

Water-Data Report 2010

02106500 BLACK RIVER NEAR TOMAHAWK, NC

Cape Fear Basin
Black Subbasin

LOCATION.--Lat 34°45'18", long 78°17'19" referenced to North American Datum of 1983, Sampson County, NC, Hydrologic Unit 03030006, on left bank 30 ft upstream from bridge on North Carolina Highway 411, 0.2 mi downstream of Clear Run Swamp, and 3.8 mi northeast of Tomahawk.

DRAINAGE AREA.--676 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1723: 1955(M). WDR NC-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 24.61 ft above National Geodetic Vertical Datum of 1929. Nonrecording gage on downstream side of bridge October 1, 1951 to June 29, 1961. Water-stage recorder was at present site at datum of 24.26 ft June 30, 1961 to September 30, 1964. Satellite telemetry at streamgage.

REMARKS.--No estimated daily discharges. Records good. Maximum gage height for period of record from floodmarks. Minimum discharge for period of record also occurred September 14, 2007. Minimum discharge for current water year also occurred September 22, 23.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1928 reached a stage of 22.0 ft, present datum; discharge, 14,500 ft³/s and floods in 1945 and 1948 reached a stage of 17.6 ft, present datum; discharge, 5,420 ft³/s, from information furnished by North Carolina State Highway Commission.

02106500 BLACK RIVER NEAR TOMAHAWK, NC—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	535	138	602	1,400	2,520	1,150	1,430	205	1,130	340	94	253
2	541	143	603	1,420	2,150	1,090	1,610	191	1,120	288	70	209
3	498	146	823	1,440	1,960	1,310	1,580	179	1,220	242	69	175
4	427	147	1,090	1,420	1,880	1,590	1,470	169	1,290	194	69	149
5	372	146	1,250	1,330	1,890	1,830	1,380	169	1,370	161	57	124
6	353	142	1,390	1,210	2,300	2,130	1,240	170	1,230	136	53	104
7	344	137	1,450	1,120	2,820	2,430	1,080	162	917	115	67	88
8	317	136	1,450	1,060	3,810	2,480	911	150	584	99	62	76
9	284	134	1,460	996	4,940	2,290	772	136	428	87	68	65
10	253	137	1,660	922	5,080	1,960	714	121	354	79	80	57
11	228	352	1,910	844	4,630	1,710	643	109	342	101	55	52
12	211	1,040	2,260	780	3,900	1,640	575	101	385	335	42	50
13	198	1,310	2,550	734	3,180	1,630	527	94	345	257	43	46
14	191	1,460	2,520	694	2,610	1,630	485	88	499	187	63	44
15	201	1,610	2,230	664	2,250	1,630	450	81	883	155	58	40
16	235	1,760	1,890	640	2,050	1,590	424	73	1,140	140	48	36
17	249	1,890	1,640	703	1,900	1,510	399	209	1,130	130	42	32
18	233	1,910	1,430	975	1,780	1,460	370	203	938	110	39	30
19	220	1,790	1,360	1,140	1,650	1,460	344	264	717	109	271	28
20	209	1,630	1,420	1,220	1,510	1,430	319	355	442	122	644	26
21	198	1,430	1,460	1,310	1,390	1,320	303	369	378	98	611	25
22	188	1,230	1,440	1,420	1,290	1,190	303	333	403	79	403	26
23	178	1,100	1,360	1,530	1,290	1,110	306	283	329	66	344	27
24	168	1,040	1,240	1,670	1,340	1,050	287	568	285	57	370	30
25	159	979	1,150	1,960	1,370	1,000	277	1,120	248	50	731	29
26	150	912	1,460	2,380	1,360	961	277	1,500	636	45	820	29
27	143	833	1,670	2,730	1,310	911	271	1,800	664	42	684	65
28	141	748	1,780	3,180	1,230	859	252	1,910	429	43	544	393
29	141	675	1,790	3,550	---	884	235	1,820	318	57	421	755
30	137	627	1,680	3,430	---	1,090	218	1,600	326	65	359	1,590
31	137	---	1,490	3,010	---	1,260	---	1,330	---	136	306	---
Total	7,839	25,732	47,508	46,882	65,390	45,585	19,452	15,862	20,480	4,125	7,587	4,653
Mean	253	858	1,533	1,512	2,335	1,470	648	512	683	133	245	155
Max	541	1,910	2,550	3,550	5,080	2,480	1,610	1,910	1,370	340	820	1,590
Min	137	134	602	640	1,230	859	218	73	248	42	39	25
Cfsm	0.37	1.27	2.27	2.24	3.45	2.18	0.96	0.76	1.01	0.20	0.36	0.23
In.	0.43	1.42	2.61	2.58	3.60	2.51	1.07	0.87	1.13	0.23	0.42	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2010, BY WATER YEAR (WY)

