



Water-Data Report 2008

391005077521301 Local number Jef-0653

Valley and Ridge aquifers
Waynesboro Formation
Jefferson County, WV

LOCATION.--Lat 39°10'05.2", long 77°52'13.1" referenced to North American Datum of 1983, Jefferson County, WV, Hydrologic Unit 02070007.

WATER-QUALITY RECORDS

REMARKS.--In late summer 2006 and early winter 2007, six ground-water samples were collected in support of an investigation of the habitat of the Madison Cave isopod (*Antrilana lira*). This threatened species' known range is limited to the Shenandoah Valley of Virginia and West Virginia. Samples were collected by the U.S. Geological Survey in cooperation with the U.S. Fish and Wildlife Service in Jefferson and Berkeley Counties, West Virginia. This historically agricultural area is now undergoing rapid urbanization, which may ultimately impact the habitat of the Madison Cave isopod. Samples were analyzed for a broad group of man-made organic compounds including personal care products, pharmaceuticals, and pesticides that commonly occur in human waste streams or agricultural drainage. Results for water-quality measurements and analyses of major ions and wastewater compounds are found below.

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**

Part 1 of 8

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

Date	Time	Depth of well, feet below LSD (72008)	Depth to water level, feet below LSD (72019)	Altitude of land surface, feet (72000)	Pump or flow period prior to sampling, minutes (72004)	Turbidity white light, 90+/-30 corrctd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf 25 degC µS/cm (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
Aug 29...	1220	175	72.51	447	131	<1.0	741	8.8	7.0	483	29.0	14.1

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**

Part 2 of 8

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

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt inf tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt infl pt titr., field, mg/L (00453)	Carbonate, wat flt infl pt titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L as SiO2 (00955)	Sulfate, water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)
Aug 29...	79.2	11.0	1.76	1.75	170	207	<1	6.40	.16	10.4	14.9	E.006

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 3 of 8

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

Date	Nitrate + nitrite water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L as P (00666)	Iron, water, fltrd, µg/L (01046)	Manganese, water, fltrd, µg/L (01056)	1-Methylnaphthalene, water, unfltrd, µg/L (81696)	2,6-Dimethylnaphthalene, water, unfltrd, µg/L (62805)	2-Methylnaphthalene, water, unfltrd, µg/L (30194)	3-beta-Coprostanol, water, unfltrd, µg/L (62806)	3-Methyl-1H-indole, water, unfltrd, µg/L (62807)	3-tert-Butyl-4-hydroxyanisole, wat unfltrd, µg/L (61702)	4-Cumylphenol, water, unfltrd, µg/L (62808)
Aug 29...	11.3	<.002	.009	<.04	<6	<.6	<.2	<.2	<.2	<.8	<.2	<.2	<.2

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 4 of 8

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

Date	4-n-Octylphenol, water, unfltrd, µg/L (62809)	4-Nonylphenol, all isomers, wat unfltrd, µg/L (62829)	4-Nonylphenol diethoxylate, wat unfltrd, µg/L (61703)	4-Nonylphenol monoethoxylate, wat unfltrd, µg/L (61704)	4t-Octylphenol diethoxylate, wat flt, µg/L (61705)	4t-Octylphenol monoethoxylate, wat flt, µg/L (61706)	4-tert-Octylphenol, water, unfltrd, µg/L (62810)	5-Methyl-1H-benzotriazole, wat unfltrd, µg/L (61944)	Acetophenone, water, unfltrd, µg/L (62811)	AHTN, water, unfltrd, µg/L (62812)	Anthracene, water, unfltrd, µg/L (34220)	9,10-Anthraquinone, water, unfltrd, µg/L (62813)	Atrazine, water, unfltrd, µg/L (39630)
Aug 29...	<.2	<.2	<.3	<2.0	<.32	<.1	<.2	<.2	<.2	<.2	<.2	<.2	E.20

