

In cooperation with the Pennsylvania Department of Environmental Protection

Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania Waters, March through September 2006



Data Series 300

Concentrations of Selected Pharmaceuticals and Antibiotics in South- Central Pennsylvania Waters, March through September 2006

By Connie A. Loper, J. Kent Crawford, Kim L. Otto, Rhonda L. Manning¹,
Michael T. Meyer, and Edward T. Furlong

¹Pennsylvania Department of Environmental Protection
Bureau of Water Standards and Facility Regulation

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Data Series 300

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Conversion Factors

Multiply	By	To obtain
Length		
inch (in.)	2.54	centimeter (cm)
inch (in.)	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
Flow rate		
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second (m ³ /s)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Altitude, as used in this report, refers to distance above the vertical datum.

Specific conductance is given in microsiemens per centimeter at 25 degrees Celsius ($\mu\text{S}/\text{cm}$ at 25°C).

Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania Waters, March 2006 through September 2006

By Connie A. Loper, J. Kent Crawford, Kim L. Otto, Rhonda L. Manning¹, Michael T. Meyer, and Edward T. Furlong

Abstract

This report presents environmental and quality-control data from analyses of 15 pharmaceutical and 31 antibiotic compounds in water samples from streams and wells in south-central Pennsylvania. The analyses are part of a study by the U.S. Geological Survey (USGS) in cooperation with the Pennsylvania Department of Environmental Protection (PADEP) to define concentrations of selected emerging contaminants in streams and well water in Pennsylvania. Sampling was conducted at 11 stream sites and at 6 wells in 9 counties of south-central Pennsylvania. Five of the streams received municipal wastewater and 6 of the streams received runoff from agricultural areas dominated by animal-feeding operations. For all 11 streams, samples were collected at locations upstream and downstream of the municipal effluents or animal-feeding operations. All six wells were in agricultural settings.

A total of 120 environmental samples and 21 quality-control samples were analyzed for the study. Samples were collected at each site in March/April, May, July, and September 2006 to obtain information on changes in concentration that could be related to seasonal use of compounds.

For streams, 13 pharmaceuticals and 11 antibiotics were detected at least 1 time. Detections included analytical results that were estimated or above the minimum reporting limits. Seventy-eight percent of all detections were analyzed in samples collected downstream from municipal-wastewater effluents. For streams receiving wastewater effluents, the pharmaceuticals caffeine and para-xanthine (a degradation product of caffeine) had the greatest concentrations, 4.75 µg/L (micrograms per liter) and 0.853 µg/L, respectively. Other pharmaceuticals and their respective maximum concentrations were carbamazepine (0.516 µg/L) and ibuprofen (0.277 µg/L). For streams receiving wastewater effluents, the antibiotic azithromycin had the greatest concentration (1.65 µg/L), followed by sulfamethoxazole (1.34 µg/L), ofloxacin (0.329 µg/L), and trimethoprim (0.256 µg/L).

For streams receiving runoff from animal-feeding operations, the only pharmaceuticals detected were acetaminophen, caffeine, cotinine, diphenhydramine, and carbamazepine. The maximum concentration for pharmaceuticals was 0.053 µg/L. Three streams receiving runoff from animal-feeding operations had detections of one or more antibiotic compounds—oxytetracycline, sulfadimethoxine, sulfamethoxazole, and tylosin. The maximum concentration for antibiotics was 0.157 µg/L. The average number of compounds (pharmaceuticals and antibiotics) detected in sites downstream from animal-feeding operations was three. The average number of compounds detected downstream from municipal-wastewater effluents was 13.

For wells used to supply livestock, four compounds were detected—two pharmaceuticals (cotinine and diphenhydramine) and two antibiotics (tylosin and sulfamethoxazole). There were five detections in all the well samples. The maximum concentration detected in well water was for cotinine, estimated to be 0.024 µg/L.

Seasonal occurrence of pharmaceutical and antibiotic compounds in stream water varied by compound and site type. At four stream sites, the same compounds were detected in all four seasonal samples. At other sites, pharmaceutical or antibiotic compounds were detected only one time in seasonal samples. Winter samples collected in streams receiving municipal-wastewater effluent had the greatest number of compounds detected (21).

Research analytical methods were used to determine concentrations for pharmaceuticals and antibiotics. To assist in evaluating the quality of the analyses, detailed information is presented on laboratory methodology and results from quality-control samples. Quality-control data include results for nine blanks, nine duplicate environmental sample pairs, and three laboratory-spiked environmental samples as well as the recoveries of compounds in laboratory surrogates and laboratory reagent spikes.

Introduction

In 2005, over \$133 billion worth of pharmaceutical and antibiotic compounds for human and animal needs were

¹Pennsylvania Department of Environmental Protection, Bureau of Water Standards and Facility Regulation.

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shipped by pharmaceutical manufacturers in the United States (U.S. Census Bureau, 2006). Most of these compounds or their metabolites are excreted or discarded into waste systems and eventually are released into the environment through point sources, such as wastewater-treatment plants, and nonpoint sources, such as on-site septic systems, sewage sludge, and animal manure.

Reconnaissance studies have measured pharmaceutical, antibiotic, and other compounds at low concentrations in surface waters across the United States and in Europe, particularly in waters receiving effluent from wastewater treatment plants (Kolpin and others, 2002; Sando and others, 2005; Buser and others, 1999; Fono and others, 2006). These compounds, termed “emerging contaminants,” include antibiotics, prescription and nonprescription drugs, animal and plant steroids, reproductive hormones, personal-care products, detergent metabolites, flame retardants, products of oil use and combustion, and other chemicals (Kolpin and others, 2002; Stackleberg and others, 2004; Colker and Day, 2006). Streams receiving agricultural, municipal, and industrial wastewaters appear to be the most affected (Kolpin and others, 2002). The occurrence and concentrations of the compounds reflect their physico-chemical behavior (Halling-Sorensen and others, 1998). Some compounds are lipophilic (fat loving); they are able to pass through membranes and are persistent. Therefore, these chemicals “have many of the necessary properties to bioaccumulate and provoke effects in the aquatic or terrestrial ecosystems” (Halling-Sorensen and others, 1998).

These emerging contaminants include endocrinologically active compounds termed “endocrine disruptors,” pharmaceutically active compounds (PhACs) or drug residuals, and, more recently, personal care products (PCPs). Pharmaceutically active compounds are consumed by humans or animals. These compounds, “after having an internal curing effect somewhere in the human body, ... will be excreted through urine or feces as a mixture of metabolites, as unchanged substances, or conjugated with an inactivating substituent ...” (Rang and Dale, 1991). “The fate of these substances may be divided into three principle possible fates; *i*) the substance is ultimately mineralized to carbon dioxide and water, ... *ii*) the substance is lipophilic and not readily degradable so part of the substance will be retained in the sludge, or *iii*) the substance is metabolized to a more hydrophilic form of the parent lipophilic substance but still persistent and therefore it will pass the wastewater treatment plant and end up in the receiving waters and therefore affect the aquatic organisms if the metabolites are biologically active” (Halling-Sorensen and others, 1998).

These compounds commonly are found in natural waters at low concentrations, suggesting minimal environmental impact. But aquatic organisms are subjected to chronic exposure and exposure to mixtures of compounds with potential additive effects.

Many of these compounds are not removed by conventional drinking-water treatment such as slow sand, diatomaceous, or direct filtration technologies. Therefore, these chemicals may be present in the drinking water supplied to some

communities. Some studies (Stackleberg and others, 2004; Loraine and Pettigrove, 2006) have demonstrated that a subset of these chemicals present in source waters survives drinking-water processes and remains present in the finished water that is delivered to the customer.

Further, many rural residents use ground water as their drinking-water source. Typically, these waters receive no treatment. But, ground water may be susceptible to emerging contaminants from on-lot sewage disposal, from agricultural land use, and from spray irrigation.

The environmental impacts of these commonly used chemicals are largely unknown. Research provides compelling evidence that endocrine systems of certain fish and wildlife have been affected by chemical contaminants, resulting in development and reproductive problems. For example, feminization of fish has been documented (Iguchi and others, 2001), and intersex fish have been found in the Potomac River Basin and elsewhere (Blazer and others, 2007; Hinck and others, 2006; Woodling and others, 2006). A study by Goni-Urriza and others (2000) demonstrated that natural populations of bacteria are capable of developing resistance to antibiotics. Because of the potential for environmental disruption and perhaps human health effects, a better understanding of emerging contaminants and their fate is needed.

Need for the Study

Few studies have been done in Pennsylvania waters to document the occurrence and distribution of emerging-contaminant compounds. During 1999-2000, the U.S. Geological Survey (USGS) collected samples from five streams in south-central Pennsylvania that were analyzed for antibiotics, prescription drugs, nonprescription drugs, and other wastewater-related compounds. Results from these analyses were used as part of the data set for the first nationwide reconnaissance of emerging contaminants in streams (Kolpin and others, 2002).

In 2005, a pilot study to evaluate the effects of on-site disposal of wastewater was conducted by the USGS in the Broad Run watershed of Chester County, Pa. (Senior and Cinotto, 2007). The study included an evaluation of wastewater compounds in ground water and stream base flow. Thirty different wastewater compounds out of a suite of 62 compounds analyzed were detected at reporting levels ranging from less than 0.5 µg/L to less than 5 µg/L.

Senior and Cinotto (2007) also reported results from samples collected in 2000 and 2002 in wells in Chester County, Pa. Twelve wells were sampled during the study period, and samples were analyzed for a suite of compounds that included selected antibiotics, human drugs, hormones, and wastewater compounds. Several of the target compounds were detected at low concentrations. The 2002 samples were part of a national reconnaissance for contaminants in ground water (Barnes and others, 2005).

Additional studies are needed to determine if emerging-contaminant compounds are present in streams and wells in

Pennsylvania and to determine if there is a seasonal pattern of occurrence with specific compounds. In 2006, the USGS partnered with the Pennsylvania Department of Environmental Protection (PADEP) to conduct a survey of pharmaceutical and antibiotic compounds in ground water and stream water of south-central Pennsylvania. The analytical results of this study are presented in this report. The study included three primary objectives: 1) use current (research) analytical methodology to screen for pharmaceutical and antibiotic compounds present in streams and ground waters of south-central Pennsylvania and determine their concentrations, 2) determine seasonal variations in pharmaceutical and antibiotic concentrations, and 3) suggest source(s) of the pharmaceutical and antibiotic compounds. The study did not include examination of biological communities to determine if the detected compounds were impacting the ecology. Further, no correlation with human-health data was proposed to examine relations between human health and the pharmaceutical and antibiotic compounds analyzed for the study.

The data from this study will expand the current database of emerging contaminants in stream and well water and will identify potential target locations for further research.

Purpose of the Report

This report presents the results of analyses without interpretation for pharmaceuticals, antibiotics, and general water-quality indicators from stream-water and well-water samples collected for the south-central Pennsylvania emerging-contaminant survey. Results are presented by site type, site, and season. Because analytical methods used for the pharmaceuticals and antibiotics currently (2007) are considered by the USGS as research methods, information on the analytical methods and the results of quality-control samples collected during the course of the study are presented and discussed in detail.

Scope of the Report

Samples were collected at each site in March/April, May, July, and September 2006. Samples were collected at 11 stream sites and 6 wells in 9 counties of south-central Pennsylvania (fig. 1 and table 1). Five of the streams sampled received municipal-wastewater effluent and 6 of the streams sampled received runoff from agricultural areas dominated by animal-feeding operations. For these 11 streams, samples were collected at locations upstream and downstream from the wastewater effluents or animal-feeding operations. Data from an additional stream, Conoy Creek (sites 9 and 10 on figure 1), were originally in the project design as a stream receiving municipal wastewater, but it was learned during the project that this stream does not actually receive municipal wastewater. The six wells were in agricultural land-use settings.

The data reported for each site include measurements of field characteristics and analytical results for 15 pharmaceuticals and 31 antibiotics. Laboratory analyses were completed at the USGS National Water Quality Laboratory (NWQL) in Den-

ver, Colo., and the Organic Geochemistry Research Laboratory (OGRL) in Lawrence, Kans. Analyses were completed on 120 environmental samples and 21 quality-control samples (9 blanks, 9 duplicates, 3 laboratory-spiked environmental samples). Of the 120 environmental samples, 24 samples were collected from wells in agricultural areas used to supply water for livestock, and 96 samples were collected from stream-water locations (48 from stream-water locations adjacent to municipal-wastewater effluents and 48 from stream-water locations adjacent to animal-feeding operations).

Methods

Methods used for site selection, streamflow measurements, field water-chemistry measurements, water-quality sampling and processing, laboratory analyses, and quality assurance and quality control are described in this section. Added detail is included for the method description used at the OGRL because there is no citable reference at this time.

Site Selection and Sampling Locations

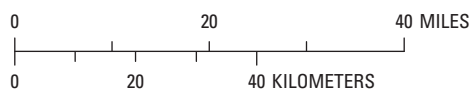
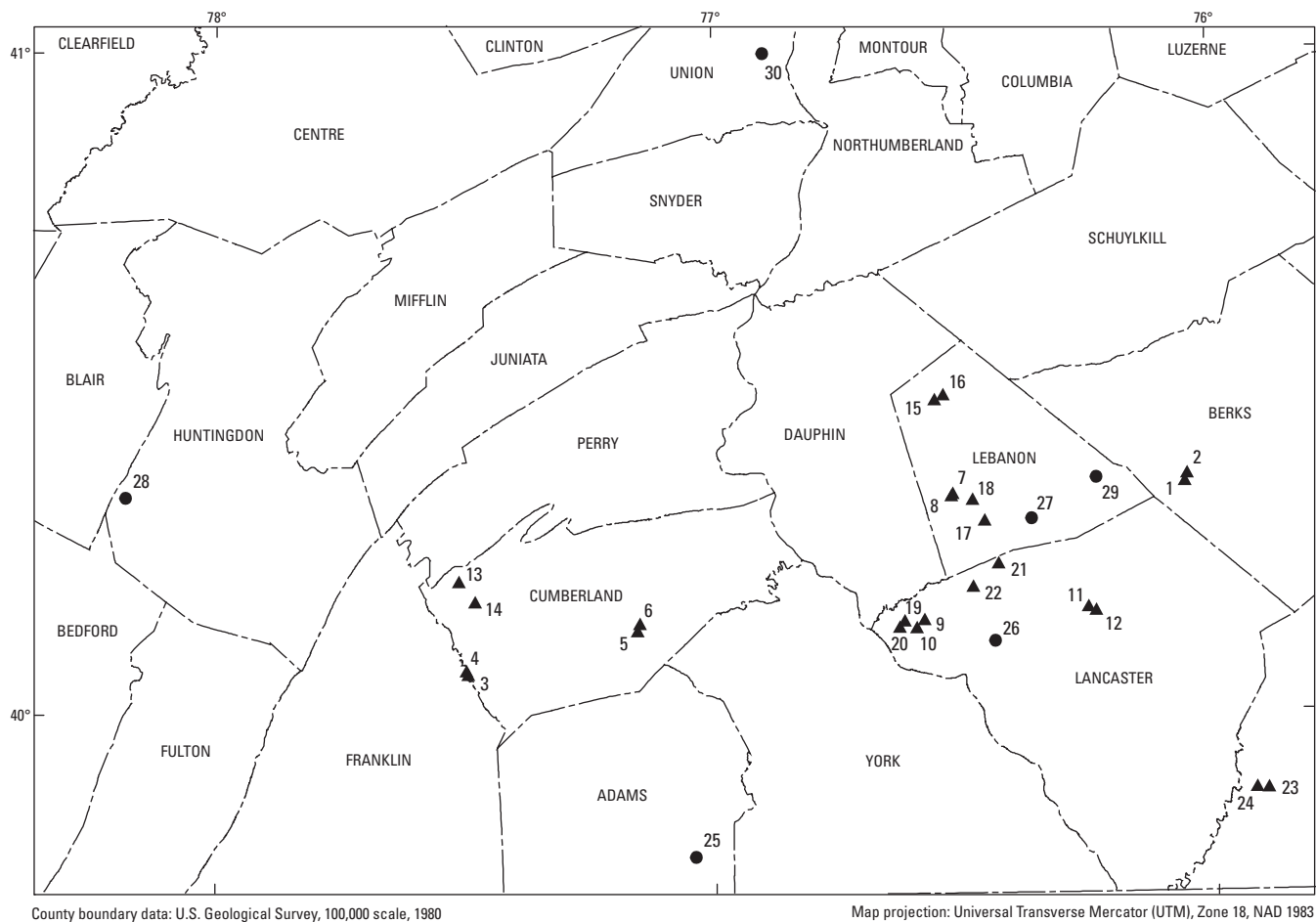
Three site types were sampled for this study: 1) streams receiving municipal-wastewater effluent, 2) streams receiving runoff from animal-feeding operations, and 3) wells in agricultural areas used to supply water for livestock. Sites selected for this study are summarized in figure 1 and table 1.

PADEP and the USGS worked cooperatively to select sampling locations for streams receiving municipal wastewater. Early in the study, PADEP provided the USGS with locations of municipal-wastewater-treatment plants. The following site-selection criteria were established by the USGS:

1. Streams had to receive wastewater effluent from one of the municipal-wastewater-plant locations provided by PADEP,
2. Stream locations would be in the south-central Pennsylvania study area,
3. Small streams were targeted so there would potentially be large impacts from the wastewater input, and
4. Permission could be obtained to access the stream upstream and downstream of the wastewater-discharge pipe.

Wastewater sites selected on Spring Creek, Middle Spring Creek, Mountain Creek, Killinger Creek, and Lititz Run met these criteria. A sixth stream, Conoy Creek, was originally in the project design as a stream receiving municipal wastewater, but it was learned during the project that effluent from the municipal treatment plant is piped to the Susquehanna River and not discharged to Conoy Creek. Therefore, for the purposes of presenting concentrations of compounds in streams receiving municipal wastewater, this site was not included. But, the data

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EXPLANATION

- PENNSYLVANIA COUNTY BOUNDARY
- ³⁰ WELL-WATER SITE AND IDENTIFIER IN TABLE 1
- ▲⁴ STREAM-WATER SITE AND IDENTIFIER IN TABLE 1



Figure 1. Locations of sampling sites for the study, south-central Pennsylvania.

Table 1. Sampling sites for this study, including site types, U.S. Geological Survey station identification numbers and names, latitude and longitude, and map identification number.

[na, not applicable]

U.S. Geological Survey station identification number	Map identification number (fig. 1) ¹	Site or well name	County	Location	Latitude	Longitude	Drainage area, in square miles	Type of animal present in the watershed
Stream sites upstream and downstream of municipal-wastewater effluents								
01470857	1	Spring Creek near Wernersville, Pa.	Berks	Upstream	40° 20' 58"	076° 05' 03"	19.6	na
01470858	2	Spring Creek near Brownsville, Pa.	Berks	Downstream	40° 21' 09"	076° 05' 03"	19.6	na
015693155	3	Middle Spring Creek at College at Shippensburg, Pa.	Cumberland/Franklin	Upstream	40° 03' 23"	077° 31' 43"	20.4	na
015693158	4	Middle Spring Creek above Burd Run below Shippensburg, Pa.	Cumberland/Franklin	Downstream	40° 03' 42"	077° 31' 58"	20.7	na
01571193	5	Mountain Creek at Mill Street at Mt. Holly Springs, Pa.	Cumberland	Upstream	40° 07' 16"	077° 11' 21"	45.8	na
01571195	6	Mountain Creek at Mt. Zion at Mt. Holly Springs, Pa.	Cumberland	Downstream	40° 07' 54"	077° 11' 06"	47.1	na
01573151	7	Killinger Creek Upstream of Treatment Plant near Annville, Pa.	Lebanon	Upstream	40° 19' 27"	076° 33' 22"	13.6	na
01573153	8	Killinger Creek Downstream of Treatment Plant near Annville, Pa.	Lebanon	Downstream	40° 19' 31"	076° 33' 19"	13.8	na
01576420	11	Lititz Run at Lititz, Pa.	Lancaster	Upstream	40° 09' 12"	076° 17' 10"	11.9	na
01576422	12	Lititz Run at Rothsville, Pa.	Lancaster	Downstream	40° 08' 51"	076° 16' 13"	13.3	na
Stream sites upstream and downstream of animal-feeding operations								
01569346	13	Three Square Hollow Run above Turnpike near Newburg, Pa.	Cumberland	Upstream	40° 11' 46"	077° 32' 50"	1.36	Cattle
01569349	14	Three Square Hollow Run below Turnpike near Newburg, Pa.	Cumberland	Downstream	40° 09' 55"	077° 30' 53"	9.60	Cattle
01572146	15	Trout Run near Ft. Indiantown Gap, Pa.	Lebanon	Upstream	40° 28' 03"	076° 35' 24"	1.29	Swine
01572148	16	Trout Run at Scout Camp near Green Point, Pa.	Lebanon	Downstream	40° 28' 30"	076° 34' 22"	4.23	Swine
401704076293101	17	Bachman Run at Fontana, Pa.	Lebanon	Upstream	40° 17' 04"	076° 29' 31"	3.10	Poultry
01573095	18	Bachman Run at Annville, Pa.	Lebanon	Downstream	40° 18' 58"	076° 30' 58"	7.30	Poultry
01574050	19	Snitz Creek near Falmouth, Pa.	Lancaster	Upstream	40° 08' 02"	076° 39' 17"	.23	Cattle
01574055	20	Snitz Creek near Bainbridge, Pa.	Lancaster	Downstream	40° 07' 28"	076° 39' 52"	2.02	Cattle
01575771	21	Little Chickies Creek at Camp Road near Mastersonville, Pa.	Lancaster	Upstream	40° 13' 12"	076° 27' 56"	.52	Poultry
015757724	22	Little Chickies Creek at Elizabethtown Road near Milton Grove, Pa.	Lancaster	Downstream	40° 11' 07"	076° 30' 58"	7.57	Poultry
01578349	23	Muddy Run at Cochranville near Parkesburg, Pa.	Chester	Upstream	39° 52' 36"	075° 55' 50"	.48	Cattle
015783492	24	Muddy Run at Glennville near Parkesburg, Pa.	Chester	Downstream	39° 52' 39"	075° 57' 14"	2.34	Cattle
Wells in agricultural areas used to supply water for livestock								
				Livestock supplied				
394643077043101	25	AD 653	Adams	Horses	39° 46' 45"	077° 04' 31"	na	na
400610076282501	26	LN 2114	Lancaster	Chickens	40° 06' 09"	076° 28' 25"	na	na
401712076235101	27	LB 1248	Lebanon	Dairy cows	40° 17' 12"	076° 23' 51"	na	na
401920078130101	28	HU 426	Huntingdon	Dairy cows	40° 19' 19"	078° 13' 00"	na	na
402052076160101	29	LB 1249	Lebanon	Swine	40° 20' 52"	076° 16' 01"	na	na
405931076555601	30	UN 205	Union	Dairy cows	40° 59' 31"	076° 55' 55"	na	na

¹A sixth stream, Conoy Creek, was originally in the project design as a stream receiving municipal wastewater, but it was learned that this stream does not actually receive municipal wastewater. Instead, effluent from the municipal treatment plant is piped to the Susquehanna River and is not discharged to Conoy Creek. Map identification numbers for Conoy Creek sampling locations are "9" (upstream, station identification number 01574310, Conoy Creek near Elizabethtown, Pa.) and "10" (downstream, station identification number 01574314, Conoy Creek near Stacktown, Pa.)

from samples collected at the upstream and downstream sites at Conoy Creek are included in the report and discussed as a background site.

The Killinger Creek sites met the site-selection criteria, but following the sampling period, it was learned that the wastewater plant on Killinger Creek was, at times, cleaned before or during sample collection. Upon further discussions with staff from the plant, the cleaning process takes place weekly on the same day, and three of the four samples at the downstream location (May, July, and September samples) were collected on the day of cleaning. Concentrations of compounds reported for this site may, therefore, reflect atypical concentrations of pharmaceuticals and antibiotics.

For the streams selected in agricultural areas, the USGS worked in cooperation with County Conservation District personnel to determine the locations of animal-feeding operations that had streams in near proximity. The following site-selection criteria were established by the USGS:

1. Streams had to have inputs from agricultural areas dominated by animal-feeding operations,
2. Stream locations would be in the south-central Pennsylvania study area,
3. Small streams were targeted, and
4. Permission could be obtained to access the stream upstream and downstream of animal-feeding operations.

For the well-water sampling, wells were selected in agricultural areas. The following well-selection criteria were established by the USGS:

Wells would be

1. Located in the south-central Pennsylvania study area,
2. Currently used to supply water for livestock on a farm,
3. Used on a daily basis,
4. Representative of the aquifer,
5. Shallow [less than or equal to 300 ft] total depth,
6. Completed in a limestone aquifer, and
7. Of known completion with written records on file with the homeowner or Pennsylvania Geological Survey that would provide confirmation of the well depth and aquifer lithology (appendix1).

There also would need to be a raw (untreated) water sampling point where water-treatment systems could be by-passed during well sampling.

Streamflow Measurement

Streamflow measurements using a Sontek Flowtracker were made concurrently with the collection of water-quality samples. Computation of area (using stream width and depth) and procedures for making streamflow measurements followed documented USGS procedures (Rantz and others, 1982).

Field Water Chemistry

Field measurements of pH, specific conductance, dissolved oxygen, dissolved-oxygen saturation, and water temperature were made with a calibrated multi-parameter water-quality meter manufactured by the YSI Corporation. Calibration followed procedures documented by USGS (variously dated). Field measurements with equipment types and accuracies are shown in table 2. Stream depth was estimated to 0.10 ft using a standard USGS Hydrologic Instrumentation Facility (HIF) wading rod.

Water-chemistry readings and stream depth were measured to determine if the stream was well-mixed from bank to bank and if there was variability in the cross section due to depth. Water-chemistry readings in the stream cross section were made at 1-ft or 2-ft horizontal intervals (depending on stream width), at quarter-points of the stream width, and in the vertical at six-tenths of the depth of the stream. Stream depth was measured at each vertical prior to water-chemistry readings. Barometric pressure was recorded at the majority of sites using a Thommen field barometer; the field barometer also was used to check the internal barometer of the YSI multiparameter meter during calibration of dissolved oxygen.

Water-Quality Sampling and Processing

Water-quality sampling and processing for stream and well-water samples are described in this section. Procedures used for packing and shipping samples also are included.

Stream Water

Stream-water sampling equipment was cleaned thoroughly prior to sample collection, following the USGS protocols for organic-compound sampling (Wilde, 2004), including a caveat in Wilde and others (update 5.6.1.F) (2004) that identifies the need to use non-antibacterial detergents because of the analyses for antibiotic compounds. Special considerations related to personal safety and sample contamination specific to working in streams receiving potentially hazardous compounds from municipal-wastewater plants or animal-feeding operations also were followed (Wilde and others [update 5.6.1.F], 2004). Streams were sampled at low flow or during a falling stage after a rainfall event.

Water-quality samples for laboratory determination of pharmaceuticals and antibiotics were collected with a DH-81 hand-held sampler fitted with a Teflon nozzle holder, Teflon nozzle, and 1-L (liter) Teflon bottle. Typically, three separate 1-L samples were collected, each sample containing stream water collected at three depth-integrated verticals located at 25 percent, 50 percent, and 75 percent of the stream width. Each 1-L sample was sequentially poured into a single pre-cleaned and stream-rinsed 3-L Teflon bottle for the final composited sample. All locations of the verticals were noted on the field

Table 2. Field measurements, units, accuracies, and equipment types used for this study.

[NWIS, National Water Information System; ft³/s, cubic feet per second; °C, degrees Celsius; YSI, Yellow Springs Instrument; μS/cm, microsiemens per centimeter at 25°C; mm, millimeters; mg/L, milligrams per liter]

Measurements	NWIS code	Reporting units	Reporting accuracy	Equipment/sensor type
Stream discharge	00061	ft ³ /s	± 0.003 ft ³ /s	Sontek Flowtracker
Temperature	00010	°C	± 0.15°C	YSI Precision Thermister
pH	00400	standard units	± 0.2	Glass combination electrode, YSI
Specific conductance	00095	μS/cm at 25°C	± 0.5% of the reading or ± 1 μS/cm; whichever is greater	4-electrode cell with auto-ranging, YSI
Dissolved oxygen	00300	mg/L	± 2% of the reading or 0.2 mg/L; whichever is greater	Steady state polarographic, YSI
Barometric pressure	00025	mm mercury	± 0.75 to 1.5 mm mercury	Thommen Classic Altimeter Plus Barometer

data sheets. All samples were immediately placed on ice until they were returned to the laboratory for processing.