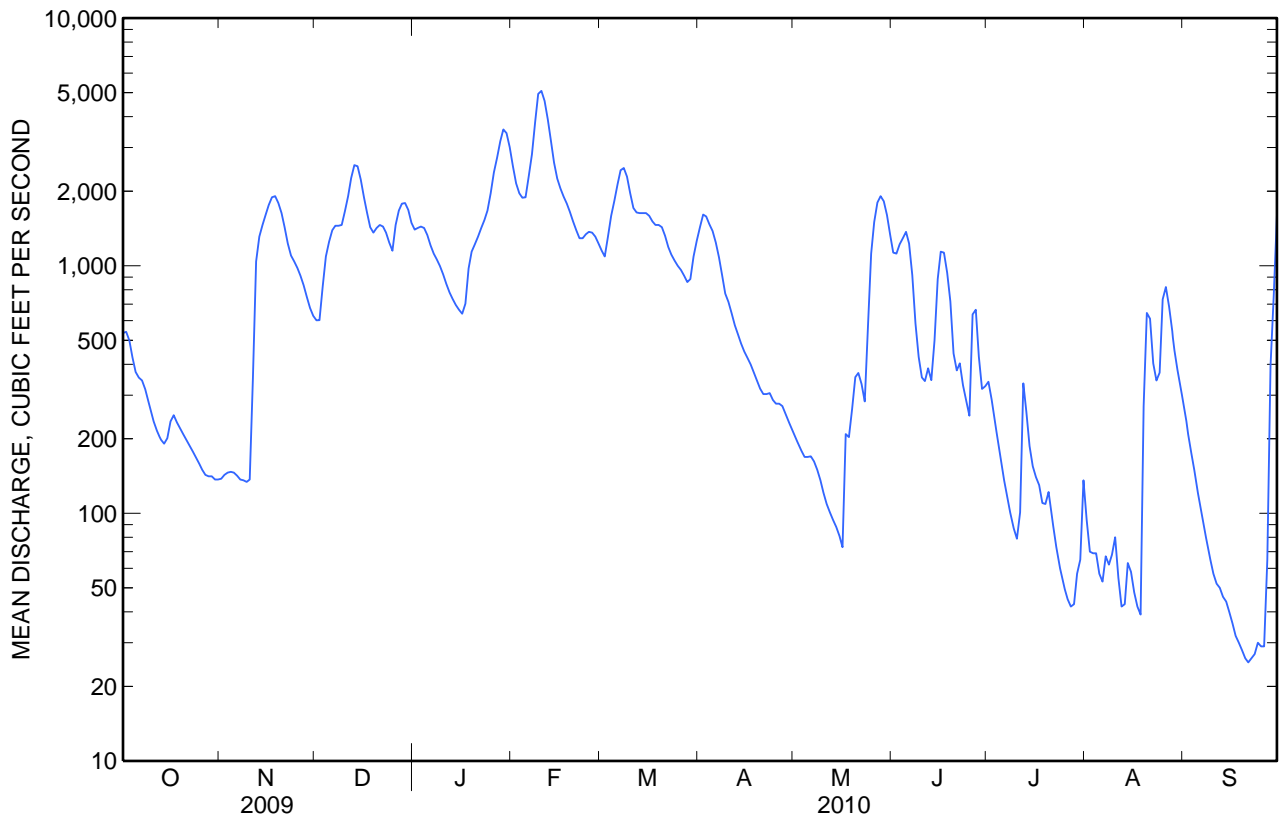
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	508	536	740	1,107	1,285	1,370	1,028	529	467	498	678	721
Max	4,421	2,511	2,164	2,903	4,212	3,410	3,070	1,687	3,089	3,949	2,810	5,812
(WY)	(2000)	(2007)	(1993)	(1993)	(1998)	(1983)	(1973)	(1978)	(1995)	(2003)	(1974)	(1999)
Min	29.6	57.1	238	287	448	423	225	117	66.9	54.6	25.2	13.4
(WY)	(1955)	(1974)	(1989)	(1986)	(1989)	(2006)	(1981)	(2001)	(2007)	(2009)	(1954)	(1954)

