



Water-Data Report 2007

**01467000 NORTH BRANCH RANCOCAS CREEK AT PEMBERTON, NJ**

DELAWARE RIVER BASIN

LOCATION.--Lat 39°58'12", long 74°41'04" referenced to North American Datum of 1983, Pemberton Borough, Burlington County, NJ, Hydrologic Unit 02040202, on right bank at downstream side of bridge on Hanover Street (County Route 616) in Pemberton, 1,000 ft south of intersection of Hanover Street and Elizabeth Street in Pemberton, and 12 mi upstream from confluence with South Branch Rancocas Creek.

DRAINAGE AREA.--118 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--September 1921 to current year.

REVISED RECORDS.--WSP 1302: 1922-23. WSP 1382: 1933. WDR NJ-82-2: Drainage area. WDR NJ-05-01: 2004(M).

GAGE.--Water-stage recorder above concrete dams. Datum of gage is 31.19 ft above NGVD of 1929. Prior to Jun 9, 1923, nonrecording gage. Jun 9, 1923 to Aug 9, 1951, water-stage recorder at site 600 ft downstream at datum 6.54 ft lower.

REMARKS.--Records good. Flow regulated occasionally by cranberry bogs and ponds above station. Water diverted for water supply at Fort Dix army base upstream from gage. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft<sup>3</sup>/s and (or) maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov 15	0100	606	2.46
Apr 17	0830	*1,470	*3.67