Sample-processing and shipping protocols developed for pharmaceutical and antibiotic compounds were followed (Wilde and others [update 5.6.1.F], 2004). During this step, special care was taken not to contaminate samples through laboratory-processor inputs or laboratory-area inputs. The 3-L Teflon bottle containing the stream sample was first shaken to mix the water prior to filtration. A fluid-metering pump, fitted with a Teflon head and hoses, was used to draw the sample from the 3-L bottle to a pre-cleaned aluminum filter support (Geotech brand) with a baked, glass microfiber filter (147-mm diameter, 0.7 μm (micrometer) pore size). The sample was then filtered into two 1-L amber, cleaned-and-burned (baked at 450°C to burn off all residual organic compounds) glass bottles for pharmaceutical analyses (one bottle was held as an archive sample) and three 125-mL (milliliter) cleaned-and-burned glass bottles for antibiotic analyses. All bottles were wiped with clean, disposable isopropyl alcohol (70 percent) pads, inserted into foam sleeves, and immediately placed in the refrigerator at 4°C or packed for shipment to the USGS NWQL or OGRL. All samples were double bagged and were shipped on ice within 2 days of collection via overnight delivery to the analytical laboratories. Lab benches were cleaned after sample filtration with a non-antibacterial soap solution and isopropyl alcohol.

Well Water

Well-water sampling equipment was cleaned thoroughly prior to sample collection, following the USGS protocols for organic-compound sampling (Wilde, 2004), including a caveat in Wilde and others (update 5.6.1.F) (2004) that identifies the need to use non-antibacterial detergents because of the analyses for antibiotic compounds. Collection of well-water samples followed protocols documented by Wilde and others (1999) with three modifications; modifications to the protocols included the use of brass fittings instead of Teflon to connect to water

sources and did not include the use of a flow manifold or processing chamber.

At all wells sampled, submersible pumps provided sample water to a tap either at the base of the pressure tank or at an outside faucet. As the well was purged, pH, specific conductance, dissolved oxygen, and water temperature were monitored using a calibrated YSI 556 multiparameter meter. When readings became stable (variation between five or more 5-minute sequential field-measurement values: ± 0.05 units for pH; ± 0.2°C for water temperature; ± 0.3 mg/L for dissolved oxygen; and ± 3 percent for specific conductivities greater than 100 μS/cm), the well-water samples were collected.

All well-water samples were processed at the sampling site. A pre-cleaned Savillex Teflon in-line filter-unit holder with a baked, glass microfiber filter (47-mm diameter, 0.7 μm pore-size) was used to filter the sample directly from the tap or faucet into two clean 1-L amber glass bottles that were cleaned and baked at 450°C to burn off all residual organic compounds for pharmaceutical analyses. The second bottle was held as an archive sample. Three 125-mL cleaned-and-burned glass bottles were used to collect filtered water for antibiotic analyses. All bottles were wiped with clean, disposable isopropyl alcohol (70 percent) pads, inserted into foam sleeves, and immediately placed on ice until they were returned to the laboratory where they were either placed in the refrigerator at 4°C or packed for shipment to the USGS NWQL or OGRL. All samples were double bagged and were shipped on ice within 2 days of collection via overnight delivery to the analytical laboratories.

Laboratory Analyses

Pharmaceutical compounds were analyzed by the USGS NWQL in Denver, Colo. The research analytical method used a solid-phase extraction followed by high performance liquid phase chromatography/mass spectrometry (HPLC-MS), using a polar reverse-phase octylsilane (C8) HPLC column following the procedure described in Cahill and others (2004). The com-

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pounds analyzed at the USGS NWQL and their minimum reporting levels (MRLs) and method detection limits (MDLs) are listed in table 3. The MRL is the smallest measured concentration of a substance that can be reliably measured using a given analytical method. The MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. The USGS NWQL has established a data reporting convention described in Childress and others (1999). A qualifying remark code ('E' = estimated) is used for semi-quantitative analytical results to denote less certainty in quantification than the majority of the analyses. E-coding is used in the USGS National Water Information System to denote these semi-quantitative results. For the purposes of this report, data are coded E(1)-E(4) to denote the reason for qualification. This convention will be noted in the data tables and the discussion of concentration of selected pharmaceuticals and antibiotics. Reported analytical concentrations are coded as follows:

- E(1) if concentration is below the long-term MDL (for information-rich methods only);
- E(2) if the concentration is greater than or equal to the long-term MDL but less than the MRL (lowest calibration standard is less than the MRL);
- E(3) if the median long-term recovery of the compound is between 30 and 60 percent or the relative standard deviation of long-term recoveries was greater than 25 percent,
- E(4) if data are reported above the MRL, but there was a failure in some aspect of lab quality control (for example, the laboratory-spike or surrogate recoveries were low and the sample could not be re-analyzed).

In this report, a compound is reported as a "detection" for any E-coded value as well as values reported without qualification above the MRL. No estimated values were reported for samples from the OGRL; all detections quantified were above the MRLs.

Antibiotics and selected pharmaceuticals were analyzed at the USGS OGRL in Lawrence, Kans., using a research method modified after an online solid phase extraction (SPE) method from Meyer and others (2007). Water samples were analyzed for antibiotics using online SPE and liquid phase chromatography/tandem mass spectrometry (LC/MS/MS) with electrospray ionization (ESI) using multiple reaction monitoring (MRM). This technique allowed quantitation of chloramphenicol, lincomycin, ormetoprim, trimethoprim, five macrolides, six sulfonamides, six quinolones, four tetracycline antibiotics, six antibiotic degradation products, and two pharmaceuticals— carbamazepine and ibuprofen. Samples were analyzed in positive-ion mode except for chloramphenicol and ibuprofen, which were analyzed in negative-ion mode. Samples were extracted using the HLB Prospekt cartridges (Waters Corp., Milford, Mass.). Demeclocycline, nalidixic acid, oleandomycin, and $^{13}\text{C}_6$ -Sulfamethazine were used as surrogate standards; clina-

floxacin, $^{13}\text{C}_2$ -erythromycin, $^{13}\text{C}_2$ -erythromycin- H_2O , meclocycline, simatone, and $^{13}\text{C}_6$ -sulfomethoxazole were used as internal standards. The detected compounds were quantitated using the ratio of the area of the quantifying ion of the analyte to the area of the quantifying ion of the internal standard.

The compounds analyzed at the USGS OGRL and their MRLs are listed in table 4. The MRLs were determined by assessing the signal-to-noise ratio in 0.002, 0.005, and 0.010 $\mu\text{g/L}$ laboratory reagent spiked (LRS) samples. A minimum signal-to-noise ratio of five was used to establish the reporting levels. The MRLs ranged from 0.005 to 0.010 $\mu\text{g/L}$ for all the compounds analyzed except for ibuprofen, sulfadiazine, chloramphenicol, and sulfathiazole; the MRL for these compounds was 0.050 $\mu\text{g/L}$; the MRL for sulfathiazole was 0.020 $\mu\text{g/L}$. MDLs for the compounds analyzed at the OGRL will be established when the analytical method is finalized; however, no results will be reported below the MRLs.

A method of standard addition (Harris, 2003) is also used by chemists at the OGRL if recoveries of compounds in internal quality-control samples (surrogates and laboratory-spiked environmental samples) are less than or greater than 35 percent of the expected concentration, providing those analytes were detected in the samples. Standard addition corrects for matrix effects and results in a more accurate quantitation of individual analytes. All wastewater influents and effluents are automatically analyzed using standard addition.

In standard addition, an unspiked-environmental and spiked-environmental sample aliquot are prepared and analyzed. The following equation was used to calculate analyte concentrations by standard addition:

$$C = (R_{us} / (R_{sp} - R_{us})) C_{sp} \quad (1)$$

where

C is concentration of the analyte in the unspiked sample,

R_{us} is the ratio of area of the quantitation-ion of the analyte to the area of the quantitation-ion of the internal standard in the unspiked sample,

R_{sp} is the ratio of area of the quantitation-ion of the analyte to the area of the quantitation-ion of the internal standard in the spiked sample,

and

C_{sp} is the concentration of the analytes in the spiked sample due to the spike.

Quality Assurance and Quality Control

Quality-assurance procedures that provide controls to immeasurable components of a study that substantially improve the quality of the results (U.S. Geological Survey, variously dated) were followed in the field and Pennsylvania Water Science Center (PA WSC) laboratory. A sampling schedule was also developed to meet study goals for collection of samples during targeted seasonal periods. Once established, the sam-

Table 3. List of target pharmaceutical and antibiotic compounds analyzed at the U.S. Geological Survey National Water Quality Laboratory in Denver, Colorado.

[Italicized compounds were also analyzed at the USGS Organic Geochemistry Research Laboratory in Lawrence, Kans., using on-line solid phase extraction (SPE) and liquid phase chromatography/tandem mass spectrometry (LC/MS/MS) with electrospray ionization using multiple reaction monitoring; NWIS, National Water Information System; footnotes generally cite references for medicinal use; --, not available]

Compound	NWIS parameter code	Medicinal use	Minimum reporting level, in micrograms per liter	Method detection limit, in micrograms per liter
Human and veterinary drugs				
Nonprescription pharmaceuticals				
Acetaminophen	62000	Analgesic ¹	0.024	0.012
Caffeine	50305	Stimulant ¹	.015	.008
Para-xanthine ^{2,3,4}	62030	Degradation product of caffeine ⁵	.021	.010
Codeine	62003	Analgesic ¹	.022	.011
Cotinine	62005	Nicotine metabolite ¹	.028	.014
Diphenhydramine	62796	Antihistamine, antiemetic (anti-nausea), sleep aid, sedative ⁶	.023	.012
Prescription pharmaceuticals				
<i>Carbamazepine</i>	62793	Anticonvulsant and antimanic agent ⁶	.018	.009
Dehydronifedipine	62004	Antianginal metabolite ¹	.022	.011
Diltiazem ⁷	62008	Antihypertensive ¹	.018	.009
Fluoxetine	62011	Antidepressant ¹	.016	--
Ranitidine	62019	Antacid ¹	.025	--
Salbutamol	62020	Antiasthmatic ¹	.014	.007
Thiabendazole	62801	Anthelmintics ^{3,8} (used to treat worm infections)	.025	.012
Warfarin	62024	Anticoagulant ¹	.019	.009
Antibiotics				
<i>Sulfamethoxazole</i>	62021	Antibiotic ¹	.024	.012
<i>Trimethoprim</i>	62023	Antibiotic ¹	.020	.010

¹U.S. Geological Survey, 2006.

²Degradation product.

³Edward Furlong, U.S. Geological Survey, written commun., 2007.

⁴Para-xanthine also known as 1,7 dimethylxanthine.

⁵Long, 1995-2005.

⁶Couper and Logan, 2004.

⁷ Routinely reported as an estimated concentration, indicated by an "E" qualifier.

⁸Micromedex, Inc., 2006.

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Table 4. List of target antibiotic and pharmaceutical compounds analyzed at the U.S Geological Survey Organic Geochemistry Research Laboratory in Lawrence, Kansas.

[Italicized compounds were also analyzed at the USGS National Water Quality Laboratory in Denver, Colo., using high performance liquid phase chromatography/mass spectrometry methodology (HPLC-MS); NWIS, National Water Information System]

Compound	NWIS parameter codes	Minimum reporting level, in micrograms per liter
Macrolide antibiotics		
Azithromycin	62792	0.005
Erythromycin	62797	.008
Erythromycin-H ₂ O (anhydro-erythromycin) ¹	63674	.008
Roxithromycin	62895	.005
Tylosin	62896	.005
Virginiamycin	62897	.005
Quinoline antibiotics		
Ciprofloxacin	62898	.005
Enrofloxacin	(code not yet established)	.005
Lomefloxacin	62900	.005
Norfloxacin	62757	.005
Ofloxacin	62899	.005
Sarafloxacin	62771	.005
Sulfonamide antibiotics		
Sulfachloropyridazine	62774	.005
Sulfadiazine	62963	.050
Sulfadimethoxine	62776	.005
Sulfamethazine	61762	.005
<i>Sulfamethoxazole</i>	62775	.005
Sulfathiazole	62778	.020
Tetracycline antibiotics and degradation products		
Chlorotetracycline	61744	.010
Epi-chlorotetracycline (4-EC-tetracycline HCl) ¹	63731	.010
Epi-iso-chlorotetracycline (Iso-epi-chlorotetracycline) ¹	64047	.010
Iso-chlorotetracycline ¹	64175	.010
Doxycycline	62694	.010
Oxytetracycline	61759	.010
Epi-oxytetracycline (4-Epi-oxytetracycline) ¹	63729	.010
Tetracycline	62781	.010
Epi-tetracycline (4-Epi-tetracycline HCl) ¹	63727	.010
Other antibiotics		
Chloramphenicol	65194	.050
Lincomycin	62894	.005
Ormetoprim	62962	.005
<i>Trimethoprim</i>	62023	.005
Pharmaceuticals		
<i>Carbamazepine</i>	62793	.005
Ibuprofen	62014	.050

¹Degradation product.

pling schedule needed few adjustments and was key to completing all the work needed to accomplish the study objectives.

The USGS NWQL's quality-assurance process is documented in a Quality Management System (QMS) report by Maloney (2005). This QMS report is the framework for planning, implementing, and assessing work performed by the NWQL and for carrying out required quality assurance and quality control for compliance with the standards set by the National Environmental Laboratory Accreditation Conference. All personnel associated with the NWQL are obligated to meet the requirements described in the policies, processes, and standard operating procedures (SOPs) included or referenced in this document.

Quality Control on Field Measurements

Prior to each sampling season, thermistors for field instruments were checked against an NIST-certified thermometer. Multiparameter meters used for field-chemistry readings were calibrated on the day of sampling using certified standards and buffers. A sodium sulfite/cobalt chloride zero dissolved-oxygen solution was prepared daily and was used to check the accuracy of the dissolved-oxygen reading near 0.0 mg/L dissolved oxygen. Any meter that showed a reading of greater than 0.3 mg/L oxygen in a zero dissolved-oxygen solution was not used until the membrane and electrode-filling solution could be changed. Barometric-pressure readings were cross-checked with a second barometer during dissolved-oxygen calibration to insure no change in calibration of the internal barometer had occurred.

Field meter log books, which accompanied the field meters at all times, were prepared to record calibration, performance, and service information as well as track the performance of each instrument over the course of the study. All field-meter calibration information was copied on the site field-data sheet to insure the accuracy of the field-meter readings in case the log book would become lost or damaged.

Quality Control on Water-Quality Samples

Quality-control samples are those samples that are planned to provide data that can be used to estimate the magnitude of the bias or variability in the processes used to obtain the environmental data. Pharmaceutical and antibiotic quality-control samples submitted included blanks, duplicates, and laboratory spikes (into environmental water). A summary of all quality-control samples submitted for this study is presented in table 5.

Blanks

For this study, equipment blanks and field blanks were collected and analyzed to determine if there was any bias due to contamination in any of the processing steps (equipment, field, transport, and laboratory). Blanks made up 6.4 percent of all pharmaceutical and antibiotic samples submitted for analyses. To evaluate the cleaning processes used on both stream-water equipment and well-water equipment, three equipment blanks

were collected in the PA WSC laboratory by pouring certified organic-free water through field equipment and processing the collected sample through the filter apparatuses used for environmental samples. In addition to equipment blanks, six field blanks were collected to evaluate contamination that might be introduced at the site. Three of the field blanks were collected at stream-water locations, and three were collected at well-water locations.

Duplicates

Four stream-water and four well-water field sequential duplicates (table 5) were collected and processed immediately following each associated primary environmental sample using identical procedures; sequential duplicates measure variability introduced during collection, processing, analytical methodology, and also reflect temporal changes in environmental conditions. In addition, one stream-water split duplicate (collected at station 015693158 on May 10, 2006) was submitted to the OGRL. A split duplicate is a single sample that is subdivided into two other samples; split duplicates give a measure of variability (reproducibility) in analytical values produced by sample processing and analytical methodology. Duplicates made up 6.4 percent of all samples submitted for analyses. For these duplicates, a relative percent difference (RPD) was calculated between the two samples when both values had either estimated concentrations or concentrations above the MRL according to the following equation:

$$RPD = (d/s) \times 100, \quad (2)$$

where

d is the difference in concentration between the primary environmental sample and the duplicate sample,

and

s is the mean of the concentrations of the primary environmental sample and the duplicate sample.

Laboratory-Spiked Environmental Samples

A laboratory-spiked environmental sample was prepared by adding a standard spike solution to a split of the environmental sample water to assess the recovery efficiencies and matrix effects of the analytical methods. Over the course of the study, one stream-water quality-control sample was spiked with known concentrations of pharmaceuticals and antibiotics at the NWQL, and two stream-water quality-control samples were spiked with known concentrations of antibiotics and pharmaceuticals at the OGRL. For the laboratory-spiked environmental sample collected at station 015693158 on May 10, 2006, an environmental sample was collected and split in the PA WSC laboratory using a Teflon, decaport cone splitter to create two identical samples. One sample was submitted as an environmental sample, and the second was sent to be spiked at the NWQL and analyzed in the same batch as the environmental sample. The laboratory-spiked samples for this study collected

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Station number	Station name	Date	Time	Agency analyzing sample	Instantaneous discharge (ft ³ /s) (P00061)	Barometric pressure (mm HG) (00025)	Dissolved oxygen (mg/L) (00300)
015757724	Little Chickies Cr at E-town road nr Milton Grove, Pa.	20060717	1310	NWQL	7.1	751	11.0
015757724	Little Chickies Cr at E-town road nr Milton Grove, Pa.	20060717	1311	OGRL	7.1	751	11.0
015757724	Little Chickies Cr at E-town road nr Milton Grove, Pa.	20060911	1550	NWQL	1.7	764	11.4
015757724	Little Chickies Cr at E-town road nr Milton Grove, Pa.	20060911	1551	OGRL	1.7	764	11.4
01578349	Muddy Run at Cochranville near Parkesburg, Pa.	20060314	1145	NWQL	.39	—	10.9
01578349	Muddy Run at Cochranville near Parkesburg, Pa.	20060314	1146	OGRL	.39	—	10.9
01578349	Muddy Run at Cochranville near Parkesburg, Pa.	20060511	1110	NWQL	.19	744	9.5
01578349	Muddy Run at Cochranville near Parkesburg, Pa.	20060511	1111	OGRL	.19	744	9.5
01578349	Muddy Run at Cochranville near Parkesburg, Pa.	20060718	1250	NWQL	.35	748	8.4
01578349	Muddy Run at Cochranville near Parkesburg, Pa.	20060718	1251	OGRL	.35	748	8.4
01578349	Muddy Run at Cochranville near Parkesburg, Pa.	20060912	1215	NWQL	.11	758	8.8
01578349	Muddy Run at Cochranville near Parkesburg, Pa.	20060912	1216	OGRL	.11	758	8.8
015783492	Muddy Run at Glennville near Parkesburg, Pa.	20060314	1400	NWQL	2.7	742	9.8
015783492	Muddy Run at Glennville near Parkesburg, Pa.	20060314	1401	OGRL	2.7	742	9.8
015783492	Muddy Run at Glennville near Parkesburg, Pa.	20060511	1010	NWQL	1.6	746	8.1
015783492	Muddy Run at Glennville near Parkesburg, Pa.	20060511	1011	OGRL	1.6	746	8.1
015783492	Muddy Run at Glennville near Parkesburg, Pa.	20060718	1115	NWQL	5.2	750	6.4
015783492	Muddy Run at Glennville near Parkesburg, Pa.	20060718	1116	OGRL	5.2	750	6.4
015783492	Muddy Run at Glennville near Parkesburg, Pa.	20060912	1115	NWQL	1.3	762	7.7
015783492	Muddy Run at Glennville near Parkesburg, Pa.	20060912	1116	OGRL	1.3	762	7.7
394643077043101	AD 653	20060309	1230	NWQL	—	742	6.5
394643077043101	AD 653	20060309	1231	OGRL	—	742	6.5
394643077043101	AD 653	20060504	1110	NWQL	—	746	6.2
394643077043101	AD 653	20060504	1111	OGRL	—	746	6.2
394643077043101	AD 653	20060504	1112	NWQL	—	—	—
394643077043101	AD 653	20060504	1113	OGRL	—	—	—
394643077043101	AD 653	20060710	1125	NWQL	—	748	6.2
394643077043101	AD 653	20060710	1130	OGRL	—	748	6.2
394643077043101	AD 653	20060925	1055	NWQL	—	745	6.6
394643077043101	AD 653	20060925	1056	OGRL	—	745	6.6
400610076282501	LN 2114	20060406	1030	NWQL	—	752	8.3
400610076282501	LN 2114	20060406	1031	OGRL	—	752	8.3
400610076282501	LN 2114	20060515	1315	NWQL	—	751	7.9
400610076282501	LN 2114	20060515	1316	OGRL	—	751	7.9
400610076282501	LN 2114	20060515	1317	NWQL	—	—	—
400610076282501	LN 2114	20060515	1318	OGRL	—	—	—
400610076282501	LN 2114	20060713	1100	NWQL	—	751	8.9
400610076282501	LN 2114	20060713	1101	OGRL	—	751	8.9
400610076282501	LN 2114	20060907	1100	NWQL	—	760	8.1
400610076282501	LN 2114	20060907	1101	OGRL	—	760	8.1
400610076282501	LN 2114	20060907	1105	NWQL	—	—	—
400610076282501	LN 2114	20060907	1106	OGRL	—	—	—
401712076235101	LB 1248	20060403	1415	NWQL	—	—	4.3
401712076235101	LB 1248	20060403	1416	OGRL	—	—	4.3
401712076235101	LB 1248	20060517	1410	NWQL	—	737	4.0
401712076235101	LB 1248	20060517	1411	OGRL	—	737	4.0

Table 6 51

Station number	Station name	Date	Time	Agency analyzing sample	Instantaneous discharge (ft ³ /s) (P00061)	Barometric pressure (mm HG) (00025)	Dissolved oxygen (mg/L) (00300)
401712076235101	LB 1248	20060712	1355	NWQL	—	748	3.6
401712076235101	LB 1248	20060712	1400	OGRL	—	748	3.6
401712076235101	LB 1248	20060920	1400	NWQL	—	743	4.1
401712076235101	LB 1248	20060920	1401	OGRL	—	743	4.1
401920078130101	HU 426	20060329	1300	NWQL	—	744	.1
401920078130101	HU 426	20060329	1301	OGRL	—	744	.1
401920078130101	HU 426	20060509	1400	NWQL	—	738	.1
401920078130101	HU 426	20060509	1401	OGRL	—	738	.1
401920078130101	HU 426	20060725	1250	NWQL	—	740	.1
401920078130101	HU 426	20060725	1251	OGRL	—	740	.1
401920078130101	HU 426	20060914	1230	NWQL	—	739	.2
401920078130101	HU 426	20060914	1231	OGRL	—	739	.2
402052076160101	LB 1249	20060403	1130	NWQL	—	—	8.8
402052076160101	LB 1249	20060403	1131	OGRL	—	—	8.8
402052076160101	LB 1249	20060517	1135	NWQL	—	741	8.9
402052076160101	LB 1249	20060517	1136	OGRL	—	741	8.9
402052076160101	LB 1249	20060712	1140	NWQL	—	752	8.9
402052076160101	LB 1249	20060712	1145	OGRL	—	752	8.9
402052076160101	LB 1249	20060920	1050	NWQL	—	745	8.4
402052076160101	LB 1249	20060920	1051	OGRL	—	745	8.4
405931076555601	UN 205	20060323	1140	NWQL	—	—	1.4
405931076555601	UN 205	20060323	1141	OGRL	—	—	1.4
405931076555601	UN 205	20060502	1140	NWQL	—	750	1.4
405931076555601	UN 205	20060502	1141	OGRL	—	750	1.4
405931076555601	UN 205	20060711	1150	NWQL	—	751	1.0
405931076555601	UN 205	20060711	1155	OGRL	—	751	1.0
405931076555601	UN 205	20060711	1200	NWQL	—	—	—
405931076555601	UN 205	20060711	1205	OGRL	—	—	—
405931076555601	UN 205	20060921	1215	NWQL	—	752	.7
405931076555601	UN 205	20060921	1216	OGRL	—	752	.7

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Station number	Date	Time	Dissolved oxygen (percent saturation) (00301)	pH, water, unfiltered, field (standard units) (00400)	Specific conductance, water, unfiltered (µS/cm °C) (00095)	Temperature, air (°C) (00020)	Temperature, water (°C) (00010)	4-Epichlor-tetracycline hydrochloride, water, fltrd (µg/L) (63731)	4-Epoxy-tetra-cycline water, fltrd (µg/L) (63729)	4-Epitetra-cycline hydro-chloride, water, fltrd (µg/L) (63727)
01470857	20060306	1130	118	8.2	352	—	6.0	—	—	—
01470857	20060306	1131	118	8.2	352	—	6.0	< 0.010	< 0.010	< 0.010
01470857	20060508	1215	110	8.1	345	19.0	13.5	—	—	—
01470857	20060508	1216	110	8.1	345	19.0	13.5	< .010	< .010	< .010
01470857	20060720	1130	97	7.9	359	—	17.9	—	—	—
01470857	20060720	1131	97	7.9	359	—	17.9	< .010	< .010	< .010
01470857	20060918	1235	97	8.0	368	22.5	16.2	—	—	—
01470857	20060918	1236	97	8.0	368	22.5	16.2	< .010	< .010	< .010
01470858	20060306	1300	125	8.3	363	—	7.6	—	—	—
01470858	20060306	1301	125	8.3	363	—	7.6	< .010	< .010	< .010
01470858	20060508	1100	108	7.7	365	—	12.8	—	—	—
01470858	20060508	1101	108	7.7	365	—	12.8	< .010	< .010	< .010
01470858	20060720	1030	94	7.8	378	—	17.9	—	—	—
01470858	20060720	1031	94	7.8	378	—	17.9	< .010	< .010	< .010
01470858	20060918	1120	96	7.9	385	22.0	15.8	—	—	—
01470858	20060918	1121	96	7.9	385	22.0	15.8	< .010	< .010	< .010
01470858	20060918	1125	—	—	—	—	—	—	—	—
01470858	20060918	1126	—	—	—	—	—	< .010	< .010	< .010
015693155	20060313	1100	123	8.2	433	—	12.4	—	—	—
015693155	20060313	1101	123	8.2	433	—	12.4	< .010	< .010	< .010
015693155	20060510	1145	114	8.1	424	31.5	13.4	—	—	—
015693155	20060510	1146	114	8.1	424	31.5	13.4	< .010	< .010	< .010
015693155	20060706	1130	107	7.7	336	25.0	15.5	—	—	—
015693155	20060706	1135	107	7.7	336	25.0	15.5	< .010	< .010	< .010
015693155	20060919	1020	88	8.2	444	21.0	13.9	—	—	—
015693155	20060919	1021	88	8.2	444	21.0	13.9	< .010	< .010	< .010
015693158	20060313	1300	141	8.3	521	—	14.6	—	—	—
015693158	20060313	1301	141	8.3	521	—	14.6	< .010	< .010	< .010
015693158	20060510	1030	108	7.8	633	26.0	13.4	—	—	—
015693158	20060510	1031	108	7.8	633	26.0	13.4	< .010	< .010	< .010
015693158	20060510	1036	—	—	—	—	—	< .010	< .010	< .010
015693158	20060706	1020	105	7.3	434	22.0	15.9	—	—	—
015693158	20060706	1025	105	7.3	434	22.0	15.9	< .010	< .010	< .010
015693158	20060706	1030	—	—	—	—	—	—	—	—
015693158	20060706	1035	—	—	—	—	—	< .010	< .010	< .010
015693158	20060919	1200	91	8.2	582	20.5	16.1	—	—	—
015693158	20060919	1201	91	8.2	582	20.5	16.1	< .010	< .010	< .010
01571193	20060405	1600	126	8.6	96	—	11.4	—	—	—
01571193	20060405	1601	126	8.6	96	—	11.4	< .010	< .010	< .010
01571193	20060516	1210	100	6.8	57	15.0	12.6	—	—	—
01571193	20060516	1211	100	6.8	57	15.0	12.6	< .010	< .010	< .010
01571193	20060726	1500	96	8.0	97	28.5	20.9	—	—	—
01571193	20060726	1501	96	8.0	97	28.5	20.9	< .010	< .010	< .010