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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1952 - 2010	
Annual total	230,737		311,095			
Annual mean	632		852		786	
Highest annual mean					1,300	1960
Lowest annual mean					327	1986
Highest daily mean	3,100	Mar 7	5,080	Feb 10	27,300	Sep 18, 1999
Lowest daily mean	23	Jul 16	25	Sep 21	7.9	Sep 11, 2007
Annual seven-day minimum	25	Jul 14	27	Sep 19	8.4	Sep 8, 2007
Maximum peak flow			5,210	Feb 9	28,500	Sep 18, 1999
Maximum peak stage			17.19	Feb 9	^a 27.14	Sep 18, 1999
Instantaneous low flow			24	Sep 21	^a 7.5	Sep 11, 2007
Annual runoff (cfsm)	0.935		1.26		1.16	
Annual runoff (inches)	12.70		17.12		15.80	
10 percent exceeds	1,430		1,890		1,750	
50 percent exceeds	501		544		510	
90 percent exceeds	127		65		103	

^a See Remarks.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955, 1957-61, 1975-80, 1982-84, 2009-10.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 1 of 13

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Begin time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Discharge, instantaneous, ft ³ /s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, μS/cm at 25 °C (00095)
10-06-2009	1215	Surface water	Regular	763	352	7.8	83	6.4	95
11-13-2009	1200	Surface water	Regular	760	1,310	7.0	68	6.1	127
11-18-2009	1030	Surface water	Regular	760	1,920	7.0	67	5.9	114
12-11-2009	1200	Surface water	Regular	775	1,900	7.9	71	5.2	96
01-12-2010	1045	Surface water	Regular	770	780	13.1	93	5.3	116
01-27-2010	1200	Surface water	Regular	772	2,720	8.5	75	6.1	86
02-10-2010	1130	Surface water	Regular	756	5,120	10.3	83	5.9	80
03-16-2010	1045	Surface water	Regular	765	1,590	8.4	81	6.3	91
03-16-2010	1046	<i>QC sample - Surface water</i>	<i>Replicate</i>	--	--	--	--	--	--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Temperature, water, °C (00010)	Sampler type (84164)	Sampling method (82398)	Dissolved solids dried at 105 degrees Celsius, water, filtered, milligrams per liter (00515)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Hardness, water, mg/L as CaCO ₃ (00900)	Suspended solids, water, unfiltered, mg/L (00530)	Total solids dried at 105 degrees Celsius, water, unfiltered, milligrams per liter (00500)
10-06-2009	19.0	US DH-81 Teflon	EWI non-isokinetic	81	86	19.6	< 15	72
11-13-2009	13.8	US DH-81 Teflon	EWI	108	116	27.5	< 15	134
11-18-2009	13.6	US DH-81 Teflon	EWI	86	81	21.4	< 15	74
12-11-2009	11.2	US DH-81 Teflon	EWI	89	83	20.2	< 15	91
01-12-2010	1.7	US DH-81 Teflon	EWI	79	70	25.7	< 15	67
01-27-2010	10.3	US D-95 Teflon	EWI	65	68	18.3	< 15	75
02-10-2010	5.6	US DH-95 Teflon	EWI	58	54	16.1	< 15	67
03-16-2010	14.0	US DH-95 Teflon	EWI	59	72	20.9	< 15	61
03-16-2010	--	<i>US DH-95 Teflon</i>	<i>EWI</i>	<i>54</i>	<i>71</i>	<i>23.4</i>	<i>< 15</i>	<i>69</i>