**01467000 NORTH BRANCH RANCOCAS CREEK AT PEMBERTON, NJ—Continued**

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**  
**DAILY MEAN VALUES**

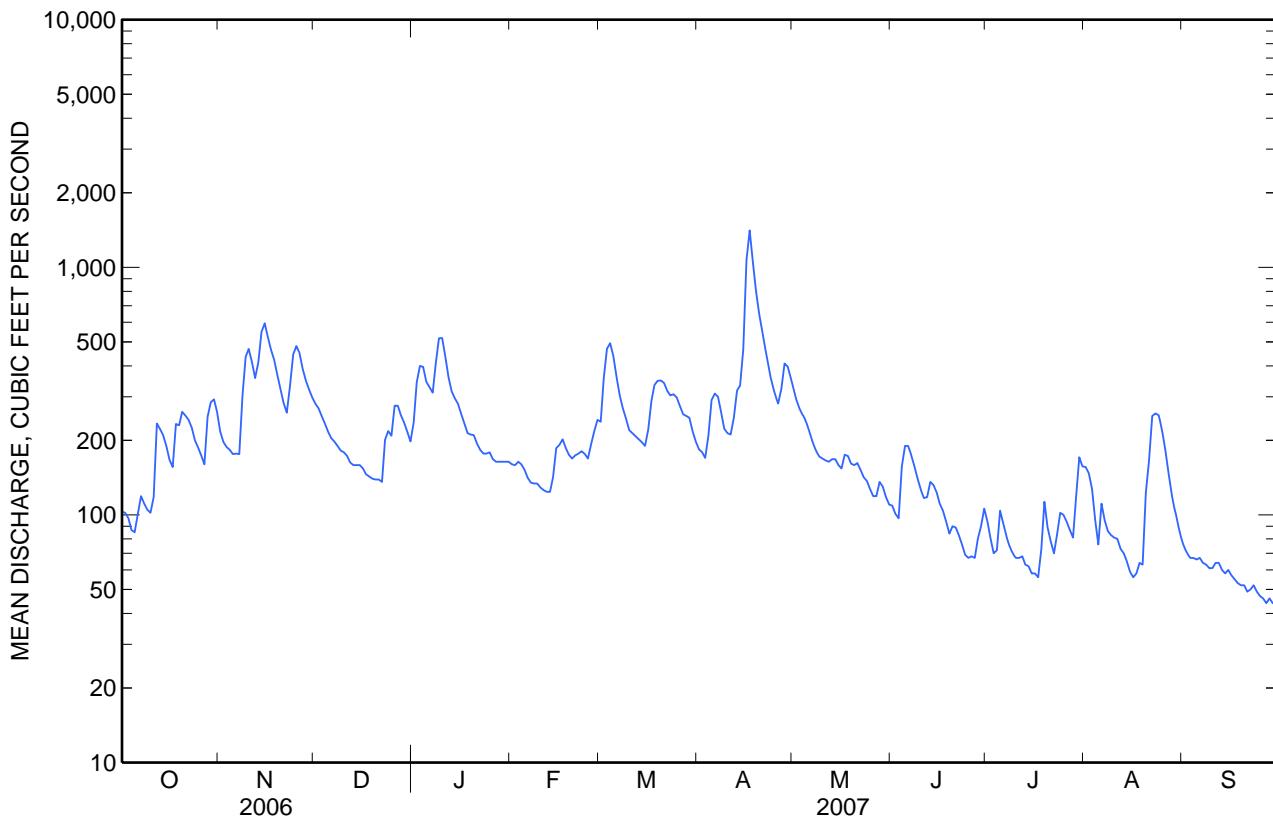
<b>Day</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>
<b>1</b>	103	217	281	236	160	238	184	318	109	94	156	75
<b>2</b>	102	197	270	343	159	357	179	285	101	80	147	70
<b>3</b>	97	188	251	400	164	469	170	263	97	70	127	67
<b>4</b>	87	183	234	396	160	494	209	250	157	72	96	67
<b>5</b>	85	176	217	345	152	438	291	234	190	104	76	66
<b>6</b>	101	177	204	328	141	361	309	214	190	92	111	67
<b>7</b>	119	176	198	312	135	306	300	195	175	82	95	64
<b>8</b>	111	302	190	409	134	270	259	181	155	75	86	63
<b>9</b>	105	436	182	517	134	245	223	172	141	70	83	61
<b>10</b>	102	468	179	518	129	220	214	169	126	67	81	61
<b>11</b>	118	415	173	435	126	214	211	166	117	67	80	64
<b>12</b>	234	357	163	359	124	208	247	164	118	68	73	64
<b>13</b>	222	413	159	316	124	202	318	168	136	63	70	60
<b>14</b>	210	549	159	296	142	197	333	168	132	62	65	58
<b>15</b>	190	594	159	281	186	190	467	159	123	58	59	60
<b>16</b>	167	525	154	256	192	221	1,070	154	111	58	56	57
<b>17</b>	156	465	146	234	202	289	1,410	175	104	56	58	55
<b>18</b>	233	423	143	214	186	335	1,050	173	94	73	64	53
<b>19</b>	230	367	140	211	175	348	808	161	84	113	63	52
<b>20</b>	261	321	139	210	169	349	650	159	90	89	123	52
<b>21</b>	252	283	139	194	174	341	550	162	89	78	166	49
<b>22</b>	242	259	136	183	177	317	464	152	83	70	251	50
<b>23</b>	225	332	201	177	181	304	392	142	76	84	257	52
<b>24</b>	200	445	218	177	176	307	343	137	69	102	253	49
<b>25</b>	187	481	209	179	169	298	307	127	67	100	222	47
<b>26</b>	174	452	276	168	193	275	282	119	68	94	189	46
<b>27</b>	160	390	276	164	218	255	323	119	67	87	151	44
<b>28</b>	249	349	253	164	242	251	409	136	80	81	125	46
<b>29</b>	285	321	236	164	---	247	397	130	90	118	106	44
<b>30</b>	293	298	217	164	---	218	355	118	106	171	93	44
<b>31</b>	261	---	198	164	---	198	---	110	---	157	82	---
<b>Total</b>	5,561	10,559	6,100	8,514	4,624	8,962	12,724	5,380	3,345	2,655	3,664	1,707
<b>Mean</b>	179	352	197	275	165	289	424	174	112	85.6	118	56.9
<b>Max</b>	293	594	281	518	242	494	1,410	318	190	171	257	75
<b>Min</b>	85	176	136	164	124	190	170	110	67	56	56	44
<b>Cfsm</b>	1.52	2.98	1.67	2.33	1.40	2.45	3.59	1.47	0.94	0.73	1.00	0.48
<b>In.</b>	1.75	3.33	1.92	2.68	1.46	2.83	4.01	1.70	1.05	0.84	1.16	0.54

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2007, BY WATER YEAR (WY)**

	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>
<b>Mean</b>	120	153	174	201	214	246	239	192	142	122	128	115
<b>Max</b>	365	430	434	479	445	472	475	475	297	401	426	341
(WY)	(1928)	(1973)	(1973)	(1979)	(1939)	(1994)	(1984)	(1998)	(1968)	(1938)	(1958)	(1971)
<b>Min</b>	38.7	45.7	47.1	62.1	57.1	88.5	85.4	72.0	54.1	36.6	35.6	36.5
(WY)	(1923)	(1923)	(1999)	(1981)	(2002)	(2002)	(1985)	(1992)	(1995)	(1999)	(1995)	(1995)