Table 6 53

Station number	Date	Time	Dissolved oxygen (percent saturation) (00301)	pH, water, unfiltered, field (standard units) (00400)	Specific conductance, water, unfiltered (µS/cm °C) (00095)	Temperature, air (°C) (00020)	Temperature, water (°C) (00010)	4-Epichlorotetracycline hydrochloride, water, fltrd (µg/L) (63731)	4-Epoxytetracycline water, fltrd (µg/L) (63729)	4-Epitetracycline hydrochloride, water, fltrd (µg/L) (63727)
01571193	20060905	1105	96	7.8	113	17.0	16.0	—	—	—
01571193	20060905	1106	96	7.8	113	17.0	16.0	< 0.010	< 0.010	< 0.010
01571195	20060405	1800	121	8.6	103	—	11.2	—	—	—
01571195	20060405	1801	121	8.6	103	—	11.2	< .010	< .010	< .010
01571195	20060516	1050	101	6.7	57	15.5	12.2	—	—	—
01571195	20060516	1051	101	6.7	57	15.5	12.2	< .010	< .010	< .010
01571195	20060726	1600	100	8.3	107	28.0	21.4	—	—	—
01571195	20060726	1601	100	8.3	107	28.0	21.4	< .010	< .010	< .010
01571195	20060905	0950	94	7.8	120	17.0	16.2	—	—	—
01571195	20060905	0951	94	7.8	120	17.0	16.2	< .010	< .010	< .010
01573151	20060307	1415	160	8.8	482	—	12.3	—	—	—
01573151	20060307	1416	160	8.8	482	—	12.3	< .010	< .010	< .010
01573151	20060503	1040	96	8.5	505	19.0	13.6	—	—	—
01573151	20060503	1041	96	8.5	505	19.0	13.6	< .010	< .010	< .010
01573151	20060719	1110	106	7.8	410	25.0	19.3	—	—	—
01573151	20060719	1111	106	7.8	410	25.0	19.3	< .010	< .010	< .010
01573151	20060913	1100	102	8.2	532	15.0	13.6	—	—	—
01573151	20060913	1101	102	8.2	532	15.0	13.6	< .010	< .010	< .010
01573153	20060307	1230	135	8.2	693	—	11.4	—	—	—
01573153	20060307	1231	135	8.2	693	—	11.4	< .010	< .010	< .010
01573153	20060307	1235	—	—	—	—	—	—	—	—
01573153	20060307	1236	—	—	—	—	—	< .010	< .010	< .010
01573153	20060503	0940	69	7.7	895	18.0	17.3	—	—	—
01573153	20060503	0941	69	7.7	895	18.0	17.3	< .010	< .010	< .010
01573153	20060719	1010	96	7.7	438	23.5	19.3	—	—	—
01573153	20060719	1011	96	7.7	438	23.5	19.3	< .010	< .010	< .010
01573153	20060913	0950	82	7.4	1,020	16.0	22.8	—	—	—
01573153	20060913	0951	82	7.4	1,020	16.0	22.8	< .010	< .010	< .010
01574310	20060301	1600	140	9.0	389	—	6.4	—	—	—
01574310	20060301	1601	140	9.0	389	—	6.4	< .010	< .010	< .010
01574310	20060501	0940	96	7.7	389	15.0	11.8	—	—	—
01574310	20060501	0941	96	7.7	389	15.0	11.8	< .010	< .010	< .010
01574310	20060705	1420	90	7.7	275	25.5	22.3	—	—	—
01574310	20060705	1425	90	7.7	275	25.5	22.3	< .010	< .010	< .010
01574310	20060906	1200	97	8.3	387	—	18.9	—	—	—
01574310	20060906	1201	97	8.3	387	—	18.9	< .010	< .010	< .010
01574314	20060301	1500	141	8.9	391	—	8.5	—	—	—
01574314	20060301	1501	141	8.9	391	—	8.5	< .010	< .010	< .010
01574314	20060501	1035	120	8.0	392	16.0	13.9	—	—	—
01574314	20060501	1036	120	8.0	392	16.0	13.9	< .010	< .010	< .010
01574314	20060501	1037	—	—	—	—	—	—	—	—
01574314	20060501	1038	—	—	—	—	—	< .010	< .010	< .010
01574314	20060705	1310	94	7.7	222	24.5	22.7	—	—	—
01574314	20060705	1315	94	7.7	222	24.5	22.7	< .010	< .010	< .010
01574314	20060906	1300	108	8.5	392	25.0	21.3	—	—	—
01574314	20060906	1301	108	8.5	392	25.0	21.3	< .010	< .010	< .010

54 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Dissolved oxygen (percent saturation) (00301)	pH, water, unfiltered, field (standard units) (00400)	Specific conductance, water, unfiltered (µS/cm °C) (00095)	Temperature, air (°C) (00020)	Temperature, water (°C) (00010)	4-Epichlor-tetracycline hydrochloride, water, fltrd (µg/L) (63731)	4-Epoxy-tetra-cycline water, fltrd (µg/L) (63729)	4-Epitetra-cycline hydro-chloride, water, fltrd (µg/L) (63727)
01576420	20060306	1600	104	7.7	696	—	12.5	—	—	—
01576420	20060306	1601	104	7.7	696	—	12.5	< 0.010	< 0.010	< 0.010
01576420	20060522	1150	104	7.6	700	16.0	13.6	—	—	—
01576420	20060522	1151	104	7.6	700	16.0	13.6	< .010	< .010	< .010
01576420	20060717	1150	98	7.5	677	30.0	16.0	—	—	—
01576420	20060717	1151	98	7.5	677	30.0	16.0	< .010	< .010	< .010
01576420	20060911	1100	88	7.4	740	16.0	14.1	—	—	—
01576420	20060911	1101	88	7.4	740	16.0	14.1	< .010	< .010	< .010
01576422	20060306	1730	—	7.7	840	—	11.7	—	—	—
01576422	20060306	1731	—	7.7	840	—	11.7	< .010	< .010	< .010
01576422	20060522	1025	111	7.5	1,110	14.5	13.5	—	—	—
01576422	20060522	1026	111	7.5	1,110	14.5	13.5	< .010	< .010	< .010
01576422	20060717	1030	99	7.3	859	29.0	16.5	—	—	—
01576422	20060717	1031	99	7.3	859	29.0	16.5	< .010	< .010	< .010
01576422	20060911	1205	98	7.7	1,150	18.5	16.8	—	—	—
01576422	20060911	1206	98	7.7	1,150	18.5	16.8	< .010	< .010	< .010
01569346	20060405	1300	94	7.5	41	—	8.6	—	—	—
01569346	20060405	1301	94	7.5	41	—	8.6	< .010	< .010	< .010
01569346	20060523	1115	98	6.5	35	14.0	9.6	—	—	—
01569346	20060523	1116	98	6.5	35	14.0	9.6	< .010	< .010	< .010
01569346	20060726	1045	87	7.5	38	21.5	18.7	—	—	—
01569346	20060726	1046	87	7.5	38	21.5	18.7	< .010	< .010	< .010
01569346	20060927	0955	92	5.3	38	16.0	13.9	—	—	—
01569346	20060927	0956	92	5.3	38	16.0	13.9	< .010	< .010	< .010
01569349	20060405	1130	104	8.0	90	—	7.4	—	—	—
01569349	20060405	1131	104	8.0	90	—	7.4	< .010	< .010	< .010
01569349	20060523	1000	107	7.4	66	13.0	10.2	—	—	—
01569349	20060523	1001	107	7.4	66	13.0	10.2	< .010	< .010	< .010
01569349	20060726	1245	104	8.0	84	28.5	23.4	—	—	—
01569349	20060726	1246	104	8.0	84	28.5	23.4	< .010	< .010	< .010
01569349	20060927	1100	100	7.2	109	17.0	12.5	—	—	—
01569349	20060927	1101	100	7.2	109	17.0	12.5	< .010	< .010	< .010
01572146	20060320	1200	114	8.4	29	—	3.7	—	—	—
01572146	20060320	1201	114	8.4	29	—	3.7	.010	< .010	< .010
01572146	20060518	1145	96	6.6	28	17.0	10.9	—	—	—
01572146	20060518	1146	96	6.6	28	17.0	10.9	.010	< .010	< .010
01572146	20060731	1015	89	—	36	—	18.0	—	—	—
01572146	20060731	1016	89	—	36	—	18.0	.010	< .010	< .010
01572146	20060926	0945	96	4.8	36	15.0	12.2	—	—	—
01572146	20060926	0946	96	4.8	36	15.0	12.2	.010	< .010	< .010
01572148	20060320	1445	120	7.6	40	—	6.3	—	—	—
01572148	20060320	1446	120	7.6	40	—	6.3	.010	< .010	< .010
01572148	20060518	1030	98	6.6	38	18.0	12.3	—	—	—
01572148	20060518	1031	98	6.6	38	18.0	12.3	.010	< .010	< .010
01572148	20060731	1110	85	—	52	—	22.8	—	—	—
01572148	20060731	1111	85	—	52	—	22.8	.010	< .010	< .010

Table 6 55

Station number	Date	Time	Dissolved oxygen (percent saturation) (00301)	pH, water, unfiltered, field (standard units) (00400)	Specific conductance, water, unfiltered (µS/cm °C) (00095)	Temperature, air (°C) (00020)	Temperature, water (°C) (00010)	4-Epichlorotetracycline hydrochloride, water, fltrd (µg/L) (63731)	4-Epoxytetracycline water, fltrd (µg/L) (63729)	4-Epitetracycline hydrochloride, water, fltrd (µg/L) (63727)
01572148	20060926	1055	91	7.1	52	16.5	15.0	—	—	—
01572148	20060926	1056	91	7.1	52	16.5	15.0	0.010	< 0.010	< 0.010
401704076293101	20060315	1145	122	8.1	534	—	8.9	—	—	—
401704076293101	20060315	1146	122	8.1	534	—	8.9	< .010	< .010	< .010
401704076293101	20060503	1345	80	8.0	514	25.5	15.6	—	—	—
401704076293101	20060503	1346	80	8.0	514	25.5	15.6	< .010	< .010	< .010
401704076293101	20060719	1430	98	7.8	502	29.5	16.7	—	—	—
401704076293101	20060719	1431	98	7.8	502	29.5	16.7	< .010	< .010	< .010
401704076293101	20060913	1400	89	7.8	574	15.0	12.8	—	—	—
401704076293101	20060913	1401	89	7.8	574	15.0	12.8	< .010	< .010	< .010
01573095	20060315	1030	113	7.9	607	—	8.3	—	—	—
01573095	20060315	1031	113	7.9	607	—	8.3	< .010	< .010	< .010
01573095	20060503	1245	93	8.2	587	26.5	15.1	—	—	—
01573095	20060503	1246	93	8.2	587	26.5	15.1	< .010	< .010	< .010
01573095	20060719	1330	123	7.8	588	26.5	16.7	—	—	—
01573095	20060719	1331	123	7.8	588	26.5	16.7	< .010	< .010	< .010
01573095	20060913	1305	91	7.8	614	14.0	12.4	—	—	—
01573095	20060913	1306	91	7.8	614	14.0	12.4	< .010	< .010	< .010
01574050	20060316	1030	115	6.5	308	—	5.6	—	—	—
01574050	20060316	1031	115	6.5	308	—	5.6	< .010	< .010	< .010
01574050	20060501	1350	118	8.2	313	24.0	13.5	—	—	—
01574050	20060501	1351	118	8.2	313	24.0	13.5	< .010	< .010	< .010
01574050	20060705	1045	80	7.5	344	21.5	20.0	—	—	—
01574050	20060705	1050	80	7.5	344	21.5	20.0	< .010	< .010	< .010
01574050	20060906	1030	80	8.1	402	18.0	17.0	—	—	—
01574050	20060906	1031	80	8.1	402	18.0	17.0	< .010	< .010	< .010
01574055	20060316	1130	130	8.1	312	—	5.7	—	—	—
01574055	20060316	1131	130	8.1	312	—	5.7	< .010	< .010	< .010
01574055	20060501	1245	106	7.7	323	30.0	13.0	—	—	—
01574055	20060501	1246	106	7.7	323	30.0	13.0	< .010	< .010	< .010
01574055	20060705	1145	91	7.3	342	22.0	18.6	—	—	—
01574055	20060705	1150	91	7.3	342	22.0	18.6	< .010	< .010	< .010
01574055	20060906	0925	85	8.0	367	18.0	—	—	—	—
01574055	20060906	0926	85	8.0	367	18.0	16.6	< .010	< .010	< .010
01575771	20060322	1000	121	7.7	248	—	5.0	—	—	—
01575771	20060322	1001	121	7.7	248	—	5.0	< .010	< .010	< .010
01575771	20060515	1055	90	7.3	247	10.0	11.8	—	—	—
01575771	20060515	1056	90	7.3	247	10.0	11.8	< .010	< .010	< .010
01575771	20060717	1410	86	7.4	238	31.0	21.3	—	—	—
01575771	20060717	1411	86	7.4	238	31.0	21.3	< .010	< .010	< .010
01575771	20060911	1450	93	7.6	242	—	16.2	—	—	—
01575771	20060911	1451	93	7.6	242	—	16.2	< .010	< .010	< .010
015757724	20060322	1100	150	8.8	279	—	4.2	—	—	—
015757724	20060322	1101	150	8.8	279	—	4.2	< .010	< .010	< .010
015757724	20060515	0915	90	7.0	280	10.0	12.9	—	—	—
015757724	20060515	0916	90	7.0	280	10.0	12.9	< .010	< .010	< .010

56 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Dissolved oxygen (percent saturation) (00301)	pH, water, unfiltered, field (standard units) (00400)	Specific conductance, water, unfiltered (µS/cm °C) (00095)	Temperature, air (°C) (00020)	Temperature, water (°C) (00010)	4-Epichlor-tetracycline hydrochloride, water, fltrd (µg/L) (63731)	4-Epoxy-tetra-cycline water, fltrd (µg/L) (63729)	4-Epitetra-cycline hydro-chloride, water, fltrd (µg/L) (63727)
015757724	20060717	1310	136	8.8	292	34.0	—	—	—	—
015757724	20060717	1311	136	8.8	292	34.0	26.0	< 0.010	< 0.010	< 0.010
015757724	20060911	1550	124	8.7	306	19.5	19.1	—	—	—
015757724	20060911	1551	124	8.7	306	19.5	19.1	< .010	< .010	< .010
01578349	20060314	1145	100	6.7	205	—	11.5	—	—	—
01578349	20060314	1146	100	6.7	205	—	11.5	< .010	< .010	< .010
01578349	20060511	1110	88	6.7	196	22.0	12.4	—	—	—
01578349	20060511	1111	88	6.7	196	22.0	12.4	< .010	< .010	< .010
01578349	20060718	1250	88	6.5	200	30.0	17.6	—	—	—
01578349	20060718	1251	88	6.5	200	30.0	17.6	< .010	< .010	< .010
01578349	20060912	1215	85	6.9	197	22.0	14.0	—	—	—
01578349	20060912	1216	85	6.9	197	22.0	14.0	< .010	< .010	< .010
015783492	20060314	1400	98	7.4	262	—	15.4	—	—	—
015783492	20060314	1401	98	7.4	262	—	15.4	< .010	< .010	< .010
015783492	20060511	1010	86	7.6	239	23.0	18.4	—	—	—
015783492	20060511	1011	86	7.6	239	23.0	18.4	< .010	< .010	< .010
015783492	20060718	1115	83	7.4	246	33.0	28.6	—	—	—
015783492	20060718	1116	83	7.4	246	33.0	28.6	< .010	< .010	< .010
015783492	20060912	1115	83	7.6	250	19.5	19.1	—	—	—
015783492	20060912	1116	83	7.6	250	19.5	19.1	< .010	< .010	< .010
394643077043101	20060309	1230	61	7.2	542	—	11.9	—	—	—
394643077043101	20060309	1231	61	7.2	542	—	11.9	< .010	< .010	< .010
394643077043101	20060504	1110	59	7.3	496	22.0	12.8	—	—	—
394643077043101	20060504	1111	59	7.3	496	22.0	12.8	< .010	< .010	< .010
394643077043101	20060504	1112	—	—	—	—	—	—	—	—
394643077043101	20060504	1113	—	—	—	—	—	< .010	< .010	< .010
394643077043101	20060710	1125	60	7.0	526	28.0	12.9	—	—	—
394643077043101	20060710	1130	60	7.0	526	28.0	12.9	< .010	< .010	< .010
394643077043101	20060925	1055	67	7.4	514	17.0	12.7	—	—	—
394643077043101	20060925	1056	67	7.4	514	17.0	12.7	< .010	< .010	< .010
400610076282501	20060406	1030	77	7.2	544	—	12.5	—	—	—
400610076282501	20060406	1031	77	7.2	544	—	12.5	< .010	< .010	< .010
400610076282501	20060515	1315	75	7.2	553	13.0	12.8	—	—	—
400610076282501	20060515	1316	75	7.2	553	13.0	12.8	< .010	< .010	< .010
400610076282501	20060515	1317	—	—	—	—	—	—	—	—
400610076282501	20060515	1318	—	—	—	—	—	< .010	< .010	< .010
400610076282501	20060713	1100	86	6.6	546	26.5	13.2	—	—	—
400610076282501	20060713	1101	86	6.6	546	26.5	13.2	< .010	< .010	< .010
400610076282501	20060907	1100	78	7.8	552	23.5	13.3	—	—	—
400610076282501	20060907	1101	78	7.8	552	23.5	13.3	< .010	< .010	< .010
400610076282501	20060907	1105	—	—	—	—	—	—	—	—
400610076282501	20060907	1106	—	—	—	—	—	< .010	< .010	< .010
401712076235101	20060403	1415	—	7.2	695	—	11.8	—	—	—
401712076235101	20060403	1416	—	7.2	695	—	11.8	< .010	< .010	< .010
401712076235101	20060517	1410	38	7.3	673	19.5	11.8	—	—	—
401712076235101	20060517	1411	38	7.3	673	19.5	11.8	< .010	< .010	< .010

Table 6 57

Station number	Date	Time	Dissolved oxygen (percent saturation) (00301)	pH, water, unfiltered, field (standard units) (00400)	Specific conductance, water, unfiltered (µS/cm °C) (00095)	Temperature, air (°C) (00020)	Temperature, water (°C) (00010)	4-Epichlorotetracycline hydrochloride, water, fltrd (µg/L) (63731)	4-Epoxytetracycline water, fltrd (µg/L) (63729)	4-Epitetracycline hydrochloride, water, fltrd (µg/L) (63727)
401712076235101	20060712	1355	34	7.0	704	32.0	12.1	—	—	—
401712076235101	20060712	1400	34	7.0	704	32.0	12.1	< 0.010	< 0.010	< 0.010
401712076235101	20060920	1400	38	7.3	713	18.5	11.8	—	—	—
401712076235101	20060920	1401	38	7.3	713	18.5	11.8	< .010	< .010	< .010
401920078130101	20060329	1300	1	7.5	464	—	11.8	—	—	—
401920078130101	20060329	1301	1	7.5	464	—	11.8	< .010	< .010	< .010
401920078130101	20060509	1400	1	7.5	440	19.5	11.9	—	—	—
401920078130101	20060509	1401	1	7.5	440	19.5	11.9	< .010	< .010	< .010
401920078130101	20060725	1250	1	—	503	28.5	12.0	—	—	—
401920078130101	20060725	1251	1	—	503	28.5	12.0	< .010	< .010	< .010
401920078130101	20060914	1230	2	7.5	507	20.7	12.0	—	—	—
401920078130101	20060914	1231	2	7.5	507	20.7	12.0	< .010	< .010	< .010
402052076160101	20060403	1130	—	7.2	616	—	11.3	—	—	—
402052076160101	20060403	1131	—	7.2	616	—	11.3	< .010	< .010	< .010
402052076160101	20060517	1135	82	7.1	616	—	11.6	—	—	—
402052076160101	20060517	1136	82	7.1	616	—	11.6	< .010	< .010	< .010
402052076160101	20060712	1140	84	6.9	650	30.0	12.1	—	—	—
402052076160101	20060712	1145	84	6.9	650	30.0	12.1	< .010	< .010	< .010
402052076160101	20060920	1050	80	7.3	649	17.0	11.7	—	—	—
402052076160101	20060920	1051	80	7.3	649	17.0	11.7	< .010	< .010	< .010
405931076555601	20060323	1140	—	7.0	791	—	12.1	—	—	—
405931076555601	20060323	1141	—	7.0	791	—	12.1	< .010	< .010	< .010
405931076555601	20060502	1140	14	6.9	665	18.0	13.1	—	—	—
405931076555601	20060502	1141	14	6.9	665	18.0	13.1	< .010	< .010	< .010
405931076555601	20060711	1150	10	6.9	815	30.0	14.3	—	—	—
405931076555601	20060711	1155	10	6.9	815	30.0	14.3	< .010	< .010	< .010
405931076555601	20060711	1200	—	—	—	—	—	—	—	—
405931076555601	20060711	1205	—	—	—	—	—	< .010	< .010	< .010
405931076555601	20060921	1215	7	7.2	864	19.5	13.2	—	—	—
405931076555601	20060921	1216	7	7.2	864	19.5	13.2	< .010	< .010	< .010

58 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Acetaminophen, water, fltrd (µg/L) (62000)	Anhydro-erthromycin, water, fltrd (µg/L) (63674)	Azithromycin, water, fltrd (µg/L) (62792)	Caffeine, water, fltrd (µg/L) (50305)	Carbam-azepine, water, fltrd (µg/L) (62793)	Carbam-azepine-d10, surrogate, pharmaceutical method, water, fltrd, percent recovery (90797) ¹	Chloramphenicol, water, fltrd (µg/L) (65194)	Chlorotetracycline, water, fltrd (µg/L) (61744)
01470857	20060306	1130	< 0.024	—	—	< 0.015	< 0.018	99.4	—	—
01470857	20060306	1131	—	< 0.008	< 0.005	—	< .005	—	< 0.050	< 0.010
01470857	20060508	1215	< .024	—	—	< .015	< .018	111	—	—
01470857	20060508	1216	—	< .008	< .005	—	< .005	—	< .050	< .010
01470857	20060720	1130	< .024	—	—	< .015	< .018	77.3	—	—
01470857	20060720	1131	—	< .008	< .005	—	< .005	—	< .050	< .010
01470857	20060918	1235	< .024	—	—	< .015	< .018	105	—	—
01470857	20060918	1236	—	< .008	< .005	—	< .005	—	< .050	< .010
01470858	20060306	1300	E(1) .007	—	—	.018	E(2) .013	93.8	—	—
01470858	20060306	1301	—	< .008	< .005	—	< .005	—	< .050	< .010
01470858	20060508	1100	< .024	—	—	.021	.019	105	—	—
01470858	20060508	1101	—	.016	< .005	—	.026	—	< .050	< .010
01470858	20060720	1030	< .024	—	—	< .015	E(1) .008	89.1	—	—
01470858	20060720	1031	—	< .008	< .005	—	.011	—	< .050	< .010
01470858	20060918	1120	< .024	—	—	.022	< .018	116	—	—
01470858	20060918	1121	—	< .008	.031	—	.014	—	< .050	< .010
01470858	20060918	1125	< .024	—	—	.025	E .019	132	—	—
01470858	20060918	1126	—	< .008	.035	—	.015	—	< .050	< .010
015693155	20060313	1100	< .024	—	—	< .015	< .018	106	—	—
015693155	20060313	1101	—	< .008	< .005	—	< .005	—	< .050	< .010
015693155	20060510	1145	< .024	—	—	< .015	< .018	109	—	—
015693155	20060510	1146	—	< .008	< .005	—	< .005	—	< .050	< .010
015693155	20060706	1130	< .024	—	—	< .015	< .018	86	—	—
015693155	20060706	1135	—	< .008	< .005	—	< .005	—	< .050	< .010
015693155	20060919	1020	< .024	—	—	< .015	< .018	106	—	—
015693155	20060919	1021	—	< .008	< .005	—	< .005	—	< .050	< .010
015693158	20060313	1300	< .024	—	—	< .015	.116	87.1	—	—
015693158	20060313	1301	—	.061	1.510	—	.112	—	< .050	< .010
015693158	20060510	1030	E(1) .008	—	—	< .025	.108	68.6	—	—
015693158	20060510	1031	—	.081	1.650	—	.152	—	< .050	< .010
015693158	20060510	1036	—	.068	1.280	—	.151	—	< .050	< .010
015693158	20060706	1020	< .024	—	—	< .015	.050	68.3	—	—
015693158	20060706	1025	—	< .008	.078	—	.086	—	< .050	< .010
015693158	20060706	1030	< .024	—	—	< .015	.051	71.6	—	—
015693158	20060706	1035	—	< .008	.014	—	.090	—	< .050	< .010
015693158	20060919	1200	< .024	—	—	< .015	.130	79.2	—	—
015693158	20060919	1201	—	.027	.315	—	.138	—	< .050	< .010
01571193	20060405	1600	< .024	—	—	< .015	< .018	E 104	—	—
01571193	20060405	1601	—	< .008	< .005	—	< .005	—	< .050	< .010
01571193	20060516	1210	< .024	—	—	< .015	< .018	83.7	—	—
01571193	20060516	1211	—	< .008	< .005	—	< .005	—	< .050	< .010
01571193	20060726	1500	< .024	—	—	< .015	< .018	93.4	—	—
01571193	20060726	1501	—	< .008	< .005	—	< .005	—	< .050	< .010

¹For recoveries of surrogate compounds, an "E" designation indicates either (1) there was a potential interference with recovery, or (2) one or both of the two continuing calibration verification sample values fell outside the limits of compliance.

Table 6 59

Station number	Date	Time	Acetaminophen, water, fltrd (µg/L) (62000)	Anhydro-erthromycin, water, fltrd (µg/L) (63674)	Azithromycin, water, fltrd (µg/L) (62792)	Caffeine, water, fltrd (µg/L) (50305)	Carbamazepine, water, fltrd (µg/L) (62793)	Carbamazepine-d10, surrogate, pharmaceutical method, water, fltrd, percent recovery (90797) ¹	Chloramphenicol, water, fltrd (µg/L) (65194)	Chlorotetracycline, water, fltrd (µg/L) (61744)
01571193	20060905	1105	< 0.024	—	—	< 0.015	< 0.018	E 105	—	—
01571193	20060905	1106	—	< 0.008	< 0.005	—	< .005	—	< 0.050	< 0.010
01571195	20060405	1800	< .024	—	—	< .015	< .018	E 105	—	—
01571195	20060405	1801	—	< .008	< .005	—	< .005	—	< .050	< .010
01571195	20060516	1050	< .024	—	—	< .015	< .018	86.5	—	—
01571195	20060516	1051	—	< .008	< .005	—	< .005	—	< .050	< .010
01571195	20060726	1600	< .024	—	—	< .015	< .018	96.8	—	—
01571195	20060726	1601	—	< .008	< .005	—	< .005	—	< .050	< .010
01571195	20060905	0950	< .024	—	—	.015	E(2).009	E 106	—	—
01571195	20060905	0951	—	< .008	< .005	—	.005	—	< .050	< .010
01573151	20060307	1415	.048	—	—	.065	< .018	95	—	—
01573151	20060307	1416	—	< .008	< .005	—	< .005	—	< .050	< .010
01573151	20060503	1040	< .024	—	—	< .015	< .018	98.4	—	—
01573151	20060503	1041	—	< .008	< .005	—	.011	—	< .050	< .010
01573151	20060719	1110	< .024	—	—	< .015	< .018	67.4	—	—
01573151	20060719	1111	—	< .008	< .005	—	< .005	—	< .050	< .010
01573151	20060913	1100	< .024	—	—	< .015	E(2).009	113	—	—
01573151	20060913	1101	—	< .008	< .005	—	.005	—	< .050	< .010
01573153	20060307	1230	.098	—	—	4.750	.079	48.3	—	—
01573153	20060307	1231	—	.025	.239	—	.164	—	< .010	< .010
01573153	20060307	1235	.083	—	—	6.120	.077	46.8	—	—
01573153	20060307	1236	—	.020	.180	—	.187	—	< .050	< .010
01573153	20060503	0940	E(4).032	—	—	.043	.167	33.5	—	—
01573153	20060503	0941	—	.168	.686	—	.516	—	< .050	< .010
01573153	20060719	1010	< .024	—	—	< .015	.030	58	—	—
01573153	20060719	1011	—	.017	.021	—	.045	—	< .050	< .010
01573153	20060913	0950	< .024	—	—	.085	.276	E 34.8	—	—
01573153	20060913	0951	—	.008	.280	—	.406	—	< .050	< .010
01574310	20060301	1600	E(1).005	—	—	.019	< .018	79.9	—	—
01574310	20060301	1601	—	< .008	< .005	—	< .005	—	< .050	< .010
01574310	20060501	0940	.350	—	—	.047	< .018	89.3	—	—
01574310	20060501	0941	—	< .008	< .005	—	< .005	—	< .050	< .010
01574310	20060705	1420	< .024	—	—	.060	< .018	55.4	—	—
01574310	20060705	1425	—	< .008	< .005	—	< .005	—	< .050	< .010
01574310	20060906	1200	E(2).014	—	—	.032	< .018	E 80.5	—	—
01574310	20060906	1201	—	< .008	< .005	—	< .005	—	< .050	< .010
01574314	20060301	1500	E(1).007	—	—	.015	< .018	84.3	—	—
01574314	20060301	1501	—	< .008	< .005	—	< .005	—	< .050	< .010
01574314	20060501	1035	.029	—	—	.032	< .018	85.9	—	—
01574314	20060501	1036	—	< .008	< .005	—	< .005	—	< .050	< .010
01574314	20060501	1037	.030	—	—	.035	< .018	84	—	—
01574314	20060501	1038	—	< .008	< .005	—	< .005	—	< .050	< .010
01574314	20060705	1310	E(1).005	—	—	.363	< .018	46.7	—	—
01574314	20060705	1315	—	< .008	< .005	—	< .005	—	< .050	< .010
01574314	20060906	1300	E(1).010	—	—	.074	< .018	E 79.3	—	—
01574314	20060906	1301	—	< .008	< .005	—	< .005	—	< .050	< .010

¹For recoveries of surrogate compounds, an "E" designation indicates either (1) there was a potential interference with recovery, or (2) one or both of the two continuing calibration verification sample values fell outside the limits of compliance.

