014	.006	1.31	18.2	2
16...	--	--	.032	--	.017	.022	.006	.746	18.1	--
JAN										
04...	--	--	.185	--	.019	.016	.006	.382	18.2	3
19...	--	--	.259	--	.042	.031	.011	.565	16.0	--
FEB										
07...	--	--	.295	--	.027	.025	.010	.446	15.6	8
07...	--	--	.292	--	.023	.026	.010	.434	16.0	--
09...	--	--	.288	--	.024	.027	.008	.438	15.2	7
20...	--	--	.191	--	.014	.022	.003	.636	17.3	9
28...	--	--	.215	--	.025	.030	.007	.568	13.5	12
MAR										
03...	--	--	.155	--	.017	.022	.005	.699	13.6	7
10...	--	--	.081	--	.014	.019	.003	.524	14.1	5
18...	--	--	.050	--	.017	.027	.006	.955	14.3	13
24...	--	--	.181	--	.030	.031	.010	.669	12.6	14
24...	.46	.48	.172	.057	E.038	--	.009	--	12.1	--
APR										
10...	--	--	.100	--	.021	.015	.011	.414	13.3	5
14...	--	--	.076	--	.019	.016	.007	.418	13.9	5
14...	.32	.39	.078	<.050	<.050	--	.009	--	13.2	4
18...	--	--	.076	--	.020	.036	.006	1.40	13.4	23
19...	--	--	.075	--	.020	.028	.010	.838	13.9	13
25...	--	--	.117	--	.037	.024	.004	.546	11.6	8
27...	--	--	.114	--	.038	.025	.015	.46	12.2	6
27...	--	--	.006	--	.037	.002	<.002	.449	<.1	--
MAY										
11...	--	--	.060	--	.008	.021	.006	.402	13.5	3
22...	--	--	.077	--	.029	.081	.009	3.48	34.1	52
24...	--	--	.043	--	.017	.026	.007	.955	14.7	9
30...	--	--	.046	--	.008	.024	.004	.940	15.1	7
JUN										
09...	--	--	.081	--	.023	.022	.002	.840	36.0	5
16...	--	--	.054	--	.010	.016	.003	1.09	16.7	11
16...	--	--	.054	--	.051	.030	.003	1.13	16.8	--
23...	--	--	.128	--	.016	.019	.002	.460	15.8	6
29...	--	--	.153	--	.020	.018	.007	.610	16.9	8
JUL										
06...	--	--	.209	--	.047	.011	.015	.290	15.7	5
17...	--	--	.086	--	.024	.011	.010	.290	17.4	4
21...	--	--	.004	--	<.001	.001	.003	.010	.8	--
21...	--	--	.051	--	.010	.017	.006	.530	16.1	6
26...	--	--	.089	--	.022	.016	.010	.660	17.4	8
AUG										
04...	--	--	.198	--	.013	.010	.013	.550	16.5	5
18...	--	--	.404	--	.035	.013	.021	.336	15.6	5
SEP										
11...	--	--	.247	--	.028	.009	.011	.289	14.7	3
25...	--	--	.004	--	.007	M	.004	.036	<.1	--
25...	--	--	.192	--	.020	.007	.013	.177	14.3	4

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