



Water-Data Report 2007

362231079310804 Local number RK-242; DENR Upper Piedmont Research Station MW-S3D (Bedrock well).

Piedmont and Blue Ridge crystalline-rock aquifers
Felsic Gneiss

Rockingham County, NC

LOCATION.--Lat 36°22'32", long 79°41'08" referenced to North American Datum of 1983, Rockingham County, NC, Hydrologic Unit 03010103, .6 mi north of Wentworth Street, .6 mi west of Secondary Road 1993 on North Carolina State University Research Farm. Owner: NCDENR (North Carolina Department of Environment and Natural Resources), Division of Water Quality.

GROUND-WATER RECORDS

WELL CHARACTERISTICS.--Drilled observation well, depth 438 ft, diameter 6.25 in., cased to 87.5 ft, open hole from 87.5 to 438 ft.

DATUM.--Land-surface datum is 705.48 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of protective steel casing at lock bracket, 2.94 ft above land-surface datum, May 6, 2002, to present.

PERIOD OF RECORD.--May 2002 to current year.

GAGE.--Measured periodically with electric tape by NCDENR, Division of Water Quality.

REMARKS.--Well is part of Piedmont/Mountains ground-water study.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.52 ft below land-surface datum, July 7, 2003; lowest water level measured, 26.29 ft below land-surface datum, October 23, 2002.

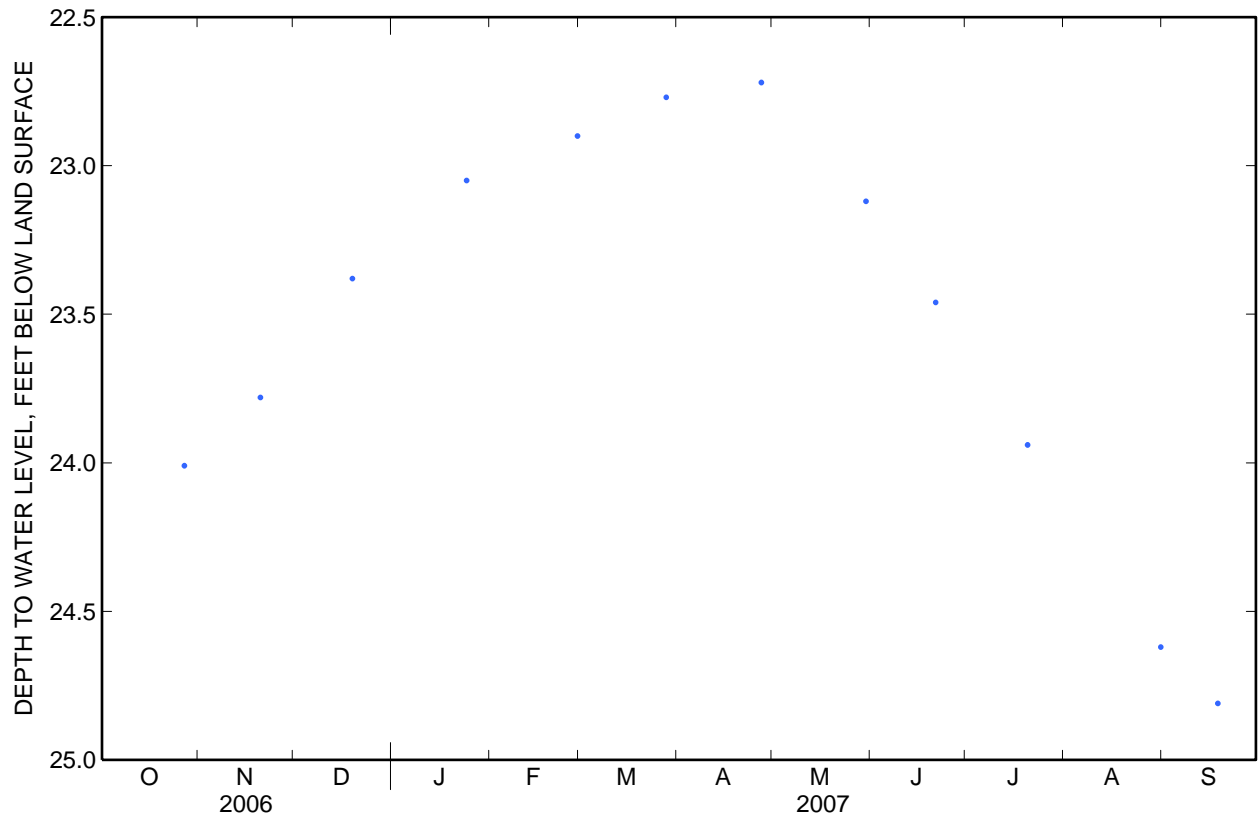
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water level	Date	Water level
Oct 27, 2006	24.01	Apr 27, 2007	22.72
Nov 20	23.78	May 30	23.12
Dec 19	23.38	Jun 21	23.46
Jan 24, 2007	23.05	Jul 20	23.94
Feb 28	22.90	Aug 31	24.62
Mar 28	22.77	Sep 18	24.81