60 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Acetaminophen, water, fltrd (µg/L) (62000)	Anhydro-erthromycin, water, fltrd (µg/L) (63674)	Azithromycin, water, fltrd (µg/L) (62792)	Caffeine, water, fltrd (µg/L) (50305)	Carbamazepine, water, fltrd (µg/L) (62793)	Carbamazepine-d10, surrogate, pharmaceutical method, water, fltrd, percent recovery (90797) ¹	Chloramphenicol, water, fltrd (µg/L) (65194)	Chlorotetracycline, water, fltrd (µg/L) (61744)
01576420	20060306	1600	< 0.024	—	—	< 0.015	< 0.018	97.3	—	—
01576420	20060306	1601	—	0.011	< 0.005	—	.013	—	< 0.050	< 0.0010
01576420	20060522	1150	< .024	—	—	< .015	< .018	106	—	—
01576420	20060522	1151	—	< .008	< .005	—	< .005	—	< .050	< .010
01576420	20060717	1150	< .024	—	—	< .015	< .018	E 82.1	—	—
01576420	20060717	1151	—	< .008	< .005	—	< .005	—	< .050	< .010
01576420	20060911	1100	< .024	—	—	< .015	< .018	98.4	—	—
01576420	20060911	1101	—	< .008	< .005	—	< .005	—	< .050	< .010
01576422	20060306	1730	< .024	—	—	< .015	.040	85.5	—	—
01576422	20060306	1731	—	.028	< .005	—	.055	—	< .050	< .010
01576422	20060522	1025	E(1) .009	—	—	< .015	.083	63.4	—	—
01576422	20060522	1026	—	.152	.440	—	.142	—	< .050	< .010
01576422	20060717	1030	< .024	—	—	< .015	E(4) .043	E 92.3	—	—
01576422	20060717	1031	—	.036	.076	—	.054	—	< .050	< .010
01576422	20060911	1205	< .024	—	—	< .015	.139	73.5	—	—
01576422	20060911	1206	—	< .008	< .005	—	.103	—	< .050	< .010
01569346	20060405	1300	< .024	—	—	< .015	< .018	E 106	—	—
01569346	20060405	1301	—	< .008	< .005	—	< .005	—	< .050	< .010
01569346	20060523	1115	< .024	—	—	< .015	< .018	94.8	—	—
01569346	20060523	1116	—	< .008	< .005	—	< .005	—	< .050	< .010
01569346	20060726	1045	< .024	—	—	< .015	< .018	96.9	—	—
01569346	20060726	1046	—	< .008	< .005	—	< .005	—	< .050	< .010
01569346	20060927	0955	< .024	—	—	< .015	< .018	99.9	—	—
01569346	20060927	0956	—	< .008	< .005	—	< .005	—	< .050	< .010
01569349	20060405	1130	< .024	—	—	< .015	< .018	E 96.4	—	—
01569349	20060405	1131	—	< .008	< .005	—	< .005	—	< .050	< .010
01569349	20060523	1000	< .024	—	—	< .015	< .018	94.2	—	—
01569349	20060523	1001	—	< .008	< .005	—	< .005	—	< .050	< .010
01569349	20060726	1245	< .024	—	—	.015	< .018	85.6	—	—
01569349	20060726	1246	—	< .008	< .005	—	< .005	—	< .050	< .010
01569349	20060927	1100	< .024	—	—	.015	< .018	104	—	—
01569349	20060927	1101	—	< .008	< .005	—	< .005	—	< .050	< .010
01572146	20060320	1200	< .024	—	—	< .015	< .018	95.2	—	—
01572146	20060320	1201	—	< .008	< .005	—	< .005	—	< .050	< .010
01572146	20060518	1145	< .024	—	—	< .015	< .018	100	—	—
01572146	20060518	1146	—	< .008	< .005	—	< .005	—	< .050	< .010
01572146	20060731	1015	< .024	—	—	< .015	< .018	101	—	—
01572146	20060731	1016	—	< .008	< .005	—	< .005	—	< .050	< .010
01572146	20060926	0945	< .024	—	—	< .015	< .018	112	—	—
01572146	20060926	0946	—	< .008	< .005	—	< .005	—	< .050	< .010
01572148	20060320	1445	E(2) .018	—	—	< .015	< .018	95.8	—	—
01572148	20060320	1446	—	< .008	< .005	—	< .005	—	< .050	< .010
01572148	20060518	1030	< .024	—	—	< .015	< .018	98.3	—	—
01572148	20060518	1031	—	< .008	< .005	—	< .005	—	< .050	< .010
01572148	20060731	1110	< .024	—	—	< .015	< .018	94.7	—	—
01572148	20060731	1111	—	< .008	< .005	—	< .005	—	< .050	< .010

¹For recoveries of surrogate compounds, an "E" designation indicates either (1) there was a potential interference with recovery, or (2) one or both of the two continuing calibration verification sample values fell outside the limits of compliance.

Table 6 61

Station number	Date	Time	Acetaminophen, water, fltrd (µg/L) (62000)	Anhydro-erthromycin, water, fltrd (µg/L) (63674)	Azithromycin, water, fltrd (µg/L) (62792)	Caffeine, water, fltrd (µg/L) (50305)	Carbamazepine, water, fltrd (µg/L) (62793)	Carbamazepine-d10, surrogate, pharmaceutical method, water, fltrd, percent recovery (90797) ¹	Chloramphenicol, water, fltrd (µg/L) (65194)	Chlorotetracycline, water, fltrd (µg/L) (61744)
01572148	20060926	1055	< 0.024	—	—	< 0.015	< 0.018	100	—	—
01572148	20060926	1056	—	< 0.008	< 0.005	—	< .005	—	< 0.050	< 0.010
401704076293101	20060315	1145	< .024	—	—	< .015	< .018	99.4	—	—
401704076293101	20060315	1146	—	< .008	< .005	—	< .005	—	< .050	< .010
401704076293101	20060503	1345	< .024	—	—	.019	E(2) .010	103	—	—
401704076293101	20060503	1346	—	< .008	< .005	—	.009	—	< .050	< .010
401704076293101	20060719	1430	< .024	—	—	< .015	< .018	79.8	—	—
401704076293101	20060719	1431	—	< .008	< .005	—	< .005	—	< .050	< .010
401704076293101	20060913	1400	< .024	—	—	< .015	E(1) .005	E 104	—	—
401704076293101	20060913	1401	—	< .008	< .005	—	< .005	—	< .050	< .010
01573095	20060315	1030	< .024	—	—	< .015	< .018	99.3	—	—
01573095	20060315	1031	—	< .008	< .005	—	< .005	—	< .050	< .010
01573095	20060503	1245	< .024	—	—	< .015	< .018	101	—	—
01573095	20060503	1246	—	< .008	< .005	—	< .005	—	< .050	< .010
01573095	20060719	1330	< .024	—	—	< .015	< .018	95.4	—	—
01573095	20060719	1331	—	< .008	< .005	—	< .005	—	< .050	< .010
01573095	20060913	1305	< .024	—	—	< .015	< .018	E 110	—	—
01573095	20060913	1306	—	< .008	< .005	—	< .005	—	< .050	< .010
01574050	20060316	1030	< .024	—	—	< .015	< .018	85.4	—	—
01574050	20060316	1031	—	< .008	< .005	—	< .005	—	< .050	< .010
01574050	20060501	1350	< .024	—	—	< .017	< .018	92.4	—	—
01574050	20060501	1351	—	< .008	< .005	—	< .005	—	< .050	< .010
01574050	20060705	1045	< .024	—	—	.016	E(1) .006	76.3	—	—
01574050	20060705	1050	—	< .008	< .005	—	.007	—	< .050	< .010
01574050	20060906	1030	< .024	—	—	< .015	E(4) .025	E 88.3	—	—
01574050	20060906	1031	—	< .008	< .005	—	.021	—	< .050	< .010
01574055	20060316	1130	E(1) .003	—	—	< .017	< .018	91.3	—	—
01574055	20060316	1131	—	< .008	< .005	—	< .005	—	< .050	< .010
01574055	20060501	1245	< .024	—	—	.040	< .018	90.4	—	—
01574055	20060501	1246	—	< .008	< .005	—	< .005	—	< .050	< .010
01574055	20060705	1145	< .024	—	—	.030	< .018	80.3	—	—
01574055	20060705	1150	—	< .008	< .005	—	< .005	—	< .050	< .010
01574055	20060906	0925	< .024	—	—	.053	E .005	E 105	—	—
01574055	20060906	0926	—	< .008	< .005	—	< .005	—	< .050	< .010
01575771	20060322	1000	< .024	—	—	< .015	< .018	105	—	—
01575771	20060322	1001	—	< .008	< .005	—	< .005	—	< .050	< .010
01575771	20060515	1055	< .024	—	—	< .015	< .018	82.6	—	—
01575771	20060515	1056	—	< .008	< .005	—	< .005	—	< .050	< .010
01575771	20060717	1410	< .024	—	—	< .015	< .018	E 64.3	—	—
01575771	20060717	1411	—	< .008	< .005	—	< .005	—	< .050	< .010
01575771	20060911	1450	< .024	—	—	< .015	< .018	118	—	—
01575771	20060911	1451	—	< .008	< .005	—	< .005	—	< .050	< .010
015757724	20060322	1100	< .024	—	—	< .015	< .018	107	—	—
015757724	20060322	1101	—	< .008	< .005	—	< .005	—	< .050	< .010
015757724	20060515	0915	E(1) .004	—	—	.018	E(1) .005	84.1	—	—
015757724	20060515	0916	—	< .008	< .005	—	< .005	—	< .050	< .010

¹For recoveries of surrogate compounds, an "E" designation indicates either (1) there was a potential interference with recovery, or (2) one or both of the two continuing calibration verification sample values fell outside the limits of compliance.

62 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Acetaminophen, water, fltrd (µg/L) (62000)	Anhydro-erthromycin, water, fltrd (µg/L) (63674)	Azithromycin, water, fltrd (µg/L) (62792)	Caffeine, water, fltrd (µg/L) (50305)	Carbamazepine, water, fltrd (µg/L) (62793)	Carbamazepine-d10, surrogate, pharmaceutical method, water, fltrd, percent recovery (90797) ¹	Chloramphenicol, water, fltrd (µg/L) (65194)	Chlorotetracycline, water, fltrd (µg/L) (61744)
015757724	20060717	1310	< 0.024	—	—	< 0.015	< 0.018	E 97.2	—	—
015757724	20060717	1311	—	< 0.008	< 0.005	—	< .005	—	< 0.050	< 0.010
015757724	20060911	1550	< .024	—	—	< .015	< .018	103	—	—
015757724	20060911	1551	—	< .008	< .005	—	< .005	—	< .050	< .010
01578349	20060314	1145	< .024	—	—	< .015	< .018	106	—	—
01578349	20060314	1146	—	< .008	< .005	—	< .005	—	< .050	< .010
01578349	20060511	1110	< .024	—	—	< .015	< .018	107	—	—
01578349	20060511	1111	—	< .008	< .005	—	< .005	—	< .050	< .010
01578349	20060718	1250	< .024	—	—	< .015	< .018	E 90	—	—
01578349	20060718	1251	—	< .008	< .005	—	< .005	—	< .050	< .010
01578349	20060912	1215	< .024	—	—	< .015	< .018	102	—	—
01578349	20060912	1216	—	< .008	< .005	—	< .005	—	< .050	< .010
015783492	20060314	1400	E(1) .009	—	—	< .015	< .018	87.5	—	—
015783492	20060314	1401	—	< .008	< .005	—	< .005	—	< .050	< .010
015783492	20060511	1010	< .024	—	—	< .015	< .018	91.3	—	—
015783492	20060511	1011	—	< .008	< .005	—	< .005	—	< .050	< .010
015783492	20060718	1115	< .024	—	—	< .015	< .018	E 65.7	—	—
015783492	20060718	1116	—	< .008	< .005	—	.005	—	< .050	< .010
015783492	20060912	1115	< .024	—	—	< .015	< .018	102	—	—
015783492	20060912	1116	—	< .008	< .005	—	< .005	—	< .050	< .010
394643077043101	20060309	1230	< .024	—	—	< .026	< .018	108	—	—
394643077043101	20060309	1231	—	< .008	< .005	—	< .005	—	< .050	< .010
394643077043101	20060504	1110	< .024	—	—	< .015	< .018	111	—	—
394643077043101	20060504	1111	—	< .008	< .005	—	< .005	—	< .050	< .010
394643077043101	20060504	1112	< .024	—	—	< .015	< .018	108	—	—
394643077043101	20060504	1113	—	< .008	< .005	—	< .005	—	< .050	< .010
394643077043101	20060710	1125	< .024	—	—	< .015	< .018	109	—	—
394643077043101	20060710	1130	—	< .008	< .005	—	< .005	—	< .050	< .010
394643077043101	20060925	1055	< .024	—	—	< .015	< .018	97.7	—	—
394643077043101	20060925	1056	—	< .008	< .005	—	< .005	—	< .050	< .010
400610076282501	20060406	1030	< .024	—	—	< .015	< .018	E 109	—	—
400610076282501	20060406	1031	—	< .008	< .005	—	< .005	—	< .050	< .010
400610076282501	20060515	1315	< .024	—	—	< .015	< .018	102	—	—
400610076282501	20060515	1316	—	< .008	< .005	—	< .005	—	< .050	< .010
400610076282501	20060515	1317	< .024	—	—	< .015	< .018	100	—	—
400610076282501	20060515	1318	—	< .008	< .005	—	< .005	—	< .050	< .010
400610076282501	20060713	1100	< .024	—	—	< .015	< .018	110	—	—
400610076282501	20060713	1101	—	< .008	< .005	—	< .005	—	< .050	< .010
400610076282501	20060907	1100	< .024	—	—	< .015	< .018	E 113	—	—
400610076282501	20060907	1101	—	< .008	< .005	—	< .005	—	< .050	< .010
400610076282501	20060907	1105	< .024	—	—	< .015	< .018	E 110	—	—
400610076282501	20060907	1106	—	< .008	< .005	—	< .005	—	< .050	< .010
401712076235101	20060403	1415	< .024	—	—	< .015	< .018	101	—	—
401712076235101	20060403	1416	—	< .008	< .005	—	< .005	—	< .050	< .010
401712076235101	20060517	1410	< .024	—	—	< .015	< .018	100	—	—
401712076235101	20060517	1411	—	< .008	< .005	—	< .005	—	< .050	< .010

¹For recoveries of surrogate compounds, an "E" designation indicates either (1) there was a potential interference with recovery, or (2) one or both of the two continuing calibration verification sample values fell outside the limits of compliance.

Table 6 63

Station number	Date	Time	Acetaminophen, water, fltrd (µg/L) (62000)	Anhydro-erthromycin, water, fltrd (µg/L) (63674)	Azithromycin, water, fltrd (µg/L) (62792)	Caffeine, water, fltrd (µg/L) (50305)	Carbamazepine, water, fltrd (µg/L) (62793)	Carbamazepine-d10, surrogate, pharmaceutical method, water, fltrd, percent recovery (90797) ¹	Chloramphenicol, water, fltrd (µg/L) (65194)	Chlorotetracycline, water, fltrd (µg/L) (61744)
401712076235101	20060712	1355	< 0.024	—	—	< 0.015	< 0.018	109	—	—
401712076235101	20060712	1400	—	< 0.008	< 0.005	—	< .005	—	< 0.050	< 0.010
401712076235101	20060920	1400	< .024	—	—	< .015	< .018	104	—	—
401712076235101	20060920	1401	—	< .008	< .005	—	< .005	—	< .050	< .010
401920078130101	20060329	1300	< .024	—	—	< .015	< .018	104	—	—
401920078130101	20060329	1301	—	< .008	< .005	—	< .005	—	< .050	< .010
401920078130101	20060509	1400	< .024	—	—	< .015	< .018	111	—	—
401920078130101	20060509	1401	—	< .008	< .005	—	< .005	—	< .050	< .010
401920078130101	20060725	1250	< .024	—	—	< .015	< .018	92.1	—	—
401920078130101	20060725	1251	—	< .008	< .005	—	< .005	—	< .050	< .010
401920078130101	20060914	1230	< .024	—	—	< .015	< .018	100	—	—
401920078130101	20060914	1231	—	< .008	< .005	—	< .005	—	< .050	< .010
402052076160101	20060403	1130	< .024	—	—	< .015	< .018	100	—	—
402052076160101	20060403	1131	—	< .008	< .005	—	< .005	—	< .050	< .010
402052076160101	20060517	1135	< .024	—	—	< .015	< .018	104	—	—
402052076160101	20060517	1136	—	< .008	< .005	—	< .005	—	< .050	< .010
402052076160101	20060712	1140	< .024	—	—	< .015	< .018	113	—	—
402052076160101	20060712	1145	—	< .008	< .005	—	< .005	—	< .050	< .010
402052076160101	20060920	1050	< .024	—	—	< .015	< .018	96.9	—	—
402052076160101	20060920	1051	—	< .008	< .005	—	< .005	—	< .050	< .010
405931076555601	20060323	1140	< .024	—	—	< .015	< .018	113	—	—
405931076555601	20060323	1141	—	< .008	< .005	—	< .005	—	< .050	< .010
405931076555601	20060502	1140	< .024	—	—	< .015	< .018	122	—	—
405931076555601	20060502	1141	—	< .008	< .005	—	< .005	—	< .050	< .010
405931076555601	20060711	1150	< .024	—	—	< .015	< .018	112	—	—
405931076555601	20060711	1155	—	< .008	< .005	—	< .005	—	< .050	< .010
405931076555601	20060711	1200	< .024	—	—	< .015	< .018	108	—	—
405931076555601	20060711	1205	—	< .008	< .005	—	< .005	—	< .050	< .010
405931076555601	20060921	1215	< .024	—	—	< .015	< .018	99.1	—	—
405931076555601	20060921	1216	—	< .008	< .005	—	< .005	—	< .050	< .010

¹For recoveries of surrogate compounds, an "E" designation indicates either (1) there was a potential interference with recovery, or (2) one or both of the two continuing calibration verification sample values fell outside the limits of compliance.

64 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Ciprofloxacin, water fltrd (µg/L) (62898)	Codeine, water, fltrd (µg/L) (62003)	Cotinine, water, fltrd (µg/L) (62005)	Dehydronifedipine, water, fltrd (µg/L) (62004)	Diltiazem, water, fltrd (µg/L) (62008) ²	Diphenhydramine, water, fltrd (µg/L) (62796)	Doxycycline, water, fltrd (µg/L) (62694)	Enrofloxacin, water, fltrd (µg/L)
01470857	20060306	1130	—	< 0.022	< 0.028	< 0.022	< 0.018	< 0.023	—	—
01470857	20060306	1131	< 0.005	—	—	—	—	—	< 0.010	< 0.005
01470857	20060508	1215	—	< .022	< .028	< .022	< .018	< .023	—	—
01470857	20060508	1216	< .005	—	—	—	—	—	< .010	< .005
01470857	20060720	1130	—	< .022	< .028	< .022	< .018	< .023	—	—
01470857	20060720	1131	< .005	—	—	—	—	—	< .010	< .005
01470857	20060918	1235	—	< .022	< .028	< .022	< .018	< .023	—	—
01470857	20060918	1236	< .005	—	—	—	—	—	< .010	< .005
01470858	20060306	1300	—	E(1) .005	E(1) .004	< .022	< .018	.024	—	—
01470858	20060306	1301	< .005	—	—	—	—	—	< .010	< .005
01470858	20060508	1100	—	E(1) .007	E(1) .003	< .022	< .018	E(2) .015	—	—
01470858	20060508	1101	< .005	—	—	—	—	—	< .010	< .005
01470858	20060720	1030	—	< .022	< .028	< .022	E(3) .005	< .023	—	—
01470858	20060720	1031	< .005	—	—	—	—	—	< .010	< .005
01470858	20060918	1120	—	< .022	< .028	< .022	< .018	E(1) .011	—	—
01470858	20060918	1121	< .005	—	—	—	—	—	< .010	< .005
01470858	20060918	1125	—	< .022	E(1) .008	< .022	E(3) .017	< .023	—	—
01470858	20060918	1126	< .005	—	—	—	—	—	< .010	< .005
015693155	20060313	1100	—	< .022	< .028	< .022	< .018	< .023	—	—
015693155	20060313	1101	< .005	—	—	—	—	—	< .010	< .005
015693155	20060510	1145	—	< .022	< .028	< .022	< .018	< .023	—	—
015693155	20060510	1146	< .005	—	—	—	—	—	< .010	< .005
015693155	20060706	1130	—	< .022	< .028	< .022	< .018	< .023	—	—
015693155	20060706	1135	< .005	—	—	—	—	—	< .010	< .005
015693155	20060919	1020	—	< .022	< .028	< .022	< .018	< .023	—	—
015693155	20060919	1021	< .005	—	—	—	—	—	< .010	< .005
015693158	20060313	1300	—	.031	< .028	< .022	E(3) .023	.026	—	—
015693158	20060313	1301	< .005	—	—	—	—	—	< .010	< .005
015693158	20060510	1030	—	.029	E(1) .004	< .022	E(3) .032	.071	—	—
015693158	20060510	1031	< .005	—	—	—	—	—	< .010	< .005
015693158	20060510	1036	.010	—	—	—	—	—	< .010	< .005
015693158	20060706	1020	—	E(1) .010	< .028	< .022	E(3) .024	E(2) .013	—	—
015693158	20060706	1025	.007	—	—	—	—	—	< .010	< .005
015693158	20060706	1030	—	E(1) .010	< .028	< .022	E(3) .018	E(1) .009	—	—
015693158	20060706	1035	.008	—	—	—	—	—	< .010	< .005
015693158	20060919	1200	—	E(2) .011	< .028	< .022	E(3) .065	E(2) .019	—	—
015693158	20060919	1201	.021	—	—	—	—	—	< .010	< .005
01571193	20060405	1600	—	< .022	< .028	< .022	< .018	< .023	—	—
01571193	20060405	1601	< .005	—	—	—	—	—	< .010	< .005
01571193	20060516	1210	—	< .022	< .028	< .022	< .018	< .023	—	—
01571193	20060516	1211	< .005	—	—	—	—	—	< .010	< .005
01571193	20060726	1500	—	< .022	< .028	< .022	< .018	< .023	—	—
01571193	20060726	1501	< .005	—	—	—	—	—	< .010	< .005

²Because of low long-term recoveries, this compound will be qualified.

Station number	Date	Time	Ciprofloxacin, water, fltrd (µg/L) (62898)	Codeine, water, fltrd (µg/L) (62003)	Cotinine, water, fltrd (µg/L) (62005)	Dehydro-nifedipine, water, fltrd (µg/L) (62004)	Diltiazem, water, fltrd (µg/L) (62008) ²	Diphenhydramine, water, fltrd (µg/L) (62796)	Doxycycline, water, fltrd (µg/L) (62694)	Enrofloxacin, water, fltrd (µg/L)
01571193	20060905	1105	—	< 0.022	< 0.028	< 0.022	< 0.018	< 0.023	—	—
01571193	20060905	1106	< 0.005	—	—	—	—	—	< 0.010	< 0.005
01571195	20060405	1800	—	< .022	< .028	< .022	< .018	< .023	—	—
01571195	20060405	1801	< .005	—	—	—	—	—	< .010	< .005
01571195	20060516	1050	—	< .022	< .028	< .022	< .018	< .023	—	—
01571195	20060516	1051	< .005	—	—	—	—	—	< .010	< .005
01571195	20060726	1600	—	< .022	< .028	< .022	< .018	< .023	—	—
01571195	20060726	1601	< .005	—	—	—	—	—	< .010	< .005
01571195	20060905	0950	—	< .022	< .028	< .022	< .018	< .023	—	—
01571195	20060905	0951	< .005	—	—	—	—	—	< .010	< .005
01573151	20060307	1415	—	< .022	E(1) .010	< .022	< .018	< .023	—	—
01573151	20060307	1416	< .005	—	—	—	—	—	< .010	< .005
01573151	20060503	1040	—	< .022	< .028	< .022	< .018	< .023	—	—
01573151	20060503	1041	< .005	—	—	—	—	—	< .010	< .005
01573151	20060719	1110	—	< .022	< .028	< .022	< .018	< .023	—	—
01573151	20060719	1111	< .005	—	—	—	—	—	< .010	< .005
01573151	20060913	1100	—	< .022	< .028	< .022	< .018	< .023	—	—
01573151	20060913	1101	< .005	—	—	—	—	—	< .010	< .005
01573153	20060307	1230	—	.056	.043	E(1) .006	E(3) .026	.066	—	—
01573153	20060307	1231	.075	—	—	—	—	—	< .010	< .005
01573153	20060307	1235	—	.064	.055	E(1) .007	E(3) .039	.098	—	—
01573153	20060307	1236	.101	—	—	—	—	—	< .010	< .005
01573153	20060503	0940	—	.155	E(2) .017	E(2) .011	E(3) .079	.135	—	—
01573153	20060503	0941	.182	—	—	—	—	—	< .010	< .005
01573153	20060719	1010	—	< .022	< .028	< .022	E(3) .032	E(2) .015	—	—
01573153	20060719	1011	< .005	—	—	—	—	—	< .010	< .005
01573153	20060913	0950	—	< .046	< .028	E(2) .015	< .018	< .023	—	—
01573153	20060913	0951	.068	—	—	—	—	—	< .010	< .005
01574310	20060301	1600	—	< .022	< .028	< .022	< .018	< .023	—	—
01574310	20060301	1601	< .005	—	—	—	—	—	< .010	< .005
01574310	20060501	0940	—	< .022	E(1) .005	< .022	< .018	< .023	—	—
01574310	20060501	0941	< .005	—	—	—	—	—	< .010	< .005
01574310	20060705	1420	—	< .022	E(1) .004	< .022	< .018	< .023	—	—
01574310	20060705	1425	< .005	—	—	—	—	—	< .010	< .005
01574310	20060906	1200	—	< .022	< .028	< .022	< .018	< .023	—	—
01574310	20060906	1201	< .005	—	—	—	—	—	< .010	< .005
01574314	20060301	1500	—	< .022	< .028	< .022	< .018	< .023	—	—
01574314	20060301	1501	< .005	—	—	—	—	—	< .010	< .005
01574314	20060501	1035	—	< .022	E(1) .004	< .022	< .018	< .023	—	—
01574314	20060501	1036	< .005	—	—	—	—	—	< .010	< .005
01574314	20060501	1037	—	< .022	E(1) .005	< .022	< .018	< .023	—	—
01574314	20060501	1038	< .005	—	—	—	—	—	< .010	< .005
01574314	20060705	1310	—	< .022	E(2) .017	< .022	< .018	< .023	—	—
01574314	20060705	1315	< .005	—	—	—	—	—	< .010	< .005
01574314	20060906	1300	—	< .022	< .028	< .022	< .018	< .023	—	—
01574314	20060906	1301	< .005	—	—	—	—	—	< .010	< .005

²Because of low long-term recoveries, this compound will be qualified.