**01467000 NORTH BRANCH RANCOCAS CREEK AT PEMBERTON, NJ—Continued****SUMMARY STATISTICS**

	<b>Calendar Year 2006</b>	<b>Water Year 2007</b>		<b>Water Years 1922 - 2007</b>	
<b>Annual total</b>	65,162		73,795		
<b>Annual mean</b>	179		202		170
<b>Highest annual mean</b>				286	1978
<b>Lowest annual mean</b>				69.0	2002
<b>Highest daily mean</b>	594	Nov 15	1,410	Apr 17	1,690 Aug 21, 1939
<b>Lowest daily mean</b>	44	Aug 13	44	Sep 27	9.0 Sep 29, 1932
<b>Annual seven-day minimum</b>	44	Aug 18	46	Sep 24	27 Oct 2, 1922
<b>Maximum peak flow</b>			1,470	Apr 17	2,040 Jul 14, 2004
<b>Maximum peak stage</b>			3.67	Apr 17	4.19 Jul 14, 2004
<b>Instantaneous low flow</b>			44	Sep 26-30	9.0 Sep 29, 1932
<b>Annual runoff (cfsm)</b>	1.51		1.71		1.44
<b>Annual runoff (inches)</b>	20.54		23.26		19.59
<b>10 percent exceeds</b>	315		358		311
<b>50 percent exceeds</b>	154		172		140
<b>90 percent exceeds</b>	67		67		61



**01467000 NORTH BRANCH RANCOCAS CREEK AT PEMBERTON, NJ—Continued****WATER-QUALITY RECORDS**

PERIOD OF RECORD.--1923-25, 1958, 1960-71, 1974-97, 2000-01, 2005, 2007.

REMARKS.--Total nitrogen (00600) equals the sum of filtered ammonia-plus-organic nitrogen (00623), filtered nitrite-plus-nitrate nitrogen (00631), and total particulate nitrogen (49570). Cooperative Network Site Descriptor: Statewide Status and Trace Element Assessment (303d) special study site, New Jersey Department of Environmental Protection Watershed Management Area 19. The sample on Sep 13 was for the trace element assessment (303d).

COOPERATION.--Physical measurements and samples for laboratory analyses were provided by personnel of the NJ Department of Environmental Protection. Determinations of dissolved ammonia, dissolved orthophosphate, and suspended residue were performed by the NJ Department of Health and Senior Services, Environmental and Chemical Laboratory.

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 1 of 5

[Remark codes: <, less than; E, estimated.]

Date	Time	Sample type	Turbidity	UV	UV	Barometric pressure, mm Hg	Dissolved oxygen, mg/L	Dissolved oxygen, percent of saturation	pH, water, field, std units	Specific conductance, µS/cm	Temperature, air, deg C	
			white light, det ang	absorbance, 254 nm, wat flt	absorbance, 280 nm, wat flt				mm Hg			
Instan-	taneous	dis-	charge,	corrctd	cfs	NTRU	/cm	/cm	(00025)	(00300)	(00400)	
					(00061)	(63676)	(50624)	(61726)				
<b>Nov</b>												
08...	0900	Environmental	226	5.5	.457	.357	753	9.1	82	5.5	58	14.5
<b>Feb</b>												
21...	1000	Environmental	175	2.8	.295	.227	759	11.5	88	5.0	81	7.5
<b>May</b>												
08...	0930	Environmental	180	3.0	.523	.409	768	8.5	84	5.2	58	18.5
<b>Sep</b>												
04...	0900	Environmental	67	3.3	.351	.279	762	7.3	81	5.6	61	21.0
13...	0800	<i>Trip Blank</i>	--	--	--	--	--	--	--	--	--	--
13...	0830	<i>Field Blank</i>	--	--	--	--	--	--	--	--	--	--
13...	0900	Environmental	61	3.4	--	--	766	6.1	68	4.7	70	14.6

## 01467000 NORTH BRANCH RANCOCAS CREEK AT PEMBERTON, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 2 of 5

[Remark codes: &lt;, less than; E, estimated.]