Highest: 22.72 Apr 27, 2007

Lowest: 24.81 Sep 18, 2007

362231079310804 Local number RK-242; DENR Upper Piedmont Research Station MW-S3D (Bedrock well).—Continued



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 2007.

REMARKS.--Water quality data collected as part of the National Water Quality Assessment Program (NAWQA).

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	Time	Depth to water level, feet below LSD (72019)	Water level, depth below MP, feet (61055)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd μ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
Sep 19...	1155	24.81	27.75	755	5.9	60	6.2	178	15.9	51	12.2	4.93	.91

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat fltrd, inc tit, mg/L as CaCO3 (39086)	Bicarbonate, wat fltrd, incrm, titr., mg/L (00453)	Bromide, water, fltrd, mg/L (71870)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue on evap. at 180degC, wat fltrd, mg/L (70300)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Total nitrogen, wat fltrd by analysis, mg/L (62854)
Sep 19...	12.8	31	38	.03	7.01	.12	41.0	1.84	148	<.020	9.77	<.002	10.8

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Organic carbon, water, fltrd, mg/L (00681)	Colipge F-spec, 2-step, pres or absence /L (99335)	Colipge som, Ec CN13hst, 2-step, pres or absence /L (99332)	E coli, MI MF, water, col/ 100 mL (90901)	Total coliform, MI MF, water, col/ 100 mL (90900)	Aluminum, water, fltrd, μ g/L (01106)	Antimony, water, fltrd, μ g/L (01095)	Arsenic, water, fltrd, μ g/L (01000)	Barium, water, fltrd, μ g/L (01005)	Beryllium, water, fltrd, μ g/L (01010)	Boron, water, fltrd, μ g/L (01020)	Cadmium, water, fltrd, μ g/L (01025)
Sep 19...	.033	.7	U	U	<1	<1	<1.6	<.06	E.06	2	<.06	<8	<.04

362231079310804 Local number RK-242; DENR Upper Piedmont Research Station MW-S3D (Bedrock well).—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	Chromium, water, fltrd, µg/L (01030)	Cobalt water, fltrd, µg/L (01035)	Copper, water, fltrd, µg/L (01040)	Hydrogen sulfide water, unfltrd mg/L (71875)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lithium water, fltrd, µg/L (01130)	Manganese, water, fltrd, µg/L (01056)	Molybdenum, water, fltrd, µg/L (01060)	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Strontium, water, fltrd, µg/L (01080)
Sep 19...	.53	.04	<.40	U	<6	.36	1.8	1.9	.8	.50	.08	<.1	94.3

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 5 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	Thallium, water, fltrd, µg/L (01057)	Vanadium, water, fltrd, µg/L (01085)	Zinc, water, fltrd, µg/L (01090)	1-Naphthol, water, fltrd 0.7u GF µg/L (49295)	2,6-Diethyl- aniline water, fltrd 0.7u GF µg/L (82660)	2Chloro- 2',6'- diethyl acet- anilide wat flt µg/L (61618)	CIAT, water, fltrd, µg/L (04040)	2-Ethyl- 6- methyl- aniline water, fltrd, µg/L (61620)	3,4-Di- chloro- aniline water, fltrd, µg/L (61625)	3,5-Di- chloro- aniline water, fltrd, µg/L (61627)	4- Chloro- 2methyl phenol, water, fltrd, µg/L (61633)	Aceto- chlor, water, fltrd, µg/L (49260)	Ala- chlor, water, fltrd, µg/L (46342)
Sep 19...	<.04	1.5	693	<.09	<.006	<.006	<.014	<.010	<.004	<.012	<.005	<.006	<.005