66 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Ciprofloxacin, water, fltrd (µg/L) (62898)	Codeine, water, fltrd (µg/L) (62003)	Cotinine, water, fltrd (µg/L) (62005)	Dehydronifedipine, water, fltrd (µg/L) (62004)	Diltiazem, water, fltrd (µg/L) (62008) ²	Diphenhydramine, water, fltrd (µg/L) (62796)	Doxycycline, water, fltrd (µg/L) (62694)	Enrofloxacin, water, fltrd (µg/L)
01576420	20060306	1600	—	< 0.022	< 0.028	< 0.022	< 0.018	< 0.023	—	—
01576420	20060306	1601	< 0.005	—	—	—	—	—	< 0.010	< 0.005
01576420	20060522	1150	—	< .022	< .028	< .022	< .018	< .023	—	—
01576420	20060522	1151	< .005	—	—	—	—	—	< .010	< .005
01576420	20060717	1150	—	< .022	< .028	< .022	< .018	< .023	—	—
01576420	20060717	1151	< .005	—	—	—	—	—	< .010	< .005
01576420	20060911	1100	—	< .022	< .028	< .022	< .018	< .023	—	—
01576420	20060911	1101	< .005	—	—	—	—	—	< .010	< .005
01576422	20060306	1730	—	< .028	E(1) .007	< .022	< .018	.036	—	—
01576422	20060306	1731	.010	—	—	—	—	—	< .010	< .005
01576422	20060522	1025	—	.040	E(1) .008	< .022	E(3) .023	.031	—	—
01576422	20060522	1026	< .005	—	—	—	—	—	< .010	< .005
01576422	20060717	1030	—	< .022	< .028	< .022	E(3) .043	E(1) .007	—	—
01576422	20060717	1031	< .005	—	—	—	—	—	< .010	< .005
01576422	20060911	1205	—	< .022	< .028	E(1) .005	< .018	< .023	—	—
01576422	20060911	1206	.015	—	—	—	—	—	< .010	< .005
01569346	20060405	1300	—	< .022	< .028	< .022	< .018	< .023	—	—
01569346	20060405	1301	< .005	—	—	—	—	—	< .010	< .005
01569346	20060523	1115	—	< .022	< .028	< .022	< .018	< .023	—	—
01569346	20060523	1116	< .005	—	—	—	—	—	< .010	< .005
01569346	20060726	1045	—	< .022	< .028	< .022	< .018	< .023	—	—
01569346	20060726	1046	< .005	—	—	—	—	—	< .010	< .005
01569346	20060927	0955	—	< .022	< .028	< .022	< .018	< .023	—	—
01569346	20060927	0956	< .005	—	—	—	—	—	< .010	< .005
01569349	20060405	1130	—	< .022	< .028	< .022	< .018	< .023	—	—
01569349	20060405	1131	< .005	—	—	—	—	—	< .010	< .005
01569349	20060523	1000	—	< .022	< .028	< .022	< .018	< .023	—	—
01569349	20060523	1001	< .005	—	—	—	—	—	< .010	< .005
01569349	20060726	1245	—	< .022	< .028	< .022	< .018	< .023	—	—
01569349	20060726	1246	< .005	—	—	—	—	—	< .010	< .005
01569349	20060927	1100	—	< .022	< .028	< .022	< .018	< .023	—	—
01569349	20060927	1101	< .005	—	—	—	—	—	< .010	< .005
01572146	20060320	1200	—	< .022	< .028	< .022	< .018	< .023	—	—
01572146	20060320	1201	< .005	—	—	—	—	—	< .010	< .005
01572146	20060518	1145	—	< .022	< .028	< .022	< .018	< .023	—	—
01572146	20060518	1146	< .005	—	—	—	—	—	< .010	< .005
01572146	20060731	1015	—	< .022	< .028	< .022	< .018	E(1) .010	—	—
01572146	20060731	1016	< .005	—	—	—	—	—	< .010	< .005
01572146	20060926	0945	—	< .022	< .028	< .022	< .018	< .023	—	—
01572146	20060926	0946	< .005	—	—	—	—	—	< .010	< .005
01572148	20060320	1445	—	< .022	< .028	< .022	< .018	< .023	—	—
01572148	20060320	1446	< .005	—	—	—	—	—	< .010	< .005
01572148	20060518	1030	—	< .022	< .028	< .022	< .018	< .023	—	—
01572148	20060518	1031	< .005	—	—	—	—	—	< .010	< .005
01572148	20060731	1110	—	< .022	< .028	< .022	< .018	< .023	—	—
01572148	20060731	1111	< .005	—	—	—	—	—	< .010	< .005

²Because of low long-term recoveries, this compound will be qualified.

Table 6 67

Station number	Date	Time	Ciprofloxacin, water, fltrd (µg/L) (62898)	Codeine, water, fltrd (µg/L) (62003)	Cotinine, water, fltrd (µg/L) (62005)	Dehydronifedipine, water, fltrd (µg/L) (62004)	Diltiazem, water, fltrd (µg/L) (62008) ²	Diphenhydramine, water, fltrd (µg/L) (62796)	Doxycycline, water, fltrd (µg/L) (62694)	Enrofloxacin, water, fltrd (µg/L)
01572148	20060926	1055	—	< 0.022	< 0.028	< 0.022	< 0.018	< 0.023	—	—
01572148	20060926	1056	< 0.005	—	—	—	—	—	< 0.010	< 0.005
401704076293101	20060315	1145	—	< .022	< .028	< .022	< .018	< .023	—	—
401704076293101	20060315	1146	< .005	—	—	—	—	—	< .010	< .005
401704076293101	20060503	1345	—	< .022	< .028	< .022	< .018	< .023	—	—
401704076293101	20060503	1346	< .005	—	—	—	—	—	< .010	< .005
401704076293101	20060719	1430	—	< .022	< .028	< .022	< .018	< .023	—	—
401704076293101	20060719	1431	< .005	—	—	—	—	—	< .010	< .005
401704076293101	20060913	1400	—	< .022	< .028	< .022	< .018	< .023	—	—
401704076293101	20060913	1401	< .005	—	—	—	—	—	< .010	< .005
01573095	20060315	1030	—	< .022	< .028	< .022	< .018	< .023	—	—
01573095	20060315	1031	< .005	—	—	—	—	—	< .010	< .005
01573095	20060503	1245	—	< .022	< .028	< .022	< .018	< .023	—	—
01573095	20060503	1246	< .005	—	—	—	—	—	< .010	< .005
01573095	20060719	1330	—	< .022	< .028	< .022	< .018	< .023	—	—
01573095	20060719	1331	< .005	—	—	—	—	—	< .010	< .005
01573095	20060913	1305	—	< .022	< .028	< .022	< .018	< .023	—	—
01573095	20060913	1306	< .005	—	—	—	—	—	< .010	< .005
01574050	20060316	1030	—	< .022	< .028	< .022	< .018	< .023	—	—
01574050	20060316	1031	< .005	—	—	—	—	—	< .010	< .005
01574050	20060501	1350	—	< .022	< .028	< .022	< .018	< .023	—	—
01574050	20060501	1351	< .005	—	—	—	—	—	< .010	< .005
01574050	20060705	1045	—	< .022	< .028	< .022	< .018	< .023	—	—
01574050	20060705	1050	< .005	—	—	—	—	—	< .010	< .005
01574050	20060906	1030	—	< .022	< .028	< .022	< .018	< .023	—	—
01574050	20060906	1031	< .005	—	—	—	—	—	< .010	< .005
01574055	20060316	1130	—	< .022	< .028	< .022	< .018	< .023	—	—
01574055	20060316	1131	< .005	—	—	—	—	—	< .010	< .005
01574055	20060501	1245	—	< .022	E(1).007	< .022	< .018	< .023	—	—
01574055	20060501	1246	< .005	—	—	—	—	—	< .010	< .005
01574055	20060705	1145	—	< .022	< .028	< .022	< .018	< .023	—	—
01574055	20060705	1150	< .005	—	—	—	—	—	< .010	< .005
01574055	20060906	0925	—	< .022	< .028	< .022	< .018	< .023	—	—
01574055	20060906	0926	< .005	—	—	—	—	—	< .010	< .005
01575771	20060322	1000	—	< .022	< .028	< .022	< .018	< .023	—	—
01575771	20060322	1001	< .005	—	—	—	—	—	< .010	< .005
01575771	20060515	1055	—	< .022	< .028	< .022	< .018	< .023	—	—
01575771	20060515	1056	< .005	—	—	—	—	—	< .010	< .005
01575771	20060717	1410	—	< .022	< .028	< .022	< .018	< .023	—	—
01575771	20060717	1411	< .005	—	—	—	—	—	< .010	< .005
01575771	20060911	1450	—	< .022	< .028	< .022	< .018	< .023	—	—
01575771	20060911	1451	< .005	—	—	—	—	—	< .010	< .005
015757724	20060322	1100	—	< .022	< .028	< .022	< .018	< .023	—	—
015757724	20060322	1101	< .005	—	—	—	—	—	< .010	< .005
015757724	20060515	0915	—	< .022	< .028	< .022	< .018	< .023	—	—
015757724	20060515	0916	< .005	—	—	—	—	—	< .010	< .005

²Because of low long-term recoveries, this compound will be qualified.

68 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Ciprofloxacin, water, fltrd (µg/L) (62898)	Codeine, water, fltrd (µg/L) (62003)	Cotinine, water, fltrd (µg/L) (62005)	Dehydronifedipine, water, fltrd (µg/L) (62004)	Diltiazem, water, fltrd (µg/L) (62008) ²	Diphenhydramine, water, fltrd (µg/L) (62796)	Doxycycline, water, fltrd (µg/L) (62694)	Enrofloxacin, water, fltrd (µg/L)
015757724	20060717	1310	—	< 0.022	< 0.028	< 0.022	< 0.018	< 0.023	—	—
015757724	20060717	1311	< 0.005	—	—	—	—	—	< 0.010	< 0.005
015757724	20060911	1550	—	< .022	< .028	< .022	< .018	< .023	—	—
015757724	20060911	1551	< .005	—	—	—	—	—	< .010	< .005
01578349	20060314	1145	—	< .022	< .028	< .022	< .018	< .023	—	—
01578349	20060314	1146	< .005	—	—	—	—	—	< .010	< .005
01578349	20060511	1110	—	< .022	< .028	< .022	< .018	< .023	—	—
01578349	20060511	1111	< .005	—	—	—	—	—	< .010	< .005
01578349	20060718	1250	—	< .022	< .028	< .022	< .018	< .023	—	—
01578349	20060718	1251	< .005	—	—	—	—	—	< .010	< .005
01578349	20060912	1215	—	< .022	< .028	< .022	< .018	< .023	—	—
01578349	20060912	1216	< .005	—	—	—	—	—	< .010	< .005
015783492	20060314	1400	—	< .022	E(1) .007	< .022	< .018	< .023	—	—
015783492	20060314	1401	< .005	—	—	—	—	—	< .010	< .005
015783492	20060511	1010	—	< .022	< .028	< .022	< .018	< .023	—	—
015783492	20060511	1011	< .005	—	—	—	—	—	< .010	< .005
015783492	20060718	1115	—	< .022	< .028	< .022	< .018	< .023	—	—
015783492	20060718	1116	< .005	—	—	—	—	—	< .010	< .005
015783492	20060912	1115	—	< .022	< .028	< .022	< .018	< .023	—	—
015783492	20060912	1116	< .005	—	—	—	—	—	< .010	< .005
394643077043101	20060309	1230	—	< .022	< .028	< .022	< .018	< .023	—	—
394643077043101	20060309	1231	< .005	—	—	—	—	—	< .010	< .005
394643077043101	20060504	1110	—	< .022	< .028	< .022	< .018	< .023	—	—
394643077043101	20060504	1111	< .005	—	—	—	—	—	< .010	< .005
394643077043101	20060504	1112	—	< .022	< .028	< .022	< .018	< .023	—	—
394643077043101	20060504	1113	< .005	—	—	—	—	—	< .010	< .005
394643077043101	20060710	1125	—	< .022	< .028	< .022	< .018	< .023	—	—
394643077043101	20060710	1130	< .005	—	—	—	—	—	< .010	< .005
394643077043101	20060925	1055	—	< .022	< .028	< .022	< .018	< .023	—	—
394643077043101	20060925	1056	< .005	—	—	—	—	—	< .010	< .005
400610076282501	20060406	1030	—	< .022	< .028	< .022	< .018	< .023	—	—
400610076282501	20060406	1031	< .005	—	—	—	—	—	< .010	< .005
400610076282501	20060515	1315	—	< .022	< .028	< .022	< .018	< .023	—	—
400610076282501	20060515	1316	< .005	—	—	—	—	—	< .010	< .005
400610076282501	20060515	1317	—	< .022	< .028	< .022	< .018	< .023	—	—
400610076282501	20060515	1318	< .005	—	—	—	—	—	< .010	< .005
400610076282501	20060713	1100	—	< .022	< .028	< .022	< .018	< .023	—	—
400610076282501	20060713	1101	< .005	—	—	—	—	—	< .010	< .005
400610076282501	20060907	1100	—	< .022	< .028	< .022	< .018	< .023	—	—
400610076282501	20060907	1101	< .005	—	—	—	—	—	< .010	< .005
400610076282501	20060907	1105	—	< .022	< .028	< .022	< .018	< .023	—	—
400610076282501	20060907	1106	< .005	—	—	—	—	—	< .010	< .005
401712076235101	20060403	1415	—	< .022	< .028	< .022	< .018	< .023	—	—
401712076235101	20060403	1416	< .005	—	—	—	—	—	< .010	< .005
401712076235101	20060517	1410	—	< .022	< .028	< .022	< .018	< .023	—	—
401712076235101	20060517	1411	< .005	—	—	—	—	—	< .010	< .005

²Because of low long-term recoveries, this compound will be qualified.

Station number	Date	Time	Ciprofloxacin, water fltrd (µg/L) (62898)	Codeine, water, fltrd (µg/L) (62003)	Cotinine, water, fltrd (µg/L) (62005)	Dehydronifedipine, water, fltrd (µg/L) (62004)	Diltiazem, water, fltrd (µg/L) (62008) ²	Diphenhydramine, water, fltrd (µg/L) (62796)	Doxycycline, water, fltrd (µg/L) (62694)	Enrofloxacin, water, fltrd (µg/L)
401712076235101	20060712	1355	—	< 0.022	< 0.028	< 0.022	< 0.018	< 0.023	—	—
401712076235101	20060712	1400	< 0.005	—	—	—	—	—	< 0.010	< 0.005
401712076235101	20060920	1400	—	< .022	< .028	< .022	< .018	< .023	—	—
401712076235101	20060920	1401	< .005	—	—	—	—	—	< .010	< .005
401920078130101	20060329	1300	—	< .022	< .028	< .022	< .018	< .023	—	—
401920078130101	20060329	1301	< .005	—	—	—	—	—	< .010	< .005
401920078130101	20060509	1400	—	< .022	< .028	< .022	< .018	< .023	—	—
401920078130101	20060509	1401	< .005	—	—	—	—	—	< .010	< .005
401920078130101	20060725	1250	—	< .022	< .028	< .022	< .018	E(1) .003	—	—
401920078130101	20060725	1251	< .005	—	—	—	—	—	< .010	< .005
401920078130101	20060914	1230	—	< .022	< .028	< .022	< .018	< .023	—	—
401920078130101	20060914	1231	< .005	—	—	—	—	—	< .010	< .005
402052076160101	20060403	1130	—	< .022	< .028	< .022	< .018	< .023	—	—
402052076160101	20060403	1131	< .005	—	—	—	—	—	< .010	< .005
402052076160101	20060517	1135	—	< .022	< .028	< .022	< .018	< .023	—	—
402052076160101	20060517	1136	< .005	—	—	—	—	—	< .010	< .005
402052076160101	20060712	1140	—	< .022	< .028	< .022	< .018	< .023	—	—
402052076160101	20060712	1145	< .005	—	—	—	—	—	< .010	< .005
402052076160101	20060920	1050	—	< .022	E(2) .024	< .022	< .018	< .023	—	—
402052076160101	20060920	1051	< .005	—	—	—	—	—	< .010	< .005
405931076555601	20060323	1140	—	< .022	< .028	< .022	< .018	< .023	—	—
405931076555601	20060323	1141	< .005	—	—	—	—	—	< .010	< .005
405931076555601	20060502	1140	—	< .022	< .028	< .022	< .018	< .023	—	—
405931076555601	20060502	1141	< .005	—	—	—	—	—	< .010	< .005
405931076555601	20060711	1150	—	< .022	< .028	< .022	< .018	< .023	—	—
405931076555601	20060711	1155	< .005	—	—	—	—	—	< .010	< .005
405931076555601	20060711	1200	—	< .022	< .028	< .022	< .018	< .023	—	—
405931076555601	20060711	1205	< .005	—	—	—	—	—	< .010	< .005
405931076555601	20060921	1215	—	< .022	< .028	< .022	< .018	< .023	—	—
405931076555601	20060921	1216	< .005	—	—	—	—	—	< .010	< .005

²Because of low long-term recoveries, this compound will be qualified.

70 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Erythromycin, water, fltrd (µg/L) (62797)	Ethyl nicotinate-d4, surrogate, water, fltrd, percent recovery (99571) ¹	Fluoxetine, water, fltrd (µg/L) (62011) ²	Ibuprofen, water, fltrd (µg/L) (62014)	Isochloro- tetracycline, water, fltrd (µg/L) (64175)	Isoepichloro- tetracycline, water, fltrd (µg/L) (64047)	Lincomycin, water, fltrd (µg/L) (62894)
01470857	20060306	1130	—	81.6	< 0.016	—	—	—	—
01470857	20060306	1131	< 0.008	—	—	< 0.050	< 0.010	< 0.010	< 0.005
01470857	20060508	1215	—	98.8	< .016	—	—	—	—
01470857	20060508	1216	< .008	—	—	< .050	< .010	< .010	< .005
01470857	20060720	1130	—	E 72.2	< .016	—	—	—	—
01470857	20060720	1131	< .008	—	—	< .050	< .010	< .010	< .005
01470857	20060918	1235	—	83.5	< .016	—	—	—	—
01470857	20060918	1236	< .008	—	—	< .050	< .010	< .010	< .005
01470858	20060306	1300	—	80.2	< .016	—	—	—	—
01470858	20060306	1301	< .008	—	—	< .050	< .010	< .010	< .005
01470858	20060508	1100	—	91.7	< .016	—	—	—	—
01470858	20060508	1101	< .008	—	—	< .050	< .010	< .010	< .005
01470858	20060720	1030	—	E 97	< .016	—	—	—	—
01470858	20060720	1031	< .008	—	—	< .050	< .010	< .010	< .005
01470858	20060918	1120	—	87.2	< .016	—	—	—	—
01470858	20060918	1121	< .008	—	—	< .050	< .010	< .010	< .005
01470858	20060918	1125	—	89.8	< .016	—	—	—	—
01470858	20060918	1126	< .008	—	—	< .050	< .010	< .010	< .005
015693155	20060313	1100	—	88	< .016	—	—	—	—
015693155	20060313	1101	< .008	—	—	< .050	< .010	< .010	< .005
015693155	20060510	1145	—	97.5	< .016	—	—	—	—
015693155	20060510	1146	< .008	—	—	< .050	< .010	< .010	< .005
015693155	20060706	1130	—	94.7	< .016	—	—	—	—
015693155	20060706	1135	< .008	—	—	< .050	< .010	< .010	< .005
015693155	20060919	1020	—	88.7	< .016	—	—	—	—
015693155	20060919	1021	< .008	—	—	< .050	< .010	< .010	< .005
015693158	20060313	1300	—	77.3	< .016	—	—	—	—
015693158	20060313	1301	< .008	—	—	< .050	< .010	< .010	< .005
015693158	20060510	1030	—	76.3	< .016	—	—	—	—
015693158	20060510	1031	< .008	—	—	< .050	< .010	< .010	< .005
015693158	20060510	1036	< .008	—	—	< .050	< .010	< .010	< .005
015693158	20060706	1020	—	81.7	< .016	—	—	—	—
015693158	20060706	1025	< .008	—	—	< .050	< .010	< .010	< .005
015693158	20060706	1030	—	82.4	< .016	—	—	—	—
015693158	20060706	1035	< .008	—	—	< .050	< .010	< .010	< .005
015693158	20060919	1200	—	55.3	< .016	—	—	—	—
015693158	20060919	1201	< .008	—	—	< .050	< .010	< .010	< .005
01571193	20060405	1600	—	95.4	< .016	—	—	—	—
01571193	20060405	1601	< .008	—	—	< .050	< .010	< .010	< .005
01571193	20060516	1210	—	83.1	< .016	—	—	—	—
01571193	20060516	1211	< .008	—	—	< .050	< .010	< .010	< .005
01571193	20060726	1500	—	106	< .016	—	—	—	—
01571193	20060726	1501	< .008	—	—	< .050	< .010	< .010	< .005

¹For recoveries of surrogate compounds, an “E” designation indicates either (1) there was a potential interference with recovery or (2) one or both of the two continuing calibration verification sample values fell outside the limits of compliance.

²Because of low long-term recoveries, this compound will be qualified.

Station number	Date	Time	Erythromycin, water, fltrd (µg/L) (62797)	Ethyl nicotinate-d4, surrogate, water, fltrd, percent recovery (99571) ¹	Fluoxetine, water, fltrd (µg/L) (62011) ²	Ibuprofen, water, fltrd (µg/L) (62014)	Isochloro- tetracycline, water, fltrd (µg/L) (64175)	Isoepichloro- tetracycline, water, fltrd (µg/L) (64047)	Lincomycin, water, fltrd (µg/L) (62894)
01571193	20060905	1105	—	84.1	< 0.016	—	—	—	—
01571193	20060905	1106	< 0.008	—	—	< 0.050	< 0.010	< 0.010	< 0.005
01571195	20060405	1800	—	96.2	< .016	—	—	—	—
01571195	20060405	1801	< .008	—	—	< .050	< .010	< .010	< .005
01571195	20060516	1050	—	87.5	< .016	—	—	—	—
01571195	20060516	1051	< .008	—	—	< .050	< .010	< .010	< .005
01571195	20060726	1600	—	110	< .016	—	—	—	—
01571195	20060726	1601	< .008	—	—	< .050	< .010	< .010	< .005
01571195	20060905	0950	—	82.7	< .016	—	—	—	—
01571195	20060905	0951	< .008	—	—	< .050	< .010	< .010	< .005
01573151	20060307	1415	—	82.1	< .016	—	—	—	—
01573151	20060307	1416	< .008	—	—	< .050	< .010	< .010	< .005
01573151	20060503	1040	—	83.7	< .016	—	—	—	—
01573151	20060503	1041	< .008	—	—	< .050	< .010	< .010	< .005
01573151	20060719	1110	—	E 85.1	< .016	—	—	—	—
01573151	20060719	1111	< .008	—	—	< .050	< .010	< .010	< .005
01573151	20060913	1100	—	82.2	< .016	—	—	—	—
01573151	20060913	1101	< .008	—	—	< .050	< .010	< .010	< .005
01573153	20060307	1230	—	66.2	< .016	—	—	—	—
01573153	20060307	1231	.015	—	—	.277	< .010	< .010	< .005
01573153	20060307	1235	—	61.6	< .016	—	—	—	—
01573153	20060307	1236	.017	—	—	.366	< .010	< .010	< .005
01573153	20060503	0940	—	47.1	< .016	—	—	—	—
01573153	20060503	0941	.011	—	—	< .050	< .010	< .010	< .005
01573153	20060719	1010	—	E 89.1	< .016	—	—	—	—
01573153	20060719	1011	< .008	—	—	< .050	< .010	< .010	< .005
01573153	20060913	0950	—	54.8	< .016	—	—	—	—
01573153	20060913	0951	.008	—	—	< .050	< .010	< .010	< .005
01574310	20060301	1600	—	83.8	< .016	—	—	—	—
01574310	20060301	1601	< .008	—	—	< .050	< .010	< .010	< .005
01574310	20060501	0940	—	90.8	< .016	—	—	—	—
01574310	20060501	0941	< .008	—	—	< .050	< .010	< .010	< .005
01574310	20060705	1420	—	83.8	< .016	—	—	—	—
01574310	20060705	1425	< .008	—	—	< .050	< .010	< .010	< .005
01574310	20060906	1200	—	80.2	< .016	—	—	—	—
01574310	20060906	1201	< .008	—	—	< .050	< .010	< .010	< .005
01574314	20060301	1500	—	90.2	< .016	—	—	—	—
01574314	20060301	1501	< .008	—	—	< .050	< .010	< .010	< .005
01574314	20060501	1035	—	87.6	< .016	—	—	—	—
01574314	20060501	1036	< .008	—	—	< .050	< .010	< .010	< .005
01574314	20060501	1037	—	88.2	< .016	—	—	—	—
01574314	20060501	1038	< .008	—	—	< .050	< .010	< .010	< .005
01574314	20060705	1310	—	83.5	< .016	—	—	—	—
01574314	20060705	1315	< .008	—	—	< .050	< .010	< .010	< .005
01574314	20060906	1300	—	82	< .016	—	—	—	—
01574314	20060906	1301	< .008	—	—	< .050	< .010	< .010	< .005

¹For recoveries of surrogate compounds, an "E" designation indicates either (1) there was a potential interference with recovery or (2) one or both of the two continuing calibration verification sample values fell outside the limits of compliance.

²Because of low long-term recoveries, this compound will be qualified.

72 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Erythromycin, water, fltrd (µg/L) (62797)	Ethyl nicotinate-d4, surrogate, water, fltrd, percent recovery (99571) ¹	Fluoxetine, water, fltrd (µg/L) (62011) ²	Ibuprofen, water, fltrd (µg/L) (62014)	Isochloro- tetracycline, water, fltrd (µg/L) (64175)	Isoepichloro- tetracycline, water, fltrd (µg/L) (64047)	Lincomycin, water, fltrd (µg/L) (62894)
01576420	20060306	1600	—	87.4	< 0.016	—	—	—	—
01576420	20060306	1601	< 0.008	—	—	< 0.050	< 0.010	< 0.010	< 0.005
01576420	20060522	1150	—	93.8	< .016	—	—	—	—
01576420	20060522	1151	< .008	—	—	< .050	< .010	< .010	< .005
01576420	20060717	1150	—	E 75.4	< .016	—	—	—	—
01576420	20060717	1151	< .008	—	—	< .050	< .010	< .010	< .005
01576420	20060911	1100	—	91.1	< .016	—	—	—	—
01576420	20060911	1101	< .008	—	—	< .050	< .010	< .010	< .005
01576422	20060306	1730	—	78.2	< .016	—	—	—	—
01576422	20060306	1731	.016	—	—	< .050	< .010	< .010	< .005
01576422	20060522	1025	—	75.5	< .016	—	—	—	—
01576422	20060522	1026	.011	—	—	< .050	< .010	< .010	< .005
01576422	20060717	1030	—	E 106	< .016	—	—	—	—
01576422	20060717	1031	< .008	—	—	< .050	< .010	< .010	< .005
01576422	20060911	1205	—	71.2	< .016	—	—	—	—
01576422	20060911	1206	< .008	—	—	< .050	< .010	< .010	< .005
01569346	20060405	1300	—	98.4	< .016	—	—	—	—
01569346	20060405	1301	< .008	—	—	< .050	< .010	< .010	< .005
01569346	20060523	1115	—	90.2	< .016	—	—	—	—
01569346	20060523	1116	< .008	—	—	< .050	< .010	< .010	< .005
01569346	20060726	1045	—	111	< .016	—	—	—	—
01569346	20060726	1046	< .008	—	—	< .050	< .010	< .010	< .005
01569346	20060927	0955	—	85.7	< .016	—	—	—	—
01569346	20060927	0956	< .008	—	—	< .050	< .010	< .010	< .005
01569349	20060405	1130	—	97.6	< .016	—	—	—	—
01569349	20060405	1131	< .008	—	—	< .050	< .010	< .010	< .005
01569349	20060523	1000	—	91.4	< .016	—	—	—	—
01569349	20060523	1001	< .008	—	—	< .050	< .010	< .010	< .005
01569349	20060726	1245	—	104	< .016	—	—	—	—
01569349	20060726	1246	< .008	—	—	< .050	< .010	< .010	< .005
01569349	20060927	1100	—	86	< .016	—	—	—	—
01569349	20060927	1101	< .008	—	—	< .050	< .010	< .010	< .005
01572146	20060320	1200	—	89.2	< .016	—	—	—	—
01572146	20060320	1201	< .008	—	—	< .050	< .010	< .010	< .005
01572146	20060518	1145	—	92.3	< .016	—	—	—	—
01572146	20060518	1146	< .008	—	—	< .050	< .010	< .010	< .005
01572146	20060731	1015	—	123	< .016	—	—	—	—
01572146	20060731	1016	< .008	—	—	< .050	< .010	< .010	< .005
01572146	20060926	0945	—	86.9	< .016	—	—	—	—
01572146	20060926	0946	< .008	—	—	< .050	< .010	< .010	< .005
01572148	20060320	1445	—	91.9	< .016	—	—	—	—
01572148	20060320	1446	< .008	—	—	< .050	< .010	< .010	< .005
01572148	20060518	1030	—	89.5	< .016	—	—	—	—
01572148	20060518	1031	< .008	—	—	< .050	< .010	< .010	< .005
01572148	20060731	1110	—	110	< .016	—	—	—	—
01572148	20060731	1111	< .008	—	—	< .050	< .010	< .010	< .005

¹For recoveries of surrogate compounds, an “E” designation indicates either (1) there was a potential interference with recovery or (2) one or both of the two continuing calibration verification sample values fell outside the limits of compliance.