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 5 of 8

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

Date	BDE congenr 47, water, unfltrd, µg/L (63147)	Benzo[a]pyrene, water, unfltrd, µg/L (34247)	Benzo-phenone, water, unfltrd, µg/L (62814)	beta-Sitosterol, water, unfltrd, µg/L (62815)	beta-Stigmasterol, water, unfltrd, µg/L (61948)	Bis(2-ethylhexyl)phthalate, wat unfltrd, µg/L (39100)	Bisphenol A, water, unfltrd, µg/L (62816)	Bisphenol A-d3, surrog, water, unfltrd, pct rcv (62839)	Bromocil, water, unfltrd, µg/L (30234)	Caffeine, water, unfltrd, µg/L (81436)	Caffeine-13C, surrog, water, unfltrd, pct rcv (62840)	Camphor, water, unfltrd, µg/L (62817)	Carbaryl, water, unfltrd, µg/L (39750)
Aug 29...	<.2	<.2	<.2	<.2	<.2	<.2	<.4	85.1	<.2	<.2	86.4	<.2	<.2

391005077521301 Local number Jef-0653—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 6 of 8

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

Date	Carba- zole, water, unfltrd µg/L (77571)	Chlor- pyrifos water, unfltrd µg/L (38932)	Choles- terol, water, unfltrd µg/L (62818)	Coti- nine, water, unfltrd µg/L (61945)	Deca- fluoro- bi- phenyl, surrog, wat unf pct rcv (62841)	DEET, water, unfltrd µg/L (61947)	Diazi- non, water, unfltrd µg/L (39570)	Di- chlor- vos, water, unfltrd µg/L (30218)	Di- ethyl phthal- ate, water, unfltrd µg/L (34336)	D-Limo- nene, water, unfltrd µg/L (62819)	Fluor- anthene water, unfltrd µg/L (34376)	Fluor- anthene -d10, surrog, unfltrd pct rcv (62842)	HHCB, water, unfltrd µg/L (62823)
Aug 29...	<.2	<.2	<.8	<.8	77.5	<.2	<.2	<.4000	<.2	<.2	<.2	97.6	<.2

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 7 of 8

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

Date	Indole, water, unfltrd µg/L (62824)	Isobor- neol, water, unfltrd µg/L (62825)	Iso- phorone water, unfltrd µg/L (34408)	Iso- quin- oline, water, unfltrd µg/L (62826)	Menthol water, unfltrd µg/L (62827)	Metal- axyl, water, unfltrd µg/L (04254)	Methyl salicy- late, water, unfltrd µg/L (62828)	Metola- chlor, water, unfltrd µg/L (82612)	p- Cresol, water, unfltrd µg/L (77146)	Penta- chloro- phenol, water, unfltrd µg/L (39032)	Phenan- threne, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Prome- ton, water, unfltrd µg/L (39056)
Aug 29...	<.2	<.2	<.2	<.4	<.2	<.2	<.2	<.2	<.4000	<8	<.2	<.4	<.2

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 8 of 8

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Date	Pyrene, water, unfltrd µg/L (34469)	Tri- butyl phos- phate, water, unfltrd µg/L (62832)	Tri- closan, water, unfltrd µg/L (61708)	Tri- ethyl citrate water, unfltrd µg/L (62833)	Tri- phenyl phos- phate, water, unfltrd µg/L (62834)	Tris(2- butoxy- ethyl) phos- phate, wat unf µg/L (62830)	Tris(2- chloro- ethyl) phos- phate, wat unf µg/L (62831)	Tris- (diCl- i-Pr) phos- phate, wat unf µg/L (61707)	1,4-Di- chloro- benzene water, unfltrd µg/L (34571)	Tri- bromo- methane water, unfltrd µg/L (32104)	Iso- propyl- benzene water, unfltrd µg/L (77223)	Naphth- alene, water, unfltrd µg/L (34696)	Tetra- chloro- ethene, water, unfltrd µg/L (34475)
Aug 29...	<.2	<.2	<.4000	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.4