02106500 BLACK RIVER NEAR TOMAHAWK, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Calcium, water, filtered, mg/L (00915)	Magne sium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as CaCO ₃ (29801)	Alkalinity, water, filtered, inflection- point, incremental titration method, field, mg/L as CaCO ₃ (39086)	Bicarbon ate, water, filtered, inflection- point, incremental titration method, field, mg/L (00453)	Bromide, water, filtered, mg/L (71870)	Chloride, water, filtered, mg/L (00940)
10-06-2009	4.34	2.14	4.43	7.25	16	11.2	13.7	--	14.7
11-13-2009	6.19	2.93	9.81	7.44	11	6.6	8.0	.04	16.8
11-18-2009	4.68	2.35	9.26	6.93	9	4.4	5.4	.04	16.6
12-11-2009	4.67	2.07	6.24	5.32	E 8	5.0	6.0	.02	12.4
01-12-2010	5.60	2.86	5.54	6.63	10	6.4	7.8	.03	14.5
01-27-2010	3.98	2.03	5.27	4.70	E 8	5.2	6.3	.02	11.3
02-10-2010	3.43	1.84	4.40	4.19	E 5	2.3	2.8	E .02	9.94
03-16-2010	4.79	2.17	4.99	5.46	11	8.1	9.9	.02	11.9
03-16-2010	5.49	2.36	5.58	6.38	12	8.4	10.2	.02	12.0

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Orthophos phate, water, filtered, mg/L as P (00671)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, mg/L (00600)	Aluminum, water, filtered, μg/L (01106)	Aluminum, water, unfiltered, recover able, μg/L (01105)
10-06-2009	3.69	.67	< .020	.12	.046	.108	.78	97.2	182
11-13-2009	13.8	1.1	E .019	1.37	.056	.151	2.4	258	464
11-18-2009	11.6	.64	E .018	.25	.026	.062	.89	175	225
12-11-2009	10.1	.70	< .020	.89	.019	.075	1.6	236	350
01-12-2010	11.3	.48	.057	1.90	.011	.031	2.4	116	236
01-27-2010	9.56	.78	E .017	1.31	.022	.067	2.1	232	374
02-10-2010	8.04	.56	.043	1.80	.017	.052	2.4	222	339
03-16-2010	8.87	.59	< .020	.83	.015	.047	1.4	138	230
03-16-2010	8.87	.52	< .020	.84	.015	.046	1.4	134	220

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Cadmium, water, filtered, μg/L (01025)	Cadmium, water, unfiltered, μg/L (01027)	Chromium, water, filtered, μg/L (01030)	Chromium, water, unfiltered, recover able, μg/L (01034)	Copper, water, filtered, μg/L (01040)	Copper, water, unfiltered, recover able, μg/L (01042)	Iron, water, filtered, μg/L (01046)	Iron, water, unfiltered, recover able, μg/L (01045)	Lead, water, filtered, μg/L (01049)	Lead, water, unfiltered, recover able, μg/L (01051)
10-06-2009	< .02	< .04	.37	.43	< 1.0	< 1.4	588	1,050	.11	.29
11-13-2009	E .01	E .03	.35	.48	E .89	E .86	659	1,070	.20	.50
11-18-2009	E .01	E .02	.32	E .33	E .50	< 1.4	404	582	.15	.23
12-11-2009	E .01	< .04	.36	.46	1.2	E .77	321	469	.16	.32
01-12-2010	E .01	E .03	.23	E .33	< 1.0	E .91	164	477	.06	.45
01-27-2010	E .01	< .04	.31	.91	3.0	E .91	241	359	.15	.32
02-10-2010	E .01	< .04	.29	.42	E .85	E .86	206	298	.14	.32
03-16-2010	E .01	< .04	.30	.43	E .83	< 1.4	222	347	.13	.20
03-16-2010	E .02	E .02	.29	E .42	E .67	E .85	210	346	.11	.22