²Because of low long-term recoveries, this compound will be qualified.

Station number	Date	Time	Erythromycin,	Ethyl	Fluoxetine,	Ibuprofen,	Isochloro-	Isoepichloro-	Lincomycin,
			water, fltrd (µg/L) (62797)	nicotinate-d4, surrogate, water, fltrd, percent recovery (99571) ¹	water, fltrd (µg/L) (62011) ²	water, fltrd (µg/L) (62014)	tetracycline, water, fltrd (µg/L) (64175)	tetracycline, water, fltrd (µg/L) (64047)	water, fltrd (µg/L) (62894)
01572148	20060926	1055	—	84.9	< 0.016	—	—	—	—
01572148	20060926	1056	< 0.008	—	—	< 0.050	< 0.010	< 0.010	< 0.005
401704076293101	20060315	1145	—	85.7	< .016	—	—	—	—
401704076293101	20060315	1146	< .008	—	—	< .050	< .010	< .010	< .005
401704076293101	20060503	1345	—	92	< .016	—	—	—	—
401704076293101	20060503	1346	< .008	—	—	< .050	< .010	< .010	< .005
401704076293101	20060719	1430	—	E 75.2	< .016	—	—	—	—
401704076293101	20060719	1431	< .008	—	—	< .050	< .010	< .010	< .005
401704076293101	20060913	1400	—	88.5	< .016	—	—	—	—
401704076293101	20060913	1401	< .008	—	—	< .050	< .010	< .010	< .005
01573095	20060315	1030	—	90.3	< .016	—	—	—	—
01573095	20060315	1031	< .008	—	—	< .050	< .010	< .010	< .005
01573095	20060503	1245	—	91.7	< .016	—	—	—	—
01573095	20060503	1246	< .008	—	—	< .050	< .010	< .010	< .005
01573095	20060719	1330	—	E 102	< .016	—	—	—	—
01573095	20060719	1331	< .008	—	—	< .050	< .010	< .010	< .005
01573095	20060913	1305	—	91	< .016	—	—	—	—
01573095	20060913	1306	< .008	—	—	< .050	< .010	< .010	< .005
01574050	20060316	1030	—	85.2	< .016	—	—	—	—
01574050	20060316	1031	< .008	—	—	< .050	< .010	< .010	< .005
01574050	20060501	1350	—	88.6	< .016	—	—	—	—
01574050	20060501	1351	< .008	—	—	< .050	< .010	< .010	< .005
01574050	20060705	1045	—	89.7	< .016	—	—	—	—
01574050	20060705	1050	< .008	—	—	< .050	< .010	< .010	< .005
01574050	20060906	1030	—	74.9	< .016	—	—	—	—
01574050	20060906	1031	< .008	—	—	< .050	< .010	< .010	< .005
01574055	20060316	1130	—	82.5	< .016	—	—	—	—
01574055	20060316	1131	< .008	—	—	< .050	< .010	< .010	< .005
01574055	20060501	1245	—	88.1	< .016	—	—	—	—
01574055	20060501	1246	< .008	—	—	< .050	< .010	< .010	< .005
01574055	20060705	1145	—	94.9	< .016	—	—	—	—
01574055	20060705	1150	< .008	—	—	< .050	< .010	< .010	< .005
01574055	20060906	0925	—	85.2	< .016	—	—	—	—
01574055	20060906	0926	< .008	—	—	< .050	< .010	< .010	< .005
01575771	20060322	1000	—	100	< .016	—	—	—	—
01575771	20060322	1001	< .008	—	—	< .050	< .010	< .010	< .005
01575771	20060515	1055	—	81.6	< .016	—	—	—	—
01575771	20060515	1056	< .008	—	—	< .050	< .010	< .010	< .005
01575771	20060717	1410	—	E 61.4	< .016	—	—	—	—
01575771	20060717	1411	< .008	—	—	< .050	< .010	< .010	< .005
01575771	20060911	1450	—	97.8	< .016	—	—	—	—
01575771	20060911	1451	< .008	—	—	< .050	< .010	< .010	< .005
015757724	20060322	1100	—	103	< .016	—	—	—	—
015757724	20060322	1101	< .008	—	—	< .050	< .010	< .010	< .005
015757724	20060515	0915	—	82.5	< .016	—	—	—	—
015757724	20060515	0916	< .008	—	—	< .050	< .010	< .010	< .005

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²Because of low long-term recoveries, this compound will be qualified.

74 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Erythromycin, water, fltrd (µg/L) (62797)	Ethyl nicotinate-d4, surrogate, water, fltrd, percent recovery (99571) ¹	Fluoxetine, water, fltrd (µg/L) (62011) ²	Ibuprofen, water, fltrd (µg/L) (62014)	Isochloro- tetracycline, water, fltrd (µg/L) (64175)	Isoepichloro- tetracycline, water, fltrd (µg/L) (64047)	Lincomycin, water, fltrd (µg/L) (62894)
015757724	20060717	1310	—	E 121	< 0.016	—	—	—	—
015757724	20060717	1311	< 0.008	—	—	< 0.050	< 0.010	< 0.010	< 0.005
015757724	20060911	1550	—	86.7	< .016	—	—	—	—
015757724	20060911	1551	< .008	—	—	< .050	< .010	< .010	< .005
01578349	20060314	1145	—	89	< .016	—	—	—	—
01578349	20060314	1146	< .008	—	—	< .050	< .010	< .010	< .005
01578349	20060511	1110	—	90.1	< .016	—	—	—	—
01578349	20060511	1111	< .008	—	—	< .050	< .010	< .010	< .005
01578349	20060718	1250	—	E 78.8	< .016	—	—	—	—
01578349	20060718	1251	< .008	—	—	< .050	< .010	< .010	< .005
01578349	20060912	1215	—	85.8	< .016	—	—	—	—
01578349	20060912	1216	< .008	—	—	< .050	< .010	< .010	< .005
015783492	20060314	1400	—	81.6	< .016	—	—	—	—
015783492	20060314	1401	< .008	—	—	< .050	< .010	< .010	< .005
015783492	20060511	1010	—	84	< .016	—	—	—	—
015783492	20060511	1011	< .008	—	—	< .050	< .010	< .010	< .005
015783492	20060718	1115	—	E 75.1	< .016	—	—	—	—
015783492	20060718	1116	< .008	—	—	< .050	< .010	< .010	< .005
015783492	20060912	1115	—	87.8	< .016	—	—	—	—
015783492	20060912	1116	< .008	—	—	< .050	< .010	< .010	< .005
394643077043101	20060309	1230	—	99.5	< .016	—	—	—	—
394643077043101	20060309	1231	< .008	—	—	< .050	< .010	< .010	< .005
394643077043101	20060504	1110	—	101	< .016	—	—	—	—
394643077043101	20060504	1111	< .008	—	—	< .050	< .010	< .010	< .005
394643077043101	20060504	1112	—	98.2	< .016	—	—	—	—
394643077043101	20060504	1113	< .008	—	—	< .050	< .010	< .010	< .005
394643077043101	20060710	1125	—	105	< .016	—	—	—	—
394643077043101	20060710	1130	< .008	—	—	< .050	< .010	< .010	< .005
394643077043101	20060925	1055	—	88.8	< .016	—	—	—	—
394643077043101	20060925	1056	< .008	—	—	< .050	< .010	< .010	< .005
400610076282501	20060406	1030	—	100.3	< .016	—	—	—	—
400610076282501	20060406	1031	< .008	—	—	< .050	< .010	< .010	< .005
400610076282501	20060515	1315	—	95.1	< .016	—	—	—	—
400610076282501	20060515	1316	< .008	—	—	< .050	< .010	< .010	< .005
400610076282501	20060515	1317	—	97.1	< .016	—	—	—	—
400610076282501	20060515	1318	< .008	—	—	< .050	< .010	< .010	< .005
400610076282501	20060713	1100	—	106	< .016	—	—	—	—
400610076282501	20060713	1101	< .008	—	—	< .050	< .010	< .010	< .005
400610076282501	20060907	1100	—	96.6	< .016	—	—	—	—
400610076282501	20060907	1101	< .008	—	—	< .050	< .010	< .010	< .005
400610076282501	20060907	1105	—	96.4	< .016	—	—	—	—
400610076282501	20060907	1106	< .008	—	—	< .050	< .010	< .010	< .005
401712076235101	20060403	1415	—	101	< .016	—	—	—	—
401712076235101	20060403	1416	< .008	—	—	< .050	< .010	< .010	< .005
401712076235101	20060517	1410	—	93	< .016	—	—	—	—
401712076235101	20060517	1411	< .008	—	—	< .050	< .010	< .010	< .005

¹For recoveries of surrogate compounds, an “E” designation indicates either (1) there was a potential interference with recovery or (2) one or both of the two continuing calibration verification sample values fell outside the limits of compliance.

²Because of low long-term recoveries, this compound will be qualified.

Station number	Date	Time	Ethyl						
			Erythromycin, water, fltrd (µg/L) (62797)	nicotinate-d4, surrogate, water, fltrd, percent recovery (99571) ¹	Fluoxetine, water, fltrd (µg/L) (62011) ²	Ibuprofen, water, fltrd (µg/L) (62014)	Isochloro- tetracycline, water, fltrd (µg/L) (64175)	Isoepichloro- tetracycline, water, fltrd (µg/L) (64047)	Lincomycin, water, fltrd (µg/L) (62894)
401712076235101	20060712	1355	—	95.7	< 0.016	—	—	—	—
401712076235101	20060712	1400	< 0.008	—	—	< 0.050	< 0.010	< 0.010	< 0.005
401712076235101	20060920	1400	—	93.8	< .016	—	—	—	—
401712076235101	20060920	1401	< .008	—	—	< .050	< .010	< .010	< .005
401920078130101	20060329	1300	—	111	< .016	—	—	—	—
401920078130101	20060329	1301	< .008	—	—	< .050	< .010	< .010	< .005
401920078130101	20060509	1400	—	106	< .016	—	—	—	—
401920078130101	20060509	1401	< .008	—	—	< .050	< .010	< .010	< .005
401920078130101	20060725	1250	—	114	< .016	—	—	—	—
401920078130101	20060725	1251	< .008	—	—	< .050	< .010	< .010	< .005
401920078130101	20060914	1230	—	92.6	< .016	—	—	—	—
401920078130101	20060914	1231	< .008	—	—	< .050	< .010	< .010	< .005
402052076160101	20060403	1130	—	104	< .016	—	—	—	—
402052076160101	20060403	1131	< .008	—	—	< .050	< .010	< .010	< .005
402052076160101	20060517	1135	—	97.1	< .016	—	—	—	—
402052076160101	20060517	1136	< .008	—	—	< .050	< .010	< .010	< .005
402052076160101	20060712	1140	—	104	< .016	—	—	—	—
402052076160101	20060712	1145	< .008	—	—	< .050	< .010	< .010	< .005
402052076160101	20060920	1050	—	94.8	< .016	—	—	—	—
402052076160101	20060920	1051	< .008	—	—	< .050	< .010	< .010	< .005
405931076555601	20060323	1140	—	105	< .016	—	—	—	—
405931076555601	20060323	1141	< .008	—	—	< .050	< .010	< .010	< .005
405931076555601	20060502	1140	—	99.5	< .016	—	—	—	—
405931076555601	20060502	1141	< .008	—	—	< .050	< .010	< .010	< .005
405931076555601	20060711	1150	—	105	< .016	—	—	—	—
405931076555601	20060711	1155	< .008	—	—	< .050	< .010	< .010	< .005
405931076555601	20060711	1200	—	100	< .016	—	—	—	—
405931076555601	20060711	1205	< .008	—	—	< .050	< .010	< .010	< .005
405931076555601	20060921	1215	—	87.9	< .016	—	—	—	—
405931076555601	20060921	1216	< .008	—	—	< .050	< .010	< .010	< .005

¹For recoveries of surrogate compounds, an “E” designation indicates either (1) there was a potential interference with recovery or (2) one or both of the two continuing calibration verification sample values fell outside the limits of compliance.

²Because of low long-term recoveries, this compound will be qualified.

76 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Lome- floxacin, water, fltrd (µg/L) (62900)	Norfloxacin, water, fltrd (µg/L) (62757)	Ofloxacin, water, fltrd (µg/L) (62899)	Ormetoprim, water, fltrd (µg/L) (62962)	Oxytetra- cycline, water, fltrd (µg/L) (61759)	p-Xanthine, water, fltrd (µg/L) (62030)	Ranitidine, water, fltrd (µg/L) (62019) ²	Roxithromycin, water, fltrd (µg/L) (62895)
01470857	20060306	1130	—	—	—	—	—	< 0.021	< 0.025	—
01470857	20060306	1131	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010	—	—	< 0.005
01470857	20060508	1215	—	—	—	—	—	< .021	< .025	—
01470857	20060508	1216	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01470857	20060720	1130	—	—	—	—	—	< .021	< .025	—
01470857	20060720	1131	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01470857	20060918	1235	—	—	—	—	—	< .021	< .025	—
01470857	20060918	1236	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01470858	20060306	1300	—	—	—	—	—	< .021	< .025	—
01470858	20060306	1301	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01470858	20060508	1100	—	—	—	—	—	< .021	< .025	—
01470858	20060508	1101	< .005	< .005	.008	< .005	< .010	—	—	< .005
01470858	20060720	1030	—	—	—	—	—	< .021	< .025	—
01470858	20060720	1031	< .005	< .005	.009	< .005	< .010	—	—	< .005
01470858	20060918	1120	—	—	—	—	—	< .021	< .025	—
01470858	20060918	1121	< .005	< .005	.012	< .005	< .010	—	—	< .005
01470858	20060918	1125	—	—	—	—	—	< .021	< .025	—
01470858	20060918	1126	< .005	< .005	.011	< .005	< .010	—	—	< .005
015693155	20060313	1100	—	—	—	—	—	< .021	< .025	—
015693155	20060313	1101	< .005	< .005	< .005	< .005	< .010	—	—	< .005
015693155	20060510	1145	—	—	—	—	—	< .021	< .025	—
015693155	20060510	1146	< .005	< .005	< .005	< .005	< .010	—	—	< .005
015693155	20060706	1130	—	—	—	—	—	< .021	< .025	—
015693155	20060706	1135	< .005	< .005	< .005	< .005	< .010	—	—	< .005
015693155	20060919	1020	—	—	—	—	—	< .021	< .025	—
015693155	20060919	1021	< .005	< .005	< .005	< .005	< .010	—	—	< .005
015693158	20060313	1300	—	—	—	—	—	< .021	E(3) .015	—
015693158	20060313	1301	< .005	< .005	.032	< .005	< .010	—	—	< .005
015693158	20060510	1030	—	—	—	—	—	< .021	E(3) .051	—
015693158	20060510	1031	< .005	< .005	.009	< .005	< .010	—	—	< .005
015693158	20060510	1036	< .005	< .005	.023	< .005	< .010	—	—	< .005
015693158	20060706	1020	—	—	—	—	—	< .021	E(3) .007	—
015693158	20060706	1025	< .005	< .005	.022	< .005	< .010	—	—	< .005
015693158	20060706	1030	—	—	—	—	—	< .021	E(3) .006	—
015693158	20060706	1035	< .005	< .005	.022	< .005	< .010	—	—	< .005
015693158	20060919	1200	—	—	—	—	—	< .021	E(3) .018	—
015693158	20060919	1201	< .005	< .005	.017	< .005	< .010	—	—	< .005
01571193	20060405	1600	—	—	—	—	—	< .021	< .025	—
01571193	20060405	1601	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01571193	20060516	1210	—	—	—	—	—	< .021	< .025	—
01571193	20060516	1211	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01571193	20060726	1500	—	—	—	—	—	< .021	< .025	—
01571193	20060726	1501	< .005	< .005	< .005	< .005	< .010	—	—	< .005

²Because of low long-term recoveries, this compound will be qualified.

Table 6 77

Station number	Date	Time	Lome- floxacin, water, fltrd (µg/L) (62900)	Norfloxacin, water, fltrd (µg/L) (62757)	Ofloxacin, water, fltrd (µg/L) (62899)	Ormetoprim, water, fltrd (µg/L) (62962)	Oxytetra- cycline, water, fltrd (µg/L) (61759)	p-Xanthine, water, fltrd (µg/L) (62030)	Ranitidine, water, fltrd (µg/L) (62019) ²	Roxithromycin, water, fltrd (µg/L) (62895)
01571193	20060905	1105	—	—	—	—	—	< 0.021	< 0.025	—
01571193	20060905	1106	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010	—	—	< 0.005
01571195	20060405	1800	—	—	—	—	—	< .021	< .025	—
01571195	20060405	1801	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01571195	20060516	1050	—	—	—	—	—	< .021	< .025	—
01571195	20060516	1051	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01571195	20060726	1600	—	—	—	—	—	< .021	< .025	—
01571195	20060726	1601	< .005	< .005	.005	< .005	< .010	—	—	< .005
01571195	20060905	0950	—	—	—	—	—	< .021	< .025	—
01571195	20060905	0951	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01573151	20060307	1415	—	—	—	—	—	E(2) .019	< .025	—
01573151	20060307	1416	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01573151	20060503	1040	—	—	—	—	—	< .021	< .025	—
01573151	20060503	1041	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01573151	20060719	1110	—	—	—	—	—	< .021	< .025	—
01573151	20060719	1111	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01573151	20060913	1100	—	—	—	—	—	< .021	< .025	—
01573151	20060913	1101	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01573153	20060307	1230	—	—	—	—	—	.853	E(3) .019	—
01573153	20060307	1231	< .005	< .005	.171	< .005	< .010	—	—	< .005
01573153	20060307	1235	—	—	—	—	—	.997	E(3) .025	—
01573153	20060307	1236	< .005	< .005	.204	< .005	< .010	—	—	< .005
01573153	20060503	0940	—	—	—	—	—	< .021	E(3) .040	—
01573153	20060503	0941	< .005	< .005	.267	< .005	< .010	—	—	< .005
01573153	20060719	1010	—	—	—	—	—	< .021	< .025	—
01573153	20060719	1011	< .005	< .005	.062	< .005	< .010	—	—	< .005
01573153	20060913	0950	—	—	—	—	—	< .021	< .025	—
01573153	20060913	0951	< .005	< .005	.329	< .005	< .010	—	—	< .005
01574310	20060301	1600	—	—	—	—	—	< .021	< .025	—
01574310	20060301	1601	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574310	20060501	0940	—	—	—	—	—	< .021	< .025	—
01574310	20060501	0941	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574310	20060705	1420	—	—	—	—	—	< .021	< .025	—
01574310	20060705	1425	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574310	20060906	1200	—	—	—	—	—	< .021	< .025	—
01574310	20060906	1201	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574314	20060301	1500	—	—	—	—	—	< .021	< .025	—
01574314	20060301	1501	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574314	20060501	1035	—	—	—	—	—	< .021	< .025	—
01574314	20060501	1036	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574314	20060501	1037	—	—	—	—	—	< .021	< .025	—
01574314	20060501	1038	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574314	20060705	1310	—	—	—	—	—	< .021	< .025	—
01574314	20060705	1315	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574314	20060906	1300	—	—	—	—	—	< .021	< .025	—
01574314	20060906	1301	< .005	< .005	< .005	< .005	< .010	—	—	< .005

²Because of low long-term recoveries, this compound will be qualified.

78 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Lome- floxacin, water, fltrd (µg/L) (62900)	Norfloxacin, water, fltrd (µg/L) (62757)	Ofloxacin, water, fltrd (µg/L) (62899)	Ormetoprim, water, fltrd (µg/L) (62962)	Oxytetra- cycline, water, fltrd (µg/L) (61759)	p-Xanthine, water, fltrd (µg/L) (62030)	Ranitidine, water, fltrd (µg/L) (62019) ²	Roxithromycin, water, fltrd (µg/L) (62895)
01576420	20060306	1600	—	—	—	—	—	< 0.021	< 0.025	—
01576420	20060306	1601	< 0.005	< 0.005	0.006	< 0.005	< 0.010	—	—	< 0.005
01576420	20060522	1150	—	—	—	—	—	< .021	< .025	—
01576420	20060522	1151	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01576420	20060717	1150	—	—	—	—	—	< .021	< .025	—
01576420	20060717	1151	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01576420	20060911	1100	—	—	—	—	—	< .021	< .025	—
01576420	20060911	1101	< .005	< .005	< .005	< .005	.038	—	—	< .005
01576422	20060306	1730	—	—	—	—	—	< .021	< .025	—
01576422	20060306	1731	< .005	< .005	.056	< .005	< .010	—	—	< .005
01576422	20060522	1025	—	—	—	—	—	< .021	< .025	—
01576422	20060522	1026	< .005	< .005	.023	< .005	< .010	—	—	< .005
01576422	20060717	1030	—	—	—	—	—	< .021	< .025	—
01576422	20060717	1031	< .005	< .005	.036	< .005	< .010	—	—	< .005
01576422	20060911	1205	—	—	—	—	—	< .021	< .025	—
01576422	20060911	1206	< .005	< .005	.069	< .005	.015	—	—	< .005
01569346	20060405	1300	—	—	—	—	—	< .021	< .025	—
01569346	20060405	1301	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01569346	20060523	1115	—	—	—	—	—	< .021	< .025	—
01569346	20060523	1116	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01569346	20060726	1045	—	—	—	—	—	< .021	< .025	—
01569346	20060726	1046	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01569346	20060927	0955	—	—	—	—	—	< .021	< .025	—
01569346	20060927	0956	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01569349	20060405	1130	—	—	—	—	—	< .021	< .025	—
01569349	20060405	1131	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01569349	20060523	1000	—	—	—	—	—	< .021	< .025	—
01569349	20060523	1001	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01569349	20060726	1245	—	—	—	—	—	< .021	< .025	—
01569349	20060726	1246	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01569349	20060927	1100	—	—	—	—	—	< .021	< .025	—
01569349	20060927	1101	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01572146	20060320	1200	—	—	—	—	—	< .021	< .025	—
01572146	20060320	1201	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01572146	20060518	1145	—	—	—	—	—	< .021	< .025	—
01572146	20060518	1146	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01572146	20060731	1015	—	—	—	—	—	< .021	< .025	—
01572146	20060731	1016	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01572146	20060926	0945	—	—	—	—	—	< .021	< .025	—
01572146	20060926	0946	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01572148	20060320	1445	—	—	—	—	—	< .021	< .025	—
01572148	20060320	1446	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01572148	20060518	1030	—	—	—	—	—	< .021	< .025	—
01572148	20060518	1031	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01572148	20060731	1110	—	—	—	—	—	< .021	< .025	—
01572148	20060731	1111	< .005	< .005	< .005	< .005	< .010	—	—	< .005

²Because of low long-term recoveries, this compound will be qualified.

Table 6 79

Station number	Date	Time	Lome- floxacin, water, fltrd (µg/L) (62900)	Norfloxacin, water, fltrd (µg/L) (62757)	Ofloxacin, water, fltrd (µg/L) (62899)	Ormetoprim, water, fltrd (µg/L) (62962)	Oxytetra- cycline, water, fltrd (µg/L) (61759)	p-Xanthine, water, fltrd (µg/L) (62030)	Ranitidine, water, fltrd (µg/L) (62019) ²	Roxithromycin, water, fltrd (µg/L) (62895)
01572148	20060926	1055	—	—	—	—	—	< 0.021	< 0.025	—
01572148	20060926	1056	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010	—	—	< 0.005
401704076293101	20060315	1145	—	—	—	—	—	< .021	< .025	—
401704076293101	20060315	1146	< .005	< .005	< .005	< .005	< .010	—	—	< .005
401704076293101	20060503	1345	—	—	—	—	—	< .021	< .025	—
401704076293101	20060503	1346	< .005	< .005	< .005	< .005	< .010	—	—	< .005
401704076293101	20060719	1430	—	—	—	—	—	< .021	< .025	—
401704076293101	20060719	1431	< .005	< .005	< .005	< .005	< .010	—	—	< .005
401704076293101	20060913	1400	—	—	—	—	—	< .021	< .025	—
401704076293101	20060913	1401	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01573095	20060315	1030	—	—	—	—	—	< .021	< .025	—
01573095	20060315	1031	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01573095	20060503	1245	—	—	—	—	—	< .021	< .025	—
01573095	20060503	1246	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01573095	20060719	1330	—	—	—	—	—	< .021	< .025	—
01573095	20060719	1331	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01573095	20060913	1305	—	—	—	—	—	< .021	< .025	—
01573095	20060913	1306	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574050	20060316	1030	—	—	—	—	—	< .021	< .025	—
01574050	20060316	1031	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574050	20060501	1350	—	—	—	—	—	< .021	< .025	—
01574050	20060501	1351	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574050	20060705	1045	—	—	—	—	—	< .021	< .025	—
01574050	20060705	1050	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574050	20060906	1030	—	—	—	—	—	< .021	< .025	—
01574050	20060906	1031	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574055	20060316	1130	—	—	—	—	—	< .021	< .025	—
01574055	20060316	1131	< .005	< .005	< .005	< .005	.019	—	—	< .005
01574055	20060501	1245	—	—	—	—	—	< .021	< .025	—
01574055	20060501	1246	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574055	20060705	1145	—	—	—	—	—	< .021	< .025	—
01574055	20060705	1150	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01574055	20060906	0925	—	—	—	—	—	< .021	< .025	—
01574055	20060906	0926	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01575771	20060322	1000	—	—	—	—	—	< .021	< .025	—
01575771	20060322	1001	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01575771	20060515	1055	—	—	—	—	—	< .021	< .025	—
01575771	20060515	1056	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01575771	20060717	1410	—	—	—	—	—	< .021	< .025	—
01575771	20060717	1411	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01575771	20060911	1450	—	—	—	—	—	< .021	< .025	—
01575771	20060911	1451	< .005	< .005	< .005	< .005	< .010	—	—	< .005
015757724	20060322	1100	—	—	—	—	—	< .021	< .025	—
015757724	20060322	1101	< .005	< .005	< .005	< .005	< .010	—	—	< .005
015757724	20060515	0915	—	—	—	—	—	< .021	< .025	—
015757724	20060515	0916	< .005	< .005	< .005	< .005	< .010	—	—	< .005

²Because of low long-term recoveries, this compound will be qualified.

