Water-Data Report 2006

391800078475301 Local number Hmp-0389

Marcellus Shale

Hampshire County, WV

LOCATION.--Lat 39°18'00.2", long 78°47'53.1" referenced to North American Datum of 1983, Hampshire County, WV, Hydrologic Unit 02070001.

WATER-QUALITY RECORDS

REMARKS.--During the period of April 19 to June 23, 2006, 30 wells were sampled as part of an ongoing study with the West Virginia Department of Environmental Protection-Division of Water and Waste Management (WV-DEP-DWWM) of ambient ground-water quality in West Virginia. Samples were collected from wells in the following hydrologic units: Cheat River (05020004), Shenendoah River (02070007), South Branch Potomac River (02070001), the Upper Kanawha River (05050006), and the northern section of the Ohio River (05030101). Sample analyses included field determinations, major ions, nutrients, microbiological indicators, metals, volatile organic compounds, and radon. This site also includes analyses of pesticides.

Since 1999, 30 wells have been selected and sampled annually to characterize the ambient quality of West Virginia's ground-water resources. Data for these samples are published in "Water Resources Data-West Virginia-Water Year XXXX, Water-Data Report WV-XX-01". The electronic versions of these reports can be found at the following url: http://pubs.usgs.gov/wdr/#wv.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 1 of 11
[Remark codes: <, less than; >, greater than; E, estimated.]

Date	Time	Depth of well, feet below LSD (72008)	Alti-tude of land surface feet (72000)	Pump or flow period prior to sam-pling, minutes (72004)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	Baro-metric pres-sure, mm Hg (00025)	Carbon dioxide water, unfltrd mg/L (00405)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Noncarb hard-ness, wat unf lab, mg/L as CaCO3 (00903)	Calcium water unfltrd recover-able, mg/L (00916)
Jun 21...	1020	120	760	>30	2.8	744	5.8	<1.0	7.4	374	13.7	80	23.6

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 2 of 11
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Date	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	Potas-sium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, unfltrd recover-able, mg/L (00929)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Carbon-ate, wat flt incrm. titr., field, mg/L (00452)	Bromide water, fltrd, mg/L (71870)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat unf mg/L (00500)	Residue on evap. at 180degC wat flt mg/L (70300)
Jun 21...	23.4	.86	12.1	76	83	101	<1	.18	12.7	E.08	82.9	247	248

391800078475301 Local number Hmp-0389—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 3 of 11
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Date	Ammonia water, fltrd, mg/L (71846)	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 unf by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Hydrogen ion, water, fltrd, calcd, mg/L (00191)	E coli, Defined Substr. Tech., water, MPN/ 100 mL (50468)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Total coliform, Defined Tech., MPN/ 100 mL (50569)	Aluminum, water, unfltrd recoverable, ug/L (01105)	Antimony, water, unfltrd ug/L (01097)
Jun 21...	.13	.102	<.06	E.001	.10	<.006	.115	.00004	<1	<1	32	4	<.2

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 4 of 11
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Date	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, unfltrd recoverable, ug/L (01034)	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, unfltrd recoverable, ug/L (01051)	Manganese, water, unfltrd recoverable, ug/L (01055)	Mercury water, unfltrd recoverable, ug/L (71900)	Nickel, water, unfltrd recoverable, ug/L (01067)	Selenium, water, unfltrd ug/L (01147)	Thallium, water, unfltrd ug/L (01059)	Zinc, water, unfltrd recoverable, ug/L (01092)
Jun 21...	E.06	32.4	<.06	<.04	.04	9,140	.15	433	<.010	.91	<.08	<.18	10

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 5 of 11
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Date	2,6-Diethylaniline water, fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphos-methyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)
Jun 21...	<.006	<.014	<.006	<.005	<.005	<.007	<.050	<.010	<.004	<.041	<.020	<.005	<.006