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 6 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	alpha- Endo- sulfan, water, fltrd, µg/L (34362)	Atra- zine, water, fltrd, µg/L (39632)	Azin- phos- methyl oxon, water, fltrd, µg/L (61635)	Azin- phos- methyl, water, fltrd 0.7u GF µg/L (82686)	Ben- flur- alin, water, fltrd 0.7u GF µg/L (82673)	Car- baryl, water, fltrd 0.7u GF µg/L (82680)	Carbo- furan, water, fltrd 0.7u GF µg/L (82674)	Chlor- pyrifos oxon, water, fltrd, µg/L (61636)	Chlor- pyrifos water, fltrd, µg/L (38933)	cis- Per- methrin water fltrd 0.7u GF µg/L (82687)	cis- Propi- cona- zole, water, fltrd, µg/L (79846)	Cyana- zine, water, fltrd, µg/L (04041)	Cyflu- thrin, water, fltrd, µg/L (61585)
Sep 19...	<.011	<.007	<.04	<.080	<.010	<.060	<.020	<.06	<.005	<.010	<.013	<.018	<.053

362231079310804 Local number RK-242; DENR Upper Piedmont Research Station MW-S3D (Bedrock well).—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 7 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	lambda-Cyhalothrin, water, fltrd, µg/L (61595)	Cypermethrin, water, fltrd, µg/L (61586)	DCPA, water, fltrd, 0.7u GF µg/L (82682)	Desulf-inyl-fipronil, water, fltrd, µg/L (62170)	Diazinon, water, fltrd, µg/L (39572)	Dicrotophos, water, fltrd, µg/L (38454)	Dieldrin, water, fltrd, µg/L (39381)	Dimethoate, water, fltrd, 0.7u GF µg/L (82662)	Disulfoton, water, fltrd, µg/L (61640)	Disulfoton, water, fltrd, 0.7u GF µg/L (82677)	Endosulfan, water, fltrd, µg/L (61590)	EPTC, water, fltrd, 0.7u GF µg/L (82668)	Ethion monoxon, water, fltrd, µg/L (61644)
Sep 19...	<.014	<.046	<.003	<.012	<.005	<.08	<.009	<.006	<.01	<.02	<.022	<.002	<.02

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 8 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	Ethion, water, fltrd, µg/L (82346)	Ethoprop, water, fltrd, 0.7u GF µg/L (82672)	Fenamiphos sulfone, water, fltrd, µg/L (61645)	Fenamiphos sulfide, water, fltrd, µg/L (61646)	Fenamiphos, water, fltrd, µg/L (61591)	Desulf-inyl-fipronil amide, wat flt µg/L (62169)	Fipronil sulfide, water, fltrd, µg/L (62167)	Fipronil sulfone, water, fltrd, µg/L (62168)	Fipronil, water, fltrd, µg/L (62166)	Fonofos, water, fltrd, µg/L (04095)	Hexazinone, water, fltrd, µg/L (04025)	Iprodione, water, fltrd, µg/L (61593)	Isofenphos, water, fltrd, µg/L (61594)
Sep 19...	<.016	<.012	<.053	<.06	<.03	<.029	<.013	<.024	<.016	<.006	<.026	<.026	<.011

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 9 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	Malathion, water, fltrd, µg/L (61652)	Malathion, water, fltrd, µg/L (39532)	Metolaxyl, water, fltrd, µg/L (61596)	Methion, water, fltrd, µg/L (61598)	Methyl parathion, water, fltrd, µg/L (61664)	Methyl parathion, water, fltrd, 0.7u GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd, 0.7u GF µg/L (82671)	Myclobutanil, water, fltrd, µg/L (61599)	Oxyfluorfen, water, fltrd, µg/L (61600)	Pendimethalin, water, fltrd, 0.7u GF µg/L (82683)	Phorate oxon, water, fltrd, µg/L (61666)
Sep 19...	<.039	<.016	<.007	<.009	<.02	<.008	<.010	<.012	<.003	<.033	<.017	<.020	<.03

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 10 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	Phorate water, fltrd 0.7u GF µg/L (82664)	Phosmet water, fltrd, µg/L (61668)	Phosmet water, fltrd, µg/L (61601)	Prome- ton, water, fltrd, µg/L (04037)	Prome- tryn, water, fltrd, µg/L (04036)	Propy- zamide, water, fltrd 0.7u GF µg/L (82676)	Pro- panil, water, fltrd 0.7u GF µg/L (82679)	Propar- gite, water, fltrd 0.7u GF µg/L (82685)	Sima- zine, water, fltrd, µg/L (04035)	Tebu- thiuron water, fltrd 0.7u GF µg/L (82670)	Teflu- thrin, water, fltrd, µg/L (61606)	Ter- bufos oxon sulfone water, fltrd, µg/L (61674)	Terbu- fos, water, fltrd 0.7u GF µg/L (82675)
Sep 19...	<.020	<.05	<.008	<.01	<.006	<.004	<.011	<.02	<.006	<.02	<.003	<.04	<.01