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Manga nese, water, filtered, μg/L (01056)	Manganes e, water, unfiltered, recover able, μg/L (01055)	Mercury, water, filtered, μg/L (71890)	Mercury, water, unfiltered, recover able, μg/L (71900)	Nickel, water, filtered, μg/L (01065)	Nickel, water, unfiltered, recover able, μg/L (01067)	Zinc, water, filtered, μg/L (01090)	Zinc, water, unfiltered, recover able, μg/L (01092)	Arsenic, water, filtered, μg/L (01000)	Arsenic, water, unfiltered, μg/L (01002)
10-06-2009	16.6	27.1	< .010	< .010	.70	.64	E 1.8	2.5	.67	.75
11-13-2009	43.3	52.5	< .010	< .010	.88	.80	4.4	5.9	.48	.56
11-18-2009	24.9	23.9	< .010	< .010	.76	.63	3.9	3.7	.39	.44
12-11-2009	18.4	20.0	< .010	< .010	.72	.63	5.2	4.4	.38	.45
01-12-2010	15.8	148	< .010	< .010	.58	.80	3.8	6.5	.24	.55
01-27-2010	11.0	12.7	< .010	< .010	.65	.61	4.6	4.5	.33	.45
02-10-2010	11.6	12.2	< .010	< .010	.47	.50	3.9	4.2	.20	.34
03-16-2010	9.9	10.2	< .010	< .010	.72	.64	3.3	3.5	.36	.43
03-16-2010	8.8	10.1	< .010	< .010	.67	.65	3.5	3.6	.36	.52

02106500 BLACK RIVER NEAR TOMAHAWK, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Selenium, water, filtered, μg/L (01145)	Selenium, water, unfiltered, μg/L (01147)	1,4- Dichloro benzene, water, unfiltered, recoverable, μg/L (34571)	2,4,6- Trichlorop henol, water, unfiltered, recoverabl e, microgram s per liter (34621)	2,4- Dichloroph enol, water, unfiltered, recoverabl e, microgram s per liter (34601)	2,4- Dimethylp henol, water, unfiltered, recoverabl e, microgram s per liter (34606)	2-Methyl- 4,6- dinitrophe nol, water, unfiltered, recoverabl e, microgram s per liter (34657)	4-Chloro-3- methylphe nol, water, unfiltered, recoverabl e, microgram s per liter (34452)	4- Nitrophen ol, water, unfiltered, recoverabl e, microgram s per liter (34646)	Hexachlor obenzene, water, unfiltered, recoverabl e, microgram s per liter (39700)
10-06-2009	.12	E .09	< 0.22	< 0.34	< 0.36	< .8	< 0.76	< 0.55	< 0.51	< 0.30
11-13-2009	.11	.11	< 0.22	< 0.34	< 0.36	< .8	< 0.76	< 0.55	< 0.51	< 0.30
11-18-2009	.09	E .08	< 0.22	< 0.34	< 0.36	< .8	< 0.76	< 0.55	< 0.51	< 0.30
12-11-2009	.09	E .08	< 0.22	< 0.34	< 0.36	< .8	< 0.76	< 0.55	< 0.51	< 0.30
01-12-2010	.05	E .05	< 0.22	< 0.34	< 0.36	< .8	< 0.76	< 0.55	< 0.51	< 0.30
01-27-2010	.10	E .07	< 0.22	< 0.34	< 0.36	< .8	< 0.76	< 0.55	< 0.51	< 0.30
02-10-2010	E .10	.10	< 0.22	< 0.34	< 0.36	< .8	< 0.76	< 0.55	< 0.51	< 0.30
03-16-2010	.09	.11	< 0.22	< 0.34	< 0.36	< .8	< 0.76	< 0.55	< 0.51	< 0.30
03-16-2010	.11	.11	< 0.22	< 0.34	< 0.36	< .8	< 0.76	< 0.55	< 0.51	< 0.30