391800078475301 Local number Hmp-0389—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 6 of 11
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Date	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water, fltrd 0.7u GF ug/L (82682)	Desulfinyl fipronil, water, fltrd, ug/L (62170)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Desulfinyl-fipronil amide, wat flt ug/L (62169)	Fipronil sulfide water, fltrd, ug/L (62167)	Fipronil sulfone water, fltrd, ug/L (62168)	Fipronil, water, fltrd, ug/L (62166)
Jun 21...	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009	<.012	<.029	<.013	<.024	<.016

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 7 of 11
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Date	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water, fltrd 0.7u GF ug/L (82666)	Malathion, water, fltrd, ug/L (39532)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd 0.7u GF ug/L (82671)	Napropamide, water, fltrd 0.7u GF ug/L (82684)	p,p'-DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)
Jun 21...	<.005	<.004	<.035	<.027	<.015	<.006	<.028	<.003	<.007	<.003	<.010	<.004	<.022

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 8 of 11
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Date	Phorate water, fltrd 0.7u GF ug/L (82664)	Prometon, water, fltrd, ug/L (04037)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water, fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water, fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)	Trifluralin, water, fltrd 0.7u GF ug/L (82661)
Jun 21...	<.055	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009

391800078475301 Local number Hmp-0389—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 9 of 11
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Date	1,1,1-Tri-chloro-ethane, water, unfltrd ug/L (34506)	CFC-113 water unfltrd ug/L (77652)	1,1-Di-chloro-ethane, water unfltrd ug/L (34496)	1,1-Di-chloro-ethene, water, unfltrd ug/L (34501)	1,2-Di-chloro-benzene water unfltrd ug/L (34536)	1,2-Di-chloro-ethane, water, unfltrd ug/L (32103)	1,2-Di-chloro-propane water unfltrd ug/L (34541)	1,3-Di-chloro-benzene water unfltrd ug/L (34566)	1,4-Di-chloro-benzene water unfltrd ug/L (34571)	Benzene water unfltrd ug/L (34030)	Bromo-di-chloro-methane water unfltrd ug/L (32101)	Chloro-benzene water unfltrd ug/L (34301)	cis-1,2-Di-chloro-ethene, water, unfltrd ug/L (77093)
Jun 21...	<.1	<.1	<.1	<.1	<.1	<.2	<.1	<.1	<.1	<.1	<.1	<.1	<.1

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 10 of 11
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Date	Di-bromo-chloro-methane water unfltrd ug/L (32105)	Di-chloro-di-fluoro-methane wat unf ug/L (34668)	Di-chloro-methane water unfltrd ug/L (34423)	Di-ethyl ether, water, unfltrd ug/L (81576)	Diiso-propyl ether, water, unfltrd ug/L (81577)	Ethyl-benzene water unfltrd ug/L (34371)	Methyl tert-pentyl ether, water, unfltrd ug/L (50005)	meta- + para-Xylene, water, unfltrd ug/L (85795)	o-Xylene, water, unfltrd ug/L (77135)	Styrene water unfltrd ug/L (77128)	t-Butyl ethyl ether, water, unfltrd ug/L (50004)	Methyl t-butyl ether, water, unfltrd ug/L (78032)	Tetra-chloro-ethene, water, unfltrd ug/L (34475)
Jun 21...	<.2	<.2	<.2	<.2	<.2	<.1	<.2	<.2	<.1	<.1	<.1	<.2	<.1

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
Part 11 of 11
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Date	Tetra-chloro-methane water unfltrd ug/L (32102)	Toluene water unfltrd ug/L (34010)	trans-1,2-Di-chloro-ethene, water, unfltrd ug/L (34546)	Tri-bromo-methane water unfltrd ug/L (32104)	Tri-chloro-ethene, water, unfltrd ug/L (39180)	Tri-chloro-fluoro-methane water unfltrd ug/L (34488)	Tri-chloro-methane water unfltrd ug/L (32106)	Vinyl chlor-ide, water, unfltrd ug/L (39175)	Rn-222, water, unfltrd pCi/L (82303)
Jun 21...	<.2	<.1	<.1	<.2	<.1	<.2	<.1	<.2	40