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 11 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	Ter- buthyl- azine, water, fltrd, µg/L (04022)	Thio- bencarb water, fltrd 0.7u GF µg/L (82681)	trans- Propi- cona- zole, water, fltrd, µg/L (79847)	Tribu- phos, water, fltrd, µg/L (61610)	Tri- flur- alin, water, fltrd 0.7u GF µg/L (82661)	1,1,1,2 -Tetra- chloro- ethane, water, unfltrd µg/L (77562)	1,1,1- Tri- chloro- ethane, water, unfltrd µg/L (34506)	1,1,2,2 -Tetra- chloro- ethane, water, unfltrd µg/L (34516)	CFC-113 water, unfltrd µg/L (77652)	1,1,2- Tri- chloro- ethane, water, unfltrd µg/L (34511)	1,1-Di- chloro- ethane, water, unfltrd µg/L (34496)	1,1-Di- chloro- ethene, water, unfltrd µg/L (34501)	1,1-Di- chloro- propene water, unfltrd µg/L (77168)
Sep 19...	<.01	<.010	<.03	<.035	<.009	<.04	<.04	<.10	<.04	<.04	<.06	<.02	<.04

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 12 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	1,2,3,4 -Tetra- methyl- benzene water, unfltrd µg/L (49999)	1,2,3,5 -Tetra- methyl- benzene water, unfltrd µg/L (50000)	1,2,3- Tri- chloro- benzene water, unfltrd µg/L (77613)	1,2,3- Tri- chloro- propane water, unfltrd µg/L (77443)	1,2,3- Tri- methyl- benzene water, unfltrd µg/L (77221)	1,2,4- Tri- chloro- benzene water, unfltrd µg/L (34551)	1,2,4- Tri- methyl- benzene water, unfltrd µg/L (77222)	Dibromo chloro- propane water, unfltrd µg/L (82625)	1,2-Di- bromo- ethane, water, unfltrd µg/L (77651)	1,2-Di- chloro- benzene water, unfltrd µg/L (34536)	1,2-Di- chloro- ethane, water, unfltrd µg/L (32103)	1,2-Di- chloro- propane water, unfltrd µg/L (34541)	1,3,5- Tri- methyl- benzene water, unfltrd µg/L (77226)
Sep 19...	<.1	<.1	<.1	<.12	<.1	<.1	<.04	<.5	<.04	<.04	<.1	<.02	<.04

362231079310804 Local number RK-242; DENR Upper Piedmont Research Station MW-S3D (Bedrock well).—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 13 of 18

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified; U, analyzed for but not detected.]

Date	1,3-Di-chloro-benzene water, unfltrd µg/L (34566)	1,3-Di-chloro-propane water, unfltrd µg/L (77173)	1,4-Di-chloro-benzene water, unfltrd µg/L (34571)	2,2-Di-chloro-propane water, unfltrd µg/L (77170)	2-Chloro-toluene water, unfltrd µg/L (77275)	2-Ethyl-toluene water, unfltrd µg/L (77220)	3-Chloro-propene water, unfltrd µg/L (78109)	4-Chloro-toluene water, unfltrd µg/L (77277)	4-Iso-propyl-toluene water, unfltrd µg/L (77356)	Acetone water, unfltrd µg/L (81552)	Acrylo-nitrile water, unfltrd µg/L (34215)	Benzene water, unfltrd µg/L (34030)	Bromo-benzene water, unfltrd µg/L (81555)
Sep 19...	<.04	<.1	<.04	<.06	<.04	<.04	<.08	<.04	<.08	<6	<.4	<.02	<.02

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 14 of 18

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Date	Bromo-chloro-methane water, unfltrd µg/L (77297)	Bromo-di-chloro-methane water, unfltrd µg/L (32101)	Bromo-ethene water, unfltrd µg/L (50002)	Bromo-methane water, unfltrd µg/L (34413)	Carbon di-sulfide water, unfltrd µg/L (77041)	Chloro-benzene water, unfltrd µg/L (34301)	Chloro-ethane water, unfltrd µg/L (34311)	Chloro-methane water, unfltrd µg/L (34418)	cis-1,2-Di-chloro-ethene water, unfltrd µg/L (77093)	cis-1,3-Di-chloro-propene water, unfltrd µg/L (34704)	Di-bromo-chloro-methane water, unfltrd µg/L (32105)	Di-bromo-methane water, unfltrd µg/L (30217)	Di-chloro-fluoro-methane water, unfltrd µg/L (34668)
Sep 19...	<.06	<.04	<.1	<.4	<.06	<.02	<.1	<.1	<.02	<.06	<.1	<.04	<.14