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Pentachlor ophenol, water, unfiltered, recoverabl e, microgram s per liter (39032)	1,2,4-Tri chloro benzene, water, unfiltered, recover able, μg/L (34551)	1,2- Dichloro benzene, water, unfiltered, recover able, μg/L (34536)	1,2- Diphenylhy drazine, water, unfiltered, recoverabl e, microgram s per liter (82626)	1,3- Dichloro benzene, water, unfiltered, recover able, μg/L (34566)	2,4- Dinitrophe nol, water, unfiltered, recoverabl e, microgram s per liter (34616)	2,4- Dinitrotolu ene, water, unfiltered, recoverabl e, microgram s per liter (34611)	2,6- Dinitrotolu ene, water, unfiltered, recoverabl e, microgram s per liter (34626)	2- Chloronap htalene, water, unfiltered, recoverabl e, microgram s per liter (34581)	2- Chlorophe nol, water, unfiltered, recoverabl e, microgram s per liter (34586)
10-06-2009	M	< 0.26	< 0.20	< 0.30	< 0.22	< 1	< 0.56	< 0.4	< 0.16	< 0.26
11-13-2009	< 0.6	< 0.26	< 0.20	< 0.30	< 0.22	< 1	< 0.56	< 0.4	< 0.16	< 0.26
11-18-2009	< 0.6	< 0.26	< 0.20	< 0.30	< 0.22	--	< 0.56	< 0.4	< 0.16	< 0.26
12-11-2009	< 0.6	< 0.26	< 0.20	< 0.30	< 0.22	--	< 0.56	< 0.4	< 0.16	< 0.26
01-12-2010	< 0.6	< 0.26	< 0.20	< 0.30	< 0.22	--	< 0.56	< 0.4	< 0.16	< 0.26
01-27-2010	< 0.6	< 0.26	< 0.20	< 0.30	< 0.22	< 1	< 0.56	< 0.4	< 0.16	< 0.26
02-10-2010	< 0.6	< 0.26	< 0.20	< 0.30	< 0.22	< 1	< 0.56	< 0.4	< 0.16	< 0.26
03-16-2010	< 0.6	< 0.26	< 0.20	< 0.30	< 0.22	< 1	< 0.56	< 0.4	< 0.16	< 0.26
03-16-2010	< 0.6	< 0.26	< 0.20	< 0.30	< 0.22	< 1	< 0.56	< 0.4	< 0.16	< 0.26

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WATER-QUALITY DATA
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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	2-Nitrophenol, water, unfiltered, recoverable, e,	3,3'-Dichlorobenzidine, water, unfiltered, recoverable, e,	4-Bromophenyl ether, water, unfiltered, recoverable, e,	4-Chlorophenyl ether, water, unfiltered, recoverable, e,	9H-Fluorene, water, unfiltered, recoverable, e,	Acenaphthylene, water, unfiltered, recoverable, e,	Acenaphthylene, water, unfiltered, recoverable, e,	Anthracene, water, unfiltered, recoverable, e,	Benzo[a]anthracene, water, unfiltered, recoverable, e,	Benzo[a]pyrene, water, unfiltered, recoverable, e,
	micrograms per liter (34591)	micrograms per liter (34631)	micrograms per liter (34636)	micrograms per liter (34641)	micrograms per liter (34381)	micrograms per liter (34205)	micrograms per liter (34200)	micrograms per liter (34220)	micrograms per liter (34526)	micrograms per liter (34247)
10-06-2009	< 0.40	< 0.42	< 0.24	< 0.34	< 0.33	< 0.28	< 0.30	< 0.39	< 0.26	< 0.33
11-13-2009	< 0.40	< 0.42	< 0.24	< 0.34	< 0.33	< 0.28	< 0.30	< 0.39	< 0.26	< 0.33
11-18-2009	< 0.40	< 0.42	< 0.24	< 0.34	< 0.33	< 0.28	< 0.30	< 0.39	< 0.26	< 0.33
12-11-2009	< 0.40	< 0.42	< 0.24	< 0.34	< 0.33	< 0.28	< 0.30	< 0.39	< 0.26	< 0.33
01-12-2010	< 0.40	--	< 0.24	< 0.34	< 0.33	< 0.28	< 0.30	< 0.39	< 0.26	< 0.33
01-27-2010	< 0.40	< 0.42	< 0.24	< 0.34	< 0.33	< 0.28	< 0.30	< 0.39	< 0.26	< 0.33
02-10-2010	< 0.40	< 0.42	< 0.24	< 0.34	< 0.33	< 0.28	< 0.30	< 0.39	< 0.26	< 0.33
03-16-2010	< 0.40	< 0.42	< 0.24	< 0.34	< 0.33	< 0.28	< 0.30	< 0.39	< 0.26	< 0.33
03-16-2010	< 0.40	< 0.42	< 0.24	< 0.34	< 0.33	< 0.28	< 0.30	< 0.39	< 0.26	< 0.33