80 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Lome- floxacin, water, fltrd (µg/L) (62900)	Norfloxacin, water, fltrd (µg/L) (62757)	Ofloxacin, water, fltrd (µg/L) (62899)	Ormetoprim, water, fltrd (µg/L) (62962)	Oxytetra- cycline, water, fltrd (µg/L) (61759)	p-Xanthine, water, fltrd (µg/L) (62030)	Ranitidine, water, fltrd (µg/L) (62019) ²	Roxithromycin, water, fltrd (µg/L) (62895)
015757724	20060717	1310	—	—	—	—	—	< 0.021	< 0.025	—
015757724	20060717	1311	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010	—	—	< 0.005
015757724	20060911	1550	—	—	—	—	—	< .021	< .025	—
015757724	20060911	1551	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01578349	20060314	1145	—	—	—	—	—	< .021	< .025	—
01578349	20060314	1146	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01578349	20060511	1110	—	—	—	—	—	< .021	< .025	—
01578349	20060511	1111	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01578349	20060718	1250	—	—	—	—	—	< .021	< .025	—
01578349	20060718	1251	< .005	< .005	< .005	< .005	< .010	—	—	< .005
01578349	20060912	1215	—	—	—	—	—	< .021	< .025	—
01578349	20060912	1216	< .005	< .005	< .005	< .005	< .010	—	—	< .005
015783492	20060314	1400	—	—	—	—	—	< .021	< .025	—
015783492	20060314	1401	< .005	< .005	< .005	< .005	< .010	—	—	< .005
015783492	20060511	1010	—	—	—	—	—	< .021	< .025	—
015783492	20060511	1011	< .005	< .005	< .005	< .005	< .010	—	—	< .005
015783492	20060718	1115	—	—	—	—	—	< .021	< .025	—
015783492	20060718	1116	< .005	< .005	< .005	< .005	< .010	—	—	< .005
015783492	20060912	1115	—	—	—	—	—	< .021	< .025	—
015783492	20060912	1116	< .005	< .005	< .005	< .005	< .010	—	—	< .005
394643077043101	20060309	1230	—	—	—	—	—	< .021	< .025	—
394643077043101	20060309	1231	< .005	< .005	< .005	< .005	< .010	—	—	< .005
394643077043101	20060504	1110	—	—	—	—	—	< .021	< .025	—
394643077043101	20060504	1111	< .005	< .005	< .005	< .005	< .010	—	—	< .005
394643077043101	20060504	1112	—	—	—	—	—	< .021	< .025	—
394643077043101	20060504	1113	< .005	< .005	< .005	< .005	< .010	—	—	< .005
394643077043101	20060710	1125	—	—	—	—	—	< .021	< .025	—
394643077043101	20060710	1130	< .005	< .005	< .005	< .005	< .010	—	—	< .005
394643077043101	20060925	1055	—	—	—	—	—	< .021	< .025	—
394643077043101	20060925	1056	< .005	< .005	< .005	< .005	< .010	—	—	< .005
400610076282501	20060406	1030	—	—	—	—	—	< .021	< .025	—
400610076282501	20060406	1031	< .005	< .005	< .005	< .005	< .010	—	—	< .005
400610076282501	20060515	1315	—	—	—	—	—	< .021	< .025	—
400610076282501	20060515	1316	< .005	< .005	< .005	< .005	< .010	—	—	< .005
400610076282501	20060515	1317	—	—	—	—	—	< .021	< .025	—
400610076282501	20060515	1318	< .005	< .005	< .005	< .005	< .010	—	—	< .005
400610076282501	20060713	1100	—	—	—	—	—	< .021	< .025	—
400610076282501	20060713	1101	< .005	< .005	< .005	< .005	< .010	—	—	< .005
400610076282501	20060907	1100	—	—	—	—	—	< .021	< .025	—
400610076282501	20060907	1101	< .005	< .005	< .005	< .005	< .010	—	—	< .005
400610076282501	20060907	1105	—	—	—	—	—	< .021	< .025	—
400610076282501	20060907	1106	< .005	< .005	< .005	< .005	< .010	—	—	< .005
401712076235101	20060403	1415	—	—	—	—	—	< .021	< .025	—
401712076235101	20060403	1416	< .005	< .005	< .005	< .005	< .010	—	—	< .005
401712076235101	20060517	1410	—	—	—	—	—	< .021	< .025	—
401712076235101	20060517	1411	< .005	< .005	< .005	< .005	< .010	—	—	< .005

²Because of low long-term recoveries, this compound will be qualified.

Table 6 81

Station number	Date	Time	Lome- floxacin, water, fltrd (µg/L) (62900)	Norfloxacin, water, fltrd (µg/L) (62757)	Ofloxacin, water, fltrd (µg/L) (62899)	Ormetoprim, water, fltrd (µg/L) (62962)	Oxytetra- cycline, water, fltrd (µg/L) (61759)	p-Xanthine, water, fltrd (µg/L) (62030)	Ranitidine, water, fltrd (µg/L) (62019) ²	Roxithromycin, water, fltrd (µg/L) (62895)
401712076235101	20060712	1355	—	—	—	—	—	< 0.021	< 0.025	—
401712076235101	20060712	1400	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010	—	—	< 0.005
401712076235101	20060920	1400	—	—	—	—	—	< .021	< .025	—
401712076235101	20060920	1401	< .005	< .005	< .005	< .005	< .010	—	—	< .005
401920078130101	20060329	1300	—	—	—	—	—	< .021	< .025	—
401920078130101	20060329	1301	< .005	< .005	< .005	< .005	< .010	—	—	< .005
401920078130101	20060509	1400	—	—	—	—	—	< .021	< .025	—
401920078130101	20060509	1401	< .005	< .005	< .005	< .005	< .010	—	—	< .005
401920078130101	20060725	1250	—	—	—	—	—	< .021	< .025	—
401920078130101	20060725	1251	< .005	< .005	< .005	< .005	< .010	—	—	< .005
401920078130101	20060914	1230	—	—	—	—	—	< .021	< .025	—
401920078130101	20060914	1231	< .005	< .005	< .005	< .005	< .010	—	—	< .005
402052076160101	20060403	1130	—	—	—	—	—	< .021	< .025	—
402052076160101	20060403	1131	< .005	< .005	< .005	< .005	< .010	—	—	< .005
402052076160101	20060517	1135	—	—	—	—	—	< .021	< .025	—
402052076160101	20060517	1136	< .005	< .005	< .005	< .005	< .010	—	—	< .005
402052076160101	20060712	1140	—	—	—	—	—	< .021	< .025	—
402052076160101	20060712	1145	< .005	< .005	< .005	< .005	< .010	—	—	< .005
402052076160101	20060920	1050	—	—	—	—	—	< .021	< .025	—
402052076160101	20060920	1051	< .005	< .005	< .005	< .005	< .010	—	—	< .005
405931076555601	20060323	1140	—	—	—	—	—	< .021	< .025	—
405931076555601	20060323	1141	< .005	< .005	< .005	< .005	< .010	—	—	< .005
405931076555601	20060502	1140	—	—	—	—	—	< .021	< .025	—
405931076555601	20060502	1141	< .005	< .005	< .005	< .005	< .010	—	—	< .005
405931076555601	20060711	1150	—	—	—	—	—	< .021	< .025	—
405931076555601	20060711	1155	< .005	< .005	< .005	< .005	< .010	—	—	< .005
405931076555601	20060711	1200	—	—	—	—	—	< .021	< .025	—
405931076555601	20060711	1205	< .005	< .005	< .005	< .005	< .010	—	—	< .005
405931076555601	20060921	1215	—	—	—	—	—	< .021	< .025	—
405931076555601	20060921	1216	< .005	< .005	< .005	< .005	< .010	—	—	< .005

²Because of low long-term recoveries, this compound will be qualified.

82 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Salbutamol, water, fltrd (µg/L) (62020)	Sarafloxacin, water, fltrd (µg/L) (62771)	Sulfachloro- pyridazine, water, fltrd (µg/L) (62774)	Sulfadiazine, water, fltrd (µg/L) (62963)	Sulfadimeth- ozine, water, fltrd (µg/L) (62776)	Sulfameth- azine, water, fltrd (µg/L) (61762)	Sulfameth- oxazole, water, fltrd (µg/L) NWQL (62021)	Sulfameth- oxazole, water, fltrd (µg/L) OGRL (62775)
01470857	20060306	1130	< 0.014	—	—	—	—	—	< 0.024	—
01470857	20060306	1131	—	< 0.005	< 0.005	< 0.050	< 0.005	< 0.005	—	< 0.005
01470857	20060508	1215	< .014	—	—	—	—	—	< .024	—
01470857	20060508	1216	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01470857	20060720	1130	< .014	—	—	—	—	—	< .024	—
01470857	20060720	1131	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01470857	20060918	1235	< .014	—	—	—	—	—	< .024	—
01470857	20060918	1236	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01470858	20060306	1300	< .014	—	—	—	—	—	E(4) .042	—
01470858	20060306	1301	—	< .005	< .005	< .050	< .005	< .005	—	—
01470858	20060508	1100	< .014	—	—	—	—	—	.212	—
01470858	20060508	1101	—	< .005	< .005	< .050	< .005	< .005	—	.123
01470858	20060720	1030	< .014	—	—	—	—	—	E(2) .020	—
01470858	20060720	1031	—	< .005	< .005	< .050	< .005	< .005	—	.082
01470858	20060918	1120	< .014	—	—	—	—	—	< .024	—
01470858	20060918	1121	—	< .005	< .005	< .050	< .005	< .005	—	.148
01470858	20060918	1125	< .014	—	—	—	—	—	E(4) .072	—
01470858	20060918	1126	—	< .005	< .005	< .050	< .005	< .005	—	.159
015693155	20060313	1100	< .014	—	—	—	—	—	< .024	—
015693155	20060313	1101	—	< .005	< .005	< .050	< .005	< .005	—	< .005
015693155	20060510	1145	< .014	—	—	—	—	—	< .024	—
015693155	20060510	1146	—	< .005	< .005	< .050	< .005	< .005	—	< .005
015693155	20060706	1130	< .014	—	—	—	—	—	< .024	—
015693155	20060706	1135	—	< .005	< .005	< .050	< .005	< .005	—	< .005
015693155	20060919	1020	< .014	—	—	—	—	—	< .024	—
015693155	20060919	1021	—	< .005	< .005	< .050	< .005	< .005	—	< .005
015693158	20060313	1300	< .014	—	—	—	—	—	< .027	—
015693158	20060313	1301	—	< .005	< .005	< .050	< .005	< .005	—	.150
015693158	20060510	1030	E(1) .005	—	—	—	—	—	.552	—
015693158	20060510	1031	—	< .005	< .005	< .050	< .005	< .005	—	.434
015693158	20060510	1036	—	< .005	< .005	< .050	< .005	< .005	—	.426
015693158	20060706	1020	E(1) .004	—	—	—	—	—	.082	—
015693158	20060706	1025	—	< .005	< .005	< .050	< .005	< .005	—	.110
015693158	20060706	1030	E(1) .004	—	—	—	—	—	.078	—
015693158	20060706	1035	—	< .005	< .005	< .050	< .005	< .005	—	.268
015693158	20060919	1200	< .014	—	—	—	—	—	.243	—
015693158	20060919	1201	—	< .005	< .005	< .050	< .005	< .005	—	.766
01571193	20060405	1600	< .014	—	—	—	—	—	< .024	—
01571193	20060405	1601	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01571193	20060516	1210	< .014	—	—	—	—	—	< .024	—
01571193	20060516	1211	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01571193	20060726	1500	< .014	—	—	—	—	—	< .024	—
01571193	20060726	1501	—	< .005	< .005	< .050	< .005	< .005	—	< .005

Table 6 83

Station number	Date	Time	Salbutamol, water, fltrd (µg/L) (62020)	Sarafloxacin, water, fltrd (µg/L) (62771)	Sulfachloro- pyridazine, water, fltrd (µg/L) (62774)	Sulfadiazine, water, fltrd (µg/L) (62963)	Sulfadimeth- ozine, water, fltrd (µg/L) (62776)	Sulfameth- azine, water, fltrd (µg/L) (61762)	Sulfameth- oxazole, water, fltrd (µg/L) NWQL (62021)	Sulfameth- oxazole, water, fltrd (µg/L) OGRL (62775)
01571193	20060905	1105	< 0.014	—	—	—	—	—	< 0.024	—
01571193	20060905	1106	—	< 0.005	< 0.005	< 0.050	< 0.005	< 0.005	—	< 0.005
01571195	20060405	1800	< .014	—	—	—	—	—	< .024	—
01571195	20060405	1801	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01571195	20060516	1050	< .014	—	—	—	—	—	< .024	—
01571195	20060516	1051	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01571195	20060726	1600	< .014	—	—	—	—	—	< .024	—
01571195	20060726	1601	—	< .005	< .005	< .050	< .005	< .005	—	.023
01571195	20060905	0950	< .014	—	—	—	—	—	E(1) .006	—
01571195	20060905	0951	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01573151	20060307	1415	< .014	—	—	—	—	—	< .024	—
01573151	20060307	1416	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01573151	20060503	1040	< .014	—	—	—	—	—	< .024	—
01573151	20060503	1041	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01573151	20060719	1110	< .014	—	—	—	—	—	< .024	—
01573151	20060719	1111	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01573151	20060913	1100	< .014	—	—	—	—	—	E(2) .022	—
01573151	20060913	1101	—	< .005	< .005	< .050	< .005	< .005	—	.013
01573153	20060307	1230	E(2) .009	—	—	—	—	—	< .186	—
01573153	20060307	1231	—	< .005	< .005	.121	< .005	< .005	—	.355
01573153	20060307	1235	E(2) .010	—	—	—	—	—	< .185	—
01573153	20060307	1236	—	< .005	< .005	.164	< .005	< .005	—	.508
01573153	20060503	0940	E(2) .012	—	—	—	—	—	< .024	—
01573153	20060503	0941	—	< .005	< .005	< .050	< .005	< .005	—	.042
01573153	20060719	1010	< .014	—	—	—	—	—	E(2) .020	—
01573153	20060719	1011	—	< .005	< .005	< .050	< .005	< .005	—	.149
01573153	20060913	0950	< .014	—	—	—	—	—	E(4) .218	—
01573153	20060913	0951	—	< .005	< .005	< .050	< .005	< .005	—	1.340
01574310	20060301	1600	< .014	—	—	—	—	—	< .024	—
01574310	20060301	1601	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574310	20060501	0940	< .014	—	—	—	—	—	< .024	—
01574310	20060501	0941	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574310	20060705	1420	< .014	—	—	—	—	—	< .024	—
01574310	20060705	1425	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574310	20060906	1200	< .014	—	—	—	—	—	< .024	—
01574310	20060906	1201	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574314	20060301	1500	< .014	—	—	—	—	—	< .024	—
01574314	20060301	1501	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574314	20060501	1035	< .014	—	—	—	—	—	< .024	—
01574314	20060501	1036	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574314	20060501	1037	< .014	—	—	—	—	—	< .024	—
01574314	20060501	1038	—	< .005	< .005	< .050	< .005	< .005	—	< .055
01574314	20060705	1310	< .014	—	—	—	—	—	< .024	—
01574314	20060705	1315	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574314	20060906	1300	< .014	—	—	—	—	—	< .024	—
01574314	20060906	1301	—	< .005	< .005	< .050	< .005	< .005	—	< .005

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Station number	Date	Time	Salbutamol, water, fltrd (µg/L) (62020)	Sarafloxacin, water, fltrd (µg/L) (62771)	Sulfachloro- pyridazine, water, fltrd (µg/L) (62774)	Sulfadiazine, water, fltrd (µg/L) (62963)	Sulfadimeth- ozine, water, fltrd (µg/L) (62776)	Sulfameth- azine, water, fltrd (µg/L) (61762)	Sulfameth- oxazole, water, fltrd (µg/L) NWQL (62021)	Sulfameth- oxazole, water, fltrd (µg/L) OGRL (62775)
01576420	20060306	1600	< 0.014	—	—	—	—	—	< 0.024	—
01576420	20060306	1601	—	< 0.005	< 0.005	< 0.050	< 0.005	< 0.005	—	< 0.067
01576420	20060522	1150	< .014	—	—	—	—	—	< .024	—
01576420	20060522	1151	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01576420	20060717	1150	< .014	—	—	—	—	—	< .024	—
01576420	20060717	1151	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01576420	20060911	1100	< .014	—	—	—	—	—	< .024	—
01576420	20060911	1101	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01576422	20060306	1730	< .014	—	—	—	—	—	E(4) .091	—
01576422	20060306	1731	—	< .005	< .005	< .050	< .005	< .005	—	.142
01576422	20060522	1025	< .014	—	—	—	—	—	.262	—
01576422	20060522	1026	—	< .005	< .005	< .050	< .005	< .005	—	.136
01576422	20060717	1030	< .014	—	—	—	—	—	E(4) .030	—
01576422	20060717	1031	—	< .005	< .005	< .050	< .005	< .005	—	.117
01576422	20060911	1205	< .014	—	—	—	—	—	E(4) .064	—
01576422	20060911	1206	—	< .005	< .005	< .050	< .005	< .005	—	.108
01569346	20060405	1300	< .014	—	—	—	—	—	< .024	—
01569346	20060405	1301	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01569346	20060523	1115	< .014	—	—	—	—	—	< .024	—
01569346	20060523	1116	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01569346	20060726	1045	< .014	—	—	—	—	—	< .024	—
01569346	20060726	1046	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01569346	20060927	0955	< .014	—	—	—	—	—	< .024	—
01569346	20060927	0956	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01569349	20060405	1130	< .014	—	—	—	—	—	< .024	—
01569349	20060405	1131	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01569349	20060523	1000	< .014	—	—	—	—	—	< .024	—
01569349	20060523	1001	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01569349	20060726	1245	< .014	—	—	—	—	—	< .024	—
01569349	20060726	1246	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01569349	20060927	1100	< .014	—	—	—	—	—	< .024	—
01569349	20060927	1101	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01572146	20060320	1200	< .014	—	—	—	—	—	< .024	—
01572146	20060320	1201	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01572146	20060518	1145	< .014	—	—	—	—	—	< .024	—
01572146	20060518	1146	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01572146	20060731	1015	< .014	—	—	—	—	—	< .024	—
01572146	20060731	1016	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01572146	20060926	0945	< .014	—	—	—	—	—	< .024	—
01572146	20060926	0946	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01572148	20060320	1445	< .014	—	—	—	—	—	< .024	—
01572148	20060320	1446	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01572148	20060518	1030	< .014	—	—	—	—	—	< .024	—
01572148	20060518	1031	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01572148	20060731	1110	< .014	—	—	—	—	—	< .024	—
01572148	20060731	1111	—	< .005	< .005	< .050	< .005	< .005	—	< .005

Table 6 85

Station number	Date	Time	Salbutamol, water, fltrd (µg/L) (62020)	Sarafloxacin, water, fltrd (µg/L) (62771)	Sulfachloro- pyridazine, water, fltrd (µg/L) (62774)	Sulfadiazine, water, fltrd (µg/L) (62963)	Sulfadimeth- ozine, water, fltrd (µg/L) (62776)	Sulfameth- azine, water, fltrd (µg/L) (61762)	Sulfameth- oxazole, water, fltrd (µg/L) NWQL (62021)	Sulfameth- oxazole, water, fltrd (µg/L) OGRL (62775)
01572148	20060926	1055	< 0.014	—	—	—	—	—	< 0.024	—
01572148	20060926	1056	—	< 0.005	< 0.005	< 0.050	< 0.005	< 0.005	—	< 0.005
401704076293101	20060315	1145	< .014	—	—	—	—	—	< .024	—
401704076293101	20060315	1146	—	< .005	< .005	< .050	< .005	< .005	—	< .005
401704076293101	20060503	1345	< .014	—	—	—	—	—	< .024	—
401704076293101	20060503	1346	—	< .005	< .005	< .050	< .005	< .005	—	< .005
401704076293101	20060719	1430	< .014	—	—	—	—	—	< .024	—
401704076293101	20060719	1431	—	< .005	< .005	< .050	< .005	< .005	—	< .005
401704076293101	20060913	1400	< .014	—	—	—	—	—	< .024	—
401704076293101	20060913	1401	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01573095	20060315	1030	< .014	—	—	—	—	—	< .024	—
01573095	20060315	1031	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01573095	20060503	1245	< .014	—	—	—	—	—	< .024	—
01573095	20060503	1246	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01573095	20060719	1330	< .014	—	—	—	—	—	< .024	—
01573095	20060719	1331	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01573095	20060913	1305	< .014	—	—	—	—	—	E .008	—
01573095	20060913	1306	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574050	20060316	1030	< .014	—	—	—	—	—	< .024	—
01574050	20060316	1031	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574050	20060501	1350	< .014	—	—	—	—	—	< .024	—
01574050	20060501	1351	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574050	20060705	1045	< .014	—	—	—	—	—	< .024	—
01574050	20060705	1050	—	< .005	< .005	< .050	< .005	< .005	—	.019
01574050	20060906	1030	< .014	—	—	—	—	—	E(4) .039	—
01574050	20060906	1031	—	< .005	< .005	< .050	< .005	< .005	—	.157
01574055	20060316	1130	< .014	—	—	—	—	—	< .024	—
01574055	20060316	1131	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574055	20060501	1245	< .014	—	—	—	—	—	< .024	—
01574055	20060501	1246	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01574055	20060705	1145	< .014	—	—	—	—	—	< .024	—
01574055	20060705	1150	—	< .005	< .005	< .050	.005	< .005	—	< .005
01574055	20060906	9250	< .014	—	—	—	—	—	E(1) .006	—
01574055	20060906	0926	—	< .005	< .005	< .050	< .005	< .005	—	.019
01575771	20060322	1000	< .014	—	—	—	—	—	< .024	—
01575771	20060322	1001	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01575771	20060515	1055	< .014	—	—	—	—	—	< .024	—
01575771	20060515	1056	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01575771	20060717	1410	< .014	—	—	—	—	—	< .024	—
01575771	20060717	1411	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01575771	20060911	1450	< .014	—	—	—	—	—	< .024	—
01575771	20060911	1451	—	< .005	< .005	< .050	< .005	< .005	—	< .005
015757724	20060322	1100	< .014	—	—	—	—	—	< .024	—
015757724	20060322	1101	—	< .005	< .005	< .050	< .005	< .005	—	< .005
015757724	20060515	0915	< .014	—	—	—	—	—	< .024	—
015757724	20060515	0916	—	< .005	< .005	< .050	< .005	< .005	—	< .005

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Station number	Date	Time	Salbutamol, water, fltrd (µg/L) (62020)	Sarafloxacin, water, fltrd (µg/L) (62771)	Sulfachloro- pyridazine, water, fltrd (µg/L) (62774)	Sulfadiazine, water, fltrd (µg/L) (62963)	Sulfadimeth- ozine, water, fltrd (µg/L) (62776)	Sulfameth- azine, water, fltrd (µg/L) (61762)	Sulfameth- oxazole, water, fltrd (µg/L) NWQL (62021)	Sulfameth- oxazole, water, fltrd (µg/L) OGRL (62775)
015757724	20060717	1310	< 0.014	—	—	—	—	—	< 0.024	—
015757724	20060717	1311	—	< 0.005	< 0.005	< 0.050	< 0.005	< 0.005	—	< 0.005
015757724	20060911	1550	< .014	—	—	—	—	—	< .024	—
015757724	20060911	1551	—	< .005	< .005	< .050	.026	< .005	—	< .005
01578349	20060314	1145	< .014	—	—	—	—	—	< .024	—
01578349	20060314	1146	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01578349	20060511	1110	< .014	—	—	—	—	—	< .024	—
01578349	20060511	1111	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01578349	20060718	1250	< .014	—	—	—	—	—	< .024	—
01578349	20060718	1251	—	< .005	< .005	< .050	< .005	< .005	—	< .005
01578349	20060912	1215	< .014	—	—	—	—	—	< .024	—
01578349	20060912	1216	—	< .005	< .005	< .050	< .005	< .005	—	< .005
015783492	20060314	1400	< .014	—	—	—	—	—	< .024	—
015783492	20060314	1401	—	< .005	< .005	< .050	< .005	< .005	—	< .005
015783492	20060511	1010	< .014	—	—	—	—	—	< .024	—
015783492	20060511	1011	—	< .005	< .005	< .050	< .005	< .005	—	< .005
015783492	20060718	1115	< .014	—	—	—	—	—	< .024	—
015783492	20060718	1116	—	< .005	< .005	< .050	< .005	< .005	—	< .005
015783492	20060912	1115	< .014	—	—	—	—	—	< .024	—
015783492	20060912	1116	—	< .005	< .005	< .050	< .005	< .005	—	< .005
394643077043101	20060309	1230	< .014	—	—	—	—	—	< .024	—
394643077043101	20060309	1231	—	< .005	< .005	< .050	< .005	< .005	—	< .005
394643077043101	20060504	1110	< .014	—	—	—	—	—	< .024	—
394643077043101	20060504	1111	—	< .005	< .005	< .050	< .005	< .005	—	< .005
394643077043101	20060504	1112	< .014	—	—	—	—	—	< .024	—
394643077043101	20060504	1113	—	< .005	< .005	< .050	< .005	< .005	—	< .005
394643077043101	20060710	1125	< .014	—	—	—	—	—	< .024	—
394643077043101	20060710	1130	—	< .005	< .005	< .050	< .005	< .005	—	< .005
394643077043101	20060925	1055	< .014	—	—	—	—	—	< .024	—
394643077043101	20060925	1056	—	< .005	< .005	< .050	< .005	< .005	—	< .005
400610076282501	20060406	1030	< .014	—	—	—	—	—	< .024	—
400610076282501	20060406	1031	—	< .005	< .005	< .050	< .005	< .005	—	< .005
400610076282501	20060515	1315	< .014	—	—	—	—	—	< .024	—
400610076282501	20060515	1316	—	< .005	< .005	< .050	< .005	< .005	—	< .005
400610076282501	20060515	1317	< .014	—	—	—	—	—	< .024	—
400610076282501	20060515	1318	—	< .005	< .005	< .050	< .005	< .005	—	< .005
400610076282501	20060713	1100	< .014	—	—	—	—	—	< .024	—
400610076282501	20060713	1101	—	< .005	< .005	< .050	< .005	< .005	—	< .005
400610076282501	20060907	1100	< .014	—	—	—	—	—	< .024	—
400610076282501	20060907	1101	—	< .005	< .005	< .050	< .005	< .005	—	< .005
400610076282501	20060907	1105	< .014	—	—	—	—	—	< .024	—
400610076282501	20060907	1106	—	< .005	< .005	< .050	< .005	< .005	—	< .005
401712076235101	20060403	1415	< .014	—	—	—	—	—	< .024	—
401712076235101	20060403	1416	—	< .005	< .005	< .050	< .005	< .005	—	< .005
401712076235101	20060517	1410	< .014	—	—	—	—	—	< .024	—
401712076235101	20060517	1411	—	< .005	< .005	< .050	< .005	< .005	—	< .005

Table 6 87

Station number	Date	Time	Salbutamol, water, fltrd (µg/L) (62020)	Sarafloxacin, water, fltrd (µg/L) (62771)	Sulfachloro- pyridazine, water, fltrd (µg/L) (62774)	Sulfadiazine, water, fltrd (µg/L) (62963)	Sulfadimeth- ozine, water, fltrd (µg/L) (62776)	Sulfameth- azine, water, fltrd (µg/L) (61762)	Sulfameth- oxazole, water, fltrd (µg/L) NWQL (62021)	Sulfameth- oxazole, water, fltrd (µg/L) OGRL (62775)
401712076235101	20060712	1355	< 0.014	—	—	—	—	—	< 0.024	—
401712076235101	20060712	1400	—	< 0.005	< 0.005	< 0.050	< 0.005	< 0.005	—	< 0.005
401712076235101	20060920	1400	< .014	—	—	—	—	—	< .024	—
401712076235101	20060920	1401	—	< .005	< .005	< .050	< .005	< .005	—	.006
401920078130101	20060329	1300	< .014	—	—	—	—	—	< .024	—
401920078130101	20060329	1301	—	< .005	< .005	< .050	< .005	< .005	—	< .005
401920078130101	20060509	1400	< .014	—	—	—	—	—	< .024	—
401920078130101	20060509	1401	—	< .005	< .005	< .050	< .005	< .005	—	< .005
401920078130101	20060725	1250	< .014	—	—	—	—	—	< .024	—
401920078130101	20060725	1251	—	< .005	< .005	< .050	< .005	< .005	—	< .005
401920078130101	20060914	1230	< .014	—	—	—	—	—	< .024	—
401920078130101	20060914	1231	—	< .005	< .005	< .050	< .005	< .005	—	< .005
402052076160101	20060403	1130	< .014	—	—	—	—	—	< .024	—
402052076160101	20060403	1131	—	< .005	< .005	< .050	< .005	< .005	—	< .005
402052076160101	20060517	1135	< .014	—	—	—	—	—	< .024	—
402052076160101	20060517	1136	—	< .005	< .005	< .050	< .005	< .005	—	< .005
402052076160101	20060712	1140	< .014	—	—	—	—	—	< .024	—
402052076160101	20060712	1145	—	< .005	< .005	< .050	< .005	< .005	—	< .005
402052076160101	20060920	1050	< .014	—	—	—	—	—	< .024	—
402052076160101	20060920	1051	—	< .005	< .005	< .050	< .005	< .005	—	< .005
405931076555601	20060323	1140	< .014	—	—	—	—	—	< .024	—
405931076555601	20060323	1141	—	< .005	< .005	< .050	< .005	< .005	—	< .005
405931076555601	20060502	1140	< .014	—	—	—	—	—	< .024	—
405931076555601	20060502	1141	—	< .005	< .005	< .050	< .005	< .005	—	< .005
405931076555601	20060711	1150	< .014	—	—	—	—	—	< .024	—
405931076555601	20060711	1155	—	< .005	< .005	< .050	< .005	< .005	—	< .005
405931076555601	20060711	1200	< .014	—	—	—	—	—	< .024	—
405931076555601	20060711	1205	—	< .005	< .005	< .050	< .005	< .005	—	< .005
405931076555601	20060921	1215	< .014	—	—	—	—	—	< .024	—
405931076555601	20060921	1216	—	< .005	< .005	< .050	< .005	< .005	—	< .005