Date	Temperature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf			Chlor- ide pt, lab, mg/L as CaCO <sub>3</sub> (90410)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti- tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)
							fixed	Chlor- ide, lab, mg/L as CaCO <sub>3</sub> (90410)	Fluor- ide, water, fltrd, mg/L (00950)						
Nov 08...	10.4	11	2.79	.973	1.41	5.26	5	8.47	E.06	4.5	6.44	33	52		
Feb 21...	3.7	9	2.14	.923	.96	8.58	<5	13.4	E.06	5.0	8.04	--	51		
May 08...	14.8	8	2.03	.756	.91	5.71	<5	8.71	<.10	2.9	6.77	--	40		
Sep 04...	20.3	9	2.26	.889	1.19	6.18	<1.7	9.46	<.10	5.0	7.16	--	52		
13...	--	--	--	--	--	--	--	--	--	--	--	--	--		
13...	--	--	--	--	--	--	--	--	--	--	--	--	--		
13...	20.4	--	--	--	--	--	--	--	--	--	--	--	--		

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 3 of 5

[Remark codes: &lt;, less than; E, estimated.]

Date	Residue total non- filter- able, mg/L (00530)	Ammonia		Nitrate		Partic- ulate		Total nitro- gen, water, fltrd, mg/L (49570)	Total nitro- gen, water, unfltrd mg/L (00602)	Ortho- phosphate, water, fltrd, mg/L (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor- ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sediment total, mg/L (00689)
		+ org-N, water, fltrd, mg/L as N (00623)	Ammonia water, fltrd, mg/L as N (00608)	+ nitrite water fltrd, mg/L as N (00631)	nitro- gen, water susp, water, mg/L as N (49570)	Total nitro- gen, water fltrd, mg/L as N (00602)	Total nitro- gen, water unfltrd mg/L as P (00600)	Phos- phorus, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L as P (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor- ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sediment total, mg/L (00689)			
Nov 08...	12	.48	.024	.07	.12	.55	.67	.042	.072	.144	1.9	<.1	1.9		
Feb 21...	2	.22	.030	.11	.05	.33	.38	E.005	.011	.026	.6	<.1	.6		
May 08...	2	.26	.020	.06	.07	.32	.39	.010	.011	.029	.9	<.1	.9		
Sep 04...	2	.24	.047	.10	.06	.34	.40	<.010	.021	.035	.9	<.1	.9		
13...	--	--	--	--	--	--	--	--	--	--	--	--	--		
13...	--	--	--	--	--	--	--	--	--	--	--	--	--		
13...	--	--	--	--	--	--	--	--	--	--	--	--	--		

## 01467000 NORTH BRANCH RANCOCAS CREEK AT PEMBERTON, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 4 of 5

[Remark codes: &lt;, less than; E, estimated.]

Date	Organic carbon, water, fltrd, mg/L (00681)	Beryll-			Chrom-			Iron,			Lead, water, unfltrd recover -able, µg/L (01049)
		Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Arsenic recover -able, µg/L (01007)	Boron, water, unfltrd µg/L (01012)	Boron, water, unfltrd µg/L (01020)	Cadmium water, unfltrd µg/L (01027)	Boron, water, unfltrd µg/L (01034)	Copper, water, unfltrd µg/L (01042)	Iron, water, unfltrd µg/L (01045)	
Nov 08...	9.6	--	--	--	--	14	--	--	--	--	--
Feb 21...	5.9	.24	.42	27.3	E.04	10	11	.09	E.42	1.5	670
May 08...	8.8	--	--	--	--	14	--	--	--	--	--
Sep 04...	5.4	.38	.62	28.7	E.04	16	15	.06	E.37	1.4	1,700
13...	--	--	--	--	--	--	--	--	--	--	<.06
13...	--	--	--	--	--	--	--	--	--	--	<.12
13...	--	--	--	--	--	--	--	--	--	--	.97
											2.46

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 5 of 5

[Remark codes: &lt;, less than; E, estimated.]

Date	Mangan-					
	ese, water, unfltrd µg/L (01055)	Mercury water, unfltrd µg/L (71900)	Nickel, water, unfltrd µg/L (01067)	Selen- ium, water, unfltrd µg/L (01147)	Silver, water, unfltrd µg/L (01077)	Zinc, water, unfltrd µg/L (01092)
Nov 08...	--	--	--	--	--	--
Feb 21...	26.6	<.010	.97	.11	<.02	16
May 08...	--	--	--	--	--	--
Sep 04...	19.4	<.010	.86	.10	.36	8.0
13...	--	--	--	--	--	--
13...	--	--	--	--	--	--
13...	--	--	--	--	--	--