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Benzo[b]fluoranthene, water, unfiltered, recoverable, e,	Benzo[ghi]perylene, water, unfiltered, recoverable, e,	Benzo[k]fluoranthene, water, unfiltered, recoverable, e,	Benzyl n-butyl phthalate, water, unfiltered, recoverable, e,	Bis(2-chloroethoxy)methane, water, unfiltered, recoverable, e,	Bis(2-chloroethyl) ether, water, unfiltered, recoverable, e,	Bis(2-chloroisopropyl) ether, water, unfiltered, recoverable, e,	Bis(2-ethylhexyl) phthalate, water, unfiltered, recoverable, e,	Chrysene, water, unfiltered, recoverable, e,	Dibenzo[a,h]anthracene, water, unfiltered, recoverable, e,
	micrograms per liter (34230)	micrograms per liter (34521)	micrograms per liter (34242)	micrograms per liter (34292)	micrograms per liter (34278)	micrograms per liter (34273)	micrograms per liter (34283)	micrograms per liter (39100)	micrograms per liter (34320)	micrograms per liter (34556)
10-06-2009	< 0.30	< 0.38	< 0.30	< 2	< 0.24	< 0.30	< 0.14	< 2	< 0.33	< 0.42
11-13-2009	< 0.30	< 0.38	< 0.30	< 2	< 0.24	< 0.30	< 0.14	< 2	< 0.33	< 0.42
11-18-2009	< 0.30	< 0.38	< 0.30	< 2	< 0.24	< 0.30	< 0.14	< 2	< 0.33	< 0.42
12-11-2009	< 0.30	< 0.38	< 0.30	< 2	< 0.24	< 0.30	< 0.14	< 2	< 0.33	< 0.42
01-12-2010	< 0.30	< 0.38	< 0.30	< 2	< 0.24	< 0.30	< 0.14	< 2	< 0.33	< 0.42
01-27-2010	< 0.30	< 0.38	< 0.30	< 2	< 0.24	< 0.30	< 0.14	< 2	< 0.33	< 0.42
02-10-2010	< 0.30	< 0.38	< 0.30	< 2	< 0.24	< 0.30	< 0.14	< 2	< 0.33	< 0.42
03-16-2010	< 0.30	< 0.38	< 0.30	< 2	< 0.24	< 0.30	< 0.14	< 2	< 0.33	< 0.42
03-16-2010	< 0.30	< 0.38	< 0.30	< 2	< 0.24	< 0.30	< 0.14	< 2	< 0.33	< 0.42

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WATER-QUALITY DATA
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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Diethyl phthalate, water, unfiltered, recoverable, micrograms per liter (34336)	Dimethyl phthalate, water, unfiltered, recoverable, micrograms per liter (34341)	Di-n-butyl phthalate, water, unfiltered, recoverable, micrograms per liter (39110)	Di-n-octyl phthalate, water, unfiltered, recoverable, micrograms per liter (34596)	Fluoranthene, water, unfiltered, recoverable, micrograms per liter (34376)	Hexachlorobutadiene, water, unfiltered, recoverable, micrograms per liter (39702)	Hexachlorocyclopentadiene, water, unfiltered, recoverable, micrograms per liter (34386)	Hexachloroethane, water, unfiltered, recoverable, micrograms per liter (34396)	Indeno[1,2,3-cd]pyrene, water, unfiltered, recoverable, micrograms per liter (34403)	Isophorone, water, unfiltered, recoverable, micrograms per liter (34408)
10-06-2009	< 0.61	< 0.36	< 2	< 0.6	< 0.30	< 0.24	< 0.50	< 0.24	< 0.38	M
11-13-2009	< 0.61	< 0.36	< 2	< 0.6	< 0.30	< 0.24	< 0.50	< 0.24	< 0.38	M
11-18-2009	< 0.61	< 0.36	< 2	< 0.6	< 0.30	< 0.24	< 0.50	< 0.24	< 0.38	M
12-11-2009	< 0.61	< 0.36	< 2	< 0.6	< 0.30	< 0.24	< 0.50	< 0.24	< 0.38	< 0.26
01-12-2010	< 0.61	< 0.36	< 2	< 0.6	< 0.30	< 0.24	< 0.50	< 0.24	< 0.38	< 0.26
01-27-2010	< 0.61	< 0.36	< 2	< 0.6	< 0.30	< 0.24	< 0.50	< 0.24	< 0.38	M
02-10-2010	< 0.61	< 0.36	< 2	< 0.6	< 0.30	< 0.24	< 0.50	< 0.24	< 0.38	< 0.26
03-16-2010	< 0.61	< 0.36	< 2	< 0.6	M	< 0.24	< 0.50	< 0.24	< 0.38	M
03-16-2010	< 0.61	< 0.36	< 2	< 0.6	< 0.30	< 0.24	< 0.50	< 0.24	< 0.38	M