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 15 of 18

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Date	Di-chloro-methane water, unfltrd µg/L (34423)	Di-ethyl-ether, water, unfltrd µg/L (81576)	Diiso-propyl-ether, water, unfltrd µg/L (81577)	Ethyl-methac-rylate, water, unfltrd µg/L (73570)	Ethyl-methyl-ketone, water, unfltrd µg/L (81595)	Ethyl-benzene water, unfltrd µg/L (34371)	Hexa-chloro-buta-diene, water, unfltrd µg/L (39702)	Hexa-chloro-ethane, water, unfltrd µg/L (34396)	Iodo-methane water, unfltrd µg/L (77424)	Iso-butyl-methyl-ketone, water, unfltrd µg/L (78133)	Iso-propyl-benzene water, unfltrd µg/L (77223)	Methyl-acrylo-nitrile water, unfltrd µg/L (81593)	Methyl-acryl-ate, water, unfltrd µg/L (49991)
Sep 19...	<.04	<.1	<.06	<.1	<1.6	<.02	<.1	<.1	<.40	<.2	<.04	<.4	<.4

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 16 of 18

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Date	Methyl methac- rylate, water, unfltrd	Methyl tert- pentyl ether, water, unfltrd	meta- + para- Xylene, water, unfltrd	Naphth- alene, water, unfltrd	Methyl n-butyl ketone, water, unfltrd	n-Butyl benzene water, unfltrd	n- propyl- benzene water, unfltrd	o- Xylene, water, unfltrd	sec- Butyl- benzene water, unfltrd	Styrene water, unfltrd	t-Butyl ethyl ether, water, unfltrd	Methyl t-butyl ether, water, unfltrd	tert- Butyl- benzene water, unfltrd
	µg/L (81597)	µg/L (50005)	µg/L (85795)	µg/L (34696)	µg/L (77103)	µg/L (77342)	µg/L (77224)	µg/L (77135)	µg/L (77350)	µg/L (77128)	µg/L (50004)	µg/L (78032)	µg/L (77353)
Sep 19...	<.2	<.04	<.08	<.4	<.4	<.1	<.04	<.04	<.04	<.04	<.04	<.1	<.08

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 17 of 18

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Date	Tetra- chloro- ethene, water, unfltrd	Tetra- chloro- methane water, unfltrd	Tetra- hydro- furan, water, unfltrd	Toluene water, unfltrd	trans- 1,2-Di- chloro- ethene, water, unfltrd	trans- 1,3-Di- chloro- propene water, unfltrd	trans- 1,4-Di- chloro- 2- butene, wat unf	Tri- bromo- methane water, unfltrd	Tri- chloro- ethene, water, unfltrd	Tri- chloro- fluoro- methane water, unfltrd	Tri- chloro- methane water, unfltrd	Vinyl chlor- ide, water, unfltrd	Di- chlor- vos, water, fltrd,
	µg/L (34475)	µg/L (32102)	µg/L (81607)	µg/L (34010)	µg/L (34546)	µg/L (34699)	µg/L (73547)	µg/L (32104)	µg/L (39180)	µg/L (34488)	µg/L (32106)	µg/L (39175)	µg/L (38775)
Sep 19...	<.04	<.08	<1	<.02	<.02	<.10	<.6	<.08	<.02	<.08	<.04	<.1	<.01

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 18 of 18

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Date	Gross alpha 30 day recount wat unf	Gross alpha radioac 72 hr, wat unf	Gross beta 30 day recount wat unf	Gross beta radioac 72 hr, wat unf	Ra-226, water, fltrd, method	Ra-228, water, fltrd,	Rn-222 2-sigma water, unfltrd	Rn-222, water, unfltrd	Uranium natural water, fltrd,	
	pCi/L (63016)	pCi/L (63014)	pCi/L (63017)	pCi/L (63015)	pCi/L (09511)	pCi/L (81366)	pCi/L (76002)	pCi/L (82303)	µg/L (22703)	
Sep 19...		.3	.9	.8	M	.022	.05	68	5,040	.16