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Naphthalene, water, unfiltered, recoverable, micrograms per liter (34696)	Nitrobenzene, water, unfiltered, recoverable, micrograms per liter (34447)	N-Nitrosodimethylamine, water, unfiltered, recoverable, micrograms per liter (34438)	N-Nitrosodipropylamine, water, unfiltered, recoverable, micrograms per liter (34428)	N-Nitrosodiphenylamine, water, unfiltered, recoverable, micrograms per liter (34433)	Oil and grease, water, unfiltered, hexane extraction, recoverable, milligrams per liter (00552)	Organic carbon, water, filtered, milligrams per liter (00681)	Organic carbon, water, unfiltered, milligrams per liter (00680)	Phenanthrene, water, unfiltered, recoverable, micrograms per liter (34461)	Phenol, water, unfiltered, recoverable, micrograms per liter (34694)
10-06-2009	< 0.22	< 0.26	< 0.24	< 0.4	< 0.28	E 2.8	13.4	16.9	< 0.32	< .3
11-13-2009	< 0.22	< 0.26	< 0.24	< 0.4	< 0.28	E 2.5	15.8	18.2	< 0.32	< .3
11-18-2009	< 0.22	< 0.26	< 0.24	< 0.4	< 0.28	E 2.9	14.5	15.2	< 0.32	< .3
12-11-2009	< 0.22	< 0.26	< 0.24	< 0.4	< 0.28	E 2.30	12.3	14.8	< 0.32	< .3
01-12-2010	< 0.22	< 0.26	< 0.24	< 0.4	< 0.28	< 5.0	7.1	7.9	< 0.32	< .3
01-27-2010	< 0.22	< 0.26	< 0.24	< 0.4	< 0.28	E 2.50	10.4	10.2	< 0.32	< .3
02-10-2010	< 0.22	< 0.26	< 0.24	< 0.4	< 0.28	E 2.60	9.1	8.5	< 0.32	< .3
03-16-2010	< 0.22	< 0.26	< 0.24	< 0.4	< 0.28	E 2.30	9.4	10.1	< 0.32	< .3
03-16-2010	< 0.22	< 0.26	< 0.24	< 0.4	< 0.28	E 1.80	9.3	10.0	< 0.32	< .3

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; --, no data; <, less than; E, estimated; M, presence verified but not quantified]

Begin date	Pyrene,	Suspended	Suspended
	water,	sediment,	
	unfiltered,	sieve	sediment
	recoverabl	diameter,	concen
	e,	percent	tration,
	microgram	smaller	
	s per liter	than 0.0625	
	(34469)	mm	mg/L
	(70331)	(80154)	
10-06-2009	< 0.35	96	32
11-13-2009	< 0.35	91	53
11-18-2009	< 0.35	95	26
12-11-2009	< 0.35	75	11
01-12-2010	< 0.35	72	3
01-27-2010	< 0.35	41	17
02-10-2010	< 0.35	24	13
03-16-2010	< 0.35	84	4
03-16-2010	< 0.35	75	6