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Station number	Date	Time	Sulfathiazole, water, fltrd (µg/L) (62778)	Tetracycline, water, fltrd (µg/L) (62781)	Thiabendazole, water, fltrd (µg/L) (62801)	Trimethoprim, water, fltrd (µg/L) NWQL (62023)	Trimethoprim, water, fltrd (µg/L) OGRL (62023)	Tylosin, water, fltrd (µg/L) (62896)
01470857	20060306	1130	—	—	< 0.025	< 0.020	—	—
01470857	20060306	1131	< 0.020	< 0.010	—	—	< 0.005	< 0.005
01470857	20060508	1215	—	—	< .025	< .020	—	—
01470857	20060508	1216	< .020	< .010	—	—	< .005	< .005
01470857	20060720	1130	—	—	< .025	< .020	—	—
01470857	20060720	1131	< .020	< .010	—	—	< .005	< .005
01470857	20060918	1235	—	—	< .025	< .020	—	—
01470857	20060918	1236	< .020	< .010	—	—	< .005	< .005
01470858	20060306	1300	—	—	< .025	E(2) .014	—	—
01470858	20060306	1301	< .020	< .010	—	—	< .005	< .005
01470858	20060508	1100	—	—	< .025	E(2) .019	—	—
01470858	20060508	1101	< .020	< .010	—	—	.022	< .005
01470858	20060720	1030	—	—	< .025	E(1) .004	—	—
01470858	20060720	1031	< .020	< .010	—	—	.014	< .005
01470858	20060918	1120	—	—	< .025	< .020	—	—
01470858	20060918	1121	< .020	< .010	—	—	.011	< .005
01470858	20060918	1125	—	—	< .025	E(2) .010	—	—
01470858	20060918	1126	< .020	< .010	—	—	.010	< .005
015693155	20060313	1100	—	—	< .025	< .020	—	—
015693155	20060313	1101	< .020	< .010	—	—	< .005	< .005
015693155	20060510	1145	—	—	< .025	< .020	—	—
015693155	20060510	1146	< .020	< .010	—	—	< .005	< .005
015693155	20060706	1130	—	—	< .025	< .020	—	—
015693155	20060706	1135	< .020	< .010	—	—	< .005	< .005
015693155	20060919	1020	—	—	< .025	< .020	—	—
015693155	20060919	1021	< .020	< .010	—	—	< .005	< .005
015693158	20060313	1300	—	—	< .025	.033	—	—
015693158	20060313	1301	< .020	< .010	—	—	.030	< .005
015693158	20060510	1030	—	—	< .025	.117	—	—
015693158	20060510	1031	< .020	< .010	—	—	.123	< .005
015693158	20060510	1036	< .020	< .010	—	—	.114	< .005
015693158	20060706	1020	—	—	< .025	.023	—	—
015693158	20060706	1025	< .020	< .010	—	—	.052	< .005
015693158	20060706	1030	—	—	< .025	.023	—	—
015693158	20060706	1035	< .020	< .010	—	—	.058	< .005
015693158	20060919	1200	—	—	< .025	.037	—	—
015693158	20060919	1201	< .020	< .010	—	—	.080	< .005
01571193	20060405	1600	—	—	< .025	< .020	—	—
01571193	20060405	1601	< .020	< .010	—	—	< .005	.009
01571193	20060516	1210	—	—	< .025	< .020	—	—
01571193	20060516	1211	< .020	< .010	—	—	< .005	< .005
01571193	20060726	1500	—	—	< .025	< .020	—	—
01571193	20060726	1501	< .020	< .010	—	—	< .005	< .005

Station number	Date	Time	Sulfathiazole, water, fltrd (µg/L) (62778)	Tetracycline, water, fltrd (µg/L) (62781)	Thiabendazole, water, fltrd (µg/L) (62801)	Trimethoprim, water, fltrd (µg/L) NWQL (62023)	Trimethoprim, water, fltrd (µg/L) OGRL (62023)	Tylosin, water, fltrd (µg/L) (62896)
01571193	20060905	1105	—	—	< 0.025	< 0.020	—	—
01571193	20060905	1106	< 0.020	< 0.010	—	—	< 0.005	< 0.005
01571195	20060405	1800	—	—	< .025	< .020	—	—
01571195	20060405	1801	< .020	< .010	—	—	.009	.023
01571195	20060516	1050	—	—	< .025	< .020	—	—
01571195	20060516	1051	< .020	< .010	—	—	< .005	< .005
01571195	20060726	1600	—	—	< .025	< .020	—	—
01571195	20060726	1601	< .020	< .010	—	—	< .005	< .005
01571195	20060905	0950	—	—	< .025	< .020	—	—
01571195	20060905	0951	< .020	< .010	—	—	< .005	< .005
01573151	20060307	1415	—	—	< .025	< .020	—	—
01573151	20060307	1416	< .020	< .010	—	—	< .005	< .005
01573151	20060503	1040	—	—	< .025	< .020	—	—
01573151	20060503	1041	< .020	< .010	—	—	< .005	< .005
01573151	20060719	1110	—	—	< .025	< .020	—	—
01573151	20060719	1111	< .020	< .010	—	—	< .005	< .005
01573151	20060913	1100	—	—	< .025	< .020	—	—
01573151	20060913	1101	< .020	< .010	—	—	< .005	< .005
01573153	20060307	1230	—	—	< .025	.105	—	—
01573153	20060307	1231	< .020	< .010	—	—	.140	< .005
01573153	20060307	1235	—	—	< .025	.121	—	—
01573153	20060307	1236	< .020	< .010	—	—	.153	.006
01573153	20060503	0940	—	—	< .025	.106	—	—
01573153	20060503	0941	< .020	< .010	—	—	.256	< .005
01573153	20060719	1010	—	—	< .025	< .020	—	—
01573153	20060719	1011	< .020	< .010	—	—	.040	< .005
01573153	20060913	0950	—	—	< .025	< .020	—	—
01573153	20060913	0951	< .020	< .010	—	—	.033	< .005
01574310	20060301	1600	—	—	< .025	< .020	—	—
01574310	20060301	1601	< .020	< .010	—	—	< .005	.005
01574310	20060501	0940	—	—	< .025	< .020	—	—
01574310	20060501	0941	< .020	< .010	—	—	< .005	.030
01574310	20060705	1420	—	—	< .025	< .020	—	—
01574310	20060705	1425	< .020	< .010	—	—	< .005	.010
01574310	20060906	1200	—	—	< .025	< .020	—	—
01574310	20060906	1201	< .020	< .010	—	—	< .005	< .005
01574314	20060301	1500	—	—	< .025	< .020	—	—
01574314	20060301	1501	< .020	< .010	—	—	< .005	.007
01574314	20060501	1035	—	—	< .025	< .020	—	—
01574314	20060501	1036	< .020	< .010	—	—	< .005	.025
01574314	20060501	1037	—	—	< .025	< .020	—	—
01574314	20060501	1038	< .020	< .010	—	—	< .005	.018
01574314	20060705	1310	—	—	< .025	< .020	—	—
01574314	20060705	1315	< .020	< .010	—	—	< .005	.012
01574314	20060906	1300	—	—	< .025	< .020	—	—
01574314	20060906	1301	< .020	< .010	—	—	< .005	< .005

90 Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania, March Through September 2006

Station number	Date	Time	Sulfathiazole, water, fltrd (µg/L) (62778)	Tetracycline, water, fltrd (µg/L) (62781)	Thiabendazole, water, fltrd (µg/L) (62801)	Trimethoprim, water, fltrd (µg/L) NWQL (62023)	Trimethoprim, water, fltrd (µg/L) OGRL (62023)	Tylosin, water, fltrd (µg/L) (62896)
01576420	20060306	1600	—	—	< 0.025	< 0.020	—	—
01576420	20060306	1601	< 0.020	< 0.010	—	—	0.015	< 0.005
01576420	20060522	1150	—	—	< .025	< .020	—	—
01576420	20060522	1151	< .020	< .010	—	—	< .005	< .005
01576420	20060717	1150	—	—	< .025	< .020	—	—
01576420	20060717	1151	< .020	< .010	—	—	< .005	< .005
01576420	20060911	1100	—	—	< .025	< .020	—	—
01576420	20060911	1101	< .020	< .010	—	—	< .005	< .005
01576422	20060306	1730	—	—	< .025	.030	—	—
01576422	20060306	1731	< .020	< .010	—	—	.034	.005
01576422	20060522	1025	—	—	< .025	.060	—	—
01576422	20060522	1026	< .020	< .010	—	—	.106	.007
01576422	20060717	1030	—	—	< .025	E(4) .022	—	—
01576422	20060717	1031	< .020	< .010	—	—	.054	< .005
01576422	20060911	1205	—	—	< .025	< .020	—	—
01576422	20060911	1206	< .020	< .010	—	—	.069	< .005
01569346	20060405	1300	—	—	< .025	< .020	—	—
01569346	20060405	1301	< .020	< .010	—	—	< .005	< .005
01569346	20060523	1115	—	—	< .025	< .020	—	—
01569346	20060523	1116	< .020	< .010	—	—	< .005	< .005
01569346	20060726	1045	—	—	< .025	< .020	—	—
01569346	20060726	1046	< .020	< .010	—	—	< .005	< .005
01569346	20060927	0955	—	—	< .025	< .020	—	—
01569346	20060927	0956	< .020	< .010	—	—	< .005	< .005
01569349	20060405	1130	—	—	< .025	< .020	—	—
01569349	20060405	1131	< .020	< .010	—	—	< .005	.007
01569349	20060523	1000	—	—	< .025	< .020	—	—
01569349	20060523	1001	< .020	< .010	—	—	< .005	< .005
01569349	20060726	1245	—	—	< .025	< .020	—	—
01569349	20060726	1246	< .020	< .010	—	—	< .005	< .005
01569349	20060927	1100	—	—	< .025	< .020	—	—
01569349	20060927	1101	< .020	< .010	—	—	< .005	< .005
01572146	20060320	1200	—	—	< .025	< .020	—	—
01572146	20060320	1201	< .020	< .010	—	—	< .005	< .005
01572146	20060518	1145	—	—	< .025	< .020	—	—
01572146	20060518	1146	< .020	< .010	—	—	< .005	< .005
01572146	20060731	1015	—	—	< .025	< .020	—	—
01572146	20060731	1016	< .020	< .010	—	—	< .005	< .005
01572146	20060926	0945	—	—	< .025	< .020	—	—
01572146	20060926	0946	< .020	< .010	—	—	< .005	< .005
01572148	20060320	1445	—	—	< .025	< .020	—	—
01572148	20060320	1446	< .020	< .010	—	—	< .005	< .005
01572148	20060518	1030	—	—	< .025	< .020	—	—
01572148	20060518	1031	< .020	< .010	—	—	< .005	< .005
01572148	20060731	1110	—	—	< .025	< .020	—	—
01572148	20060731	1111	< .020	< .010	—	—	< .005	< .005

Station number	Date	Time	Sulfathiazole, water, fltrd (µg/L) (62778)	Tetracycline, water, fltrd (µg/L) (62781)	Thiabendazole, water, fltrd (µg/L) (62801)	Trimethoprim, water, fltrd (µg/L) NWQL (62023)	Trimethoprim, water, fltrd (µg/L) OGRL (62023)	Tylosin, water, fltrd (µg/L) (62896)
01572148	20060926	1055	—	—	< 0.025	< 0.020	—	—
01572148	20060926	1056	< 0.020	< 0.010	—	—	< 0.005	< 0.005
401704076293101	20060315	1145	—	—	< .025	< .020	—	—
401704076293101	20060315	1146	< .020	< .010	—	—	< .005	< .005
401704076293101	20060503	1345	—	—	< .025	< .020	—	—
401704076293101	20060503	1346	< .020	< .010	—	—	< .005	< .005
401704076293101	20060719	1430	—	—	< .025	< .020	—	—
401704076293101	20060719	1431	< .020	< .010	—	—	< .005	< .005
401704076293101	20060913	1400	—	—	< .025	< .020	—	—
401704076293101	20060913	1401	< .020	< .010	—	—	< .005	< .005
01573095	20060315	1030	—	—	< .025	< .020	—	—
01573095	20060315	1031	< .020	< .010	—	—	< .005	< .005
01573095	20060503	1245	—	—	< .025	< .020	—	—
01573095	20060503	1246	< .020	< .010	—	—	< .005	< .005
01573095	20060719	1330	—	—	< .025	< .020	—	—
01573095	20060719	1331	< .020	< .010	—	—	< .005	< .005
01573095	20060913	1305	—	—	< .025	< .020	—	—
01573095	20060913	1306	< .020	< .010	—	—	< .005	< .005
01574050	20060316	1030	—	—	< .025	< .020	—	—
01574050	20060316	1031	< .020	< .010	—	—	< .005	< .005
01574050	20060501	1350	—	—	< .025	< .020	—	—
01574050	20060501	1351	< .020	< .010	—	—	< .005	.017
01574050	20060705	1045	—	—	< .025	< .020	—	—
01574050	20060705	1050	< .020	< .010	—	—	< .005	< .005
01574050	20060906	1030	—	—	< .025	< .020	—	—
01574050	20060906	1031	< .020	< .010	—	—	< .005	< .005
01574055	20060316	1130	—	—	< .025	< .020	—	—
01574055	20060316	1131	< .020	< .010	—	—	< .005	< .005
01574055	20060501	1245	—	—	< .025	< .020	—	—
01574055	20060501	1246	< .020	< .010	—	—	< .005	.027
01574055	20060705	1145	—	—	< .025	< .020	—	—
01574055	20060705	1150	< .020	< .010	—	—	< .005	< .005
01574055	20060906	0925	—	—	< .025	< .020	—	—
01574055	20060906	0926	< .020	< .010	—	—	< .005	< .005
01575771	20060322	1000	—	—	< .025	< .020	—	—
01575771	20060322	1001	< .020	< .010	—	—	< .005	< .005
01575771	20060515	1055	—	—	< .025	< .020	—	—
01575771	20060515	1056	< .020	< .010	—	—	< .005	< .005
01575771	20060717	1410	—	—	< .025	< .020	—	—
01575771	20060717	1411	< .020	< .010	—	—	< .005	< .005
01575771	20060911	1450	—	—	< .025	< .020	—	—
01575771	20060911	1451	< .020	< .010	—	—	< .005	< .005
015757724	20060322	1100	—	—	< .025	< .020	—	—
015757724	20060322	1101	< .020	< .010	—	—	< .005	< .005
015757724	20060515	0915	—	—	< .025	< .020	—	—
015757724	20060515	0916	< .020	< .010	—	—	< .005	< .005

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Station number	Date	Time	Sulfathiazole, water, fltrd (µg/L) (62778)	Tetracycline, water, fltrd (µg/L) (62781)	Thiabendazole, water, fltrd (µg/L) (62801)	Trimethoprim, water, fltrd (µg/L) NWQL (62023)	Trimethoprim, water, fltrd (µg/L) OGRL (62023)	Tylosin, water, fltrd (µg/L) (62896)
015757724	20060717	1310	—	—	< 0.025	< 0.020	—	—
015757724	20060717	1311	< 0.020	< 0.010	—	—	< 0.005	< 0.005
015757724	20060911	1550	—	—	< .025	< .020	—	—
015757724	20060911	1551	< .020	< .010	—	—	< .005	< .005
01578349	20060314	1145	—	—	< .025	< .020	—	—
01578349	20060314	1146	< .020	< .010	—	—	< .005	< .005
01578349	20060511	1110	—	—	< .025	< .020	—	—
01578349	20060511	1111	< .020	< .010	—	—	< .005	< .005
01578349	20060718	1250	—	—	< .025	< .020	—	—
01578349	20060718	1251	< .020	< .010	—	—	< .005	< .005
01578349	20060912	1215	—	—	< .025	< .020	—	—
01578349	20060912	1216	< .020	< .010	—	—	< .005	< .005
015783492	20060314	1400	—	—	< .025	< .020	—	—
015783492	20060314	1401	< .020	< .010	—	—	< .005	< .005
015783492	20060511	1010	—	—	< .025	< .020	—	—
015783492	20060511	1011	< .020	< .010	—	—	< .005	< .005
015783492	20060718	1115	—	—	< .025	< .020	—	—
015783492	20060718	1116	< .020	< .010	—	—	< .005	< .005
015783492	20060912	1115	—	—	< .025	< .020	—	—
015783492	20060912	1116	< .020	< .010	—	—	< .005	< .005
394643077043101	20060309	1230	—	—	< .025	< .020	—	—
394643077043101	20060309	1231	< .020	< .010	—	—	< .005	< .005
394643077043101	20060504	1110	—	—	< .025	< .020	—	—
394643077043101	20060504	1111	< .020	< .010	—	—	< .005	< .005
394643077043101	20060504	1112	—	—	< .025	< .020	—	—
394643077043101	20060504	1113	< .020	< .010	—	—	< .005	< .005
394643077043101	20060710	1125	—	—	< .025	< .020	—	—
394643077043101	20060710	1130	< .020	< .010	—	—	< .005	< .005
394643077043101	20060925	1055	—	—	< .025	< .020	—	—
394643077043101	20060925	1056	< .020	< .010	—	—	< .005	< .005
400610076282501	20060406	1030	—	—	< .025	< .020	—	—
400610076282501	20060406	1031	< .020	< .010	—	—	< .005	.012
400610076282501	20060515	1315	—	—	< .025	< .020	—	—
400610076282501	20060515	1316	< .020	< .010	—	—	< .005	< .005
400610076282501	20060515	1317	—	—	< .025	< .020	—	—
400610076282501	20060515	1318	< .020	< .010	—	—	< .005	< .005
400610076282501	20060713	1100	—	—	< .025	< .020	—	—
400610076282501	20060713	1101	< .020	< .010	—	—	< .005	< .005
400610076282501	20060907	1100	—	—	< .025	< .020	—	—
400610076282501	20060907	1101	< .020	< .010	—	—	< .005	< .005
400610076282501	20060907	1105	—	—	< .025	< .020	—	—
400610076282501	20060907	1106	< .020	< .010	—	—	< .005	< .005
401712076235101	20060403	1415	—	—	< .025	< .020	—	—
401712076235101	20060403	1416	< .020	< .010	—	—	< .005	.017
401712076235101	20060517	1410	—	—	< .025	< .020	—	—
401712076235101	20060517	1411	< .020	< .010	—	—	< .005	< .005

Station number	Date	Time	Sulfathiazole, water, fltrd (µg/L) (62778)	Tetracycline, water, fltrd (µg/L) (62781)	Thiabendazole, water, fltrd (µg/L) (62801)	Trimethoprim, water, fltrd (µg/L) NWQL (62023)	Trimethoprim, water, fltrd (µg/L) OGRL (62023)	Tylosin, water, fltrd (µg/L) (62896)
401712076235101	20060712	1355	—	—	< 0.025	< 0.020	—	—
401712076235101	20060712	1400	< 0.020	< 0.010	—	—	< 0.005	< 0.005
401712076235101	20060920	1400	—	—	< .025	< .020	—	—
401712076235101	20060920	1401	< .020	< .010	—	—	< .005	< .005
401920078130101	20060329	1300	—	—	< .025	< .020	—	—
401920078130101	20060329	1301	< .020	< .010	—	—	< .005	< .005
401920078130101	20060509	1400	—	—	< .025	< .020	—	—
401920078130101	20060509	1401	< .020	< .010	—	—	< .005	< .005
401920078130101	20060725	1250	—	—	< .025	< .020	—	—
401920078130101	20060725	1251	< .020	< .010	—	—	< .005	< .005
401920078130101	20060914	1230	—	—	< .025	< .020	—	—
401920078130101	20060914	1231	< .020	< .010	—	—	< .005	< .005
402052076160101	20060403	1130	—	—	< .025	< .020	—	—
402052076160101	20060403	1131	< .020	< .010	—	—	< .005	< .005
402052076160101	20060517	1135	—	—	< .025	< .020	—	—
402052076160101	20060517	1136	< .020	< .010	—	—	< .005	< .005
402052076160101	20060712	1140	—	—	< .025	< .020	—	—
402052076160101	20060712	1145	< .020	< .010	—	—	< .005	< .005
402052076160101	20060920	1050	—	—	< .025	< .020	—	—
402052076160101	20060920	1051	< .020	< .010	—	—	< .005	< .005
405931076555601	20060323	1140	—	—	< .025	< .020	—	—
405931076555601	20060323	1141	< .020	< .010	—	—	< .005	< .005
405931076555601	20060502	1140	—	—	< .025	< .020	—	—
405931076555601	20060502	1141	< .020	< .010	—	—	< .005	< .005
405931076555601	20060711	1150	—	—	< .025	< .020	—	—
405931076555601	20060711	1155	< .020	< .010	—	—	< .005	< .005
405931076555601	20060711	1200	—	—	< .025	< .020	—	—
405931076555601	20060711	1205	< .020	< .010	—	—	< .005	< .005
405931076555601	20060921	1215	—	—	< .025	< .020	—	—
405931076555601	20060921	1216	< .020	< .010	—	—	< .005	< .005

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Station number	Date	Time	Virginia-mycin, water, fltrd (µg/L) (62897)	Warfarin, water, fltrd (µg/L) (62024)	Type of quality-assurance data associated with sample, code (99111)	Type of replicate, code (99105)
01470857	20060306	1130	—	< 0.019	—	—
01470857	20060306	1131	< 0.005	—	—	—
01470857	20060508	1215	—	< .019	blank	—
01470857	20060508	1216	< .005	—	blank	—
01470857	20060720	1130	—	< .019	—	—
01470857	20060720	1131	< .005	—	—	—
01470857	20060918	1235	—	< .019	—	—
01470857	20060918	1236	< .005	—	—	—
01470858	20060306	1300	—	< .019	—	—
01470858	20060306	1301	< .005	—	—	—
01470858	20060508	1100	—	< .019	—	—
01470858	20060508	1101	< .005	—	—	—
01470858	20060720	1030	—	< .019	—	—
01470858	20060720	1031	< .005	—	—	—
01470858	20060918	1120	—	< .019	replicate	sequential
01470858	20060918	1121	< .005	—	replicate	sequential
01470858	20060918	1125	—	< .019	—	sequential
01470858	20060918	1126	< .005	—	—	sequential
015693155	20060313	1100	—	< .019	—	—
015693155	20060313	1101	< .005	—	—	—
015693155	20060510	1145	—	< .019	—	—
015693155	20060510	1146	< .005	—	—	—
015693155	20060706	1130	—	< .019	—	—
015693155	20060706	1135	< .005	—	—	—
015693155	20060919	1020	—	< .019	—	—
015693155	20060919	1021	< .005	—	—	—
015693158	20060313	1300	—	< .019	—	—
015693158	20060313	1301	< .005	—	—	—
015693158	20060510	1030	—	< .019	spike	—
015693158	20060510	1031	< .005	—	replicate	split
015693158	20060510	1036	< .005	—	—	split
015693158	20060706	1020	—	< .019	replicate	sequential
015693158	20060706	1025	< .005	—	replicate	sequential
015693158	20060706	1030	—	< .019	—	sequential
015693158	20060706	1035	< .005	—	—	sequential
015693158	20060919	1200	—	< .019	blank	—
015693158	20060919	1201	< .005	—	blank	—
01571193	20060405	1600	—	< .019	—	—
01571193	20060405	1601	< .005	—	—	—
01571193	20060516	1210	—	< .019	—	—
01571193	20060516	1211	< .005	—	—	—
01571193	20060726	1500	—	< .019	—	—
01571193	20060726	1501	< .005	—	—	—

Station number	Date	Time	Virginia-mycin, water, fltrd (µg/L) (62897)	Warfarin, water, fltrd (µg/L) (62024)	Type of quality-assurance data associated with sample, code (99111)	Type of replicate, code (99105)
01571193	20060905	1105	—	< 0.019	—	—
01571193	20060905	1106	< 0.005	—	—	—
01571195	20060405	1800	—	< .019	—	—
01571195	20060405	1801	< .005	—	—	—
01571195	20060516	1050	—	< .019	—	—
01571195	20060516	1051	< .005	—	—	—
01571195	20060726	1600	—	< .019	—	—
01571195	20060726	1601	< .005	—	—	—
01571195	20060905	0950	—	< .019	—	—
01571195	20060905	0951	< .005	—	—	—
01573151	20060307	1415	—	< .019	—	—
01573151	20060307	1416	< .005	—	—	—
01573151	20060503	1040	—	< .019	—	—
01573151	20060503	1041	< .005	—	—	—
01573151	20060719	1110	—	< .019	—	—
01573151	20060719	1111	< .005	—	—	—
01573151	20060913	1100	—	< .019	—	—
01573151	20060913	1101	< .005	—	—	—
01573153	20060307	1230	—	< .019	replicate	sequential
01573153	20060307	1231	< .005	—	replicate	sequential
01573153	20060307	1235	—	< .019	—	sequential
01573153	20060307	1236	< .005	—	—	sequential
01573153	20060503	0940	—	< .019	—	—
01573153	20060503	0941	< .005	—	—	—
01573153	20060719	1010	—	< .019	—	—
01573153	20060719	1011	< .005	—	—	—
01573153	20060913	0950	—	< .019	—	—
01573153	20060913	0951	< .005	—	—	—
01574310	20060301	1600	—	< .019	—	—
01574310	20060301	1601	< .005	—	—	—
01574310	20060501	0940	—	< .019	—	—
01574310	20060501	0941	< .005	—	—	—
01574310	20060705	1420	—	< .019	—	—
01574310	20060705	1425	< .005	—	—	—
01574310	20060906	1200	—	< .019	—	—
01574310	20060906	1201	< .005	—	—	—
01574314	20060301	1500	—	< .019	—	—
01574314	20060301	1501	< .005	—	—	—
01574314	20060501	1035	—	< .019	replicate	sequential
01574314	20060501	1036	< .005	—	replicate	sequential
01574314	20060501	1037	—	< .019	—	sequential
01574314	20060501	1038	< .005	—	—	sequential
01574314	20060705	1310	—	< .019	—	—
01574314	20060705	1315	< .005	—	—	—
01574314	20060906	1300	—	< .019	—	—
01574314	20060906	1301	< .005	—	—	—

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Station number	Date	Time	Virginia-mycin, water, fltrd (µg/L) (62897)	Warfarin, water, fltrd (µg/L) (62024)	Type of quality-assurance data associated with sample, code (99111)	Type of replicate, code (99105)
01576420	20060306	1600	—	< 0.019	—	—
01576420	20060306	1601	< 0.005	—	—	—
01576420	20060522	1150	—	< .019	—	—
01576420	20060522	1151	< .005	—	—	—
01576420	20060717	1150	—	< .019	—	—
01576420	20060717	1151	< .005	—	—	—
01576420	20060911	1100	—	< .019	—	—
01576420	20060911	1101	< .005	—	—	—
01576422	20060306	1730	—	< .019	—	—
01576422	20060306	1731	< .005	—	—	—
01576422	20060522	1025	—	< .019	—	—
01576422	20060522	1026	< .005	—	—	—
01576422	20060717	1030	—	< .019	—	—
01576422	20060717	1031	< .005	—	—	—
01576422	20060911	1205	—	E(3) .030	—	—
01576422	20060911	1206	< .005	—	—	—
01569346	20060405	1300	—	< .019	—	—
01569346	20060405	1301	< .005	—	—	—
01569346	20060523	1115	—	< .019	—	—
01569346	20060523	1116	< .005	—	—	—
01569346	20060726	1045	—	< .019	—	—
01569346	20060726	1046	< .005	—	—	—
01569346	20060927	0955	—	< .019	—	—
01569346	20060927	0956	< .005	—	—	—
01569349	20060405	1130	—	< .019	—	—
01569349	20060405	1131	< .005	—	—	—
01569349	20060523	1000	—	< .019	—	—
01569349	20060523	1001	< .005	—	—	—
01569349	20060726	1245	—	< .019	—	—
01569349	20060726	1246	< .005	—	—	—
01569349	20060927	1100	—	< .019	—	—
01569349	20060927	1101	< .005	—	—	—
01572146	20060320	1200	—	< .019	—	—
01572146	20060320	1201	< .005	—	—	—
01572146	20060518	1145	—	< .019	—	—
01572146	20060518	1146	< .005	—	—	—
01572146	20060731	1015	—	< .019	blank	—
01572146	20060731	1016	< .005	—	blank	—
01572146	20060926	0945	—	< .019	—	—
01572146	20060926	0946	< .005	—	—	—
01572148	20060320	1445	—	< .019	—	—
01572148	20060320	1446	< .005	—	—	—
01572148	20060518	1030	—	< .019	—	—
01572148	20060518	1031	< .005	—	—	—
01572148	20060731	1110	—	< .019	—	—
01572148	20060731	1111	< .005	—	—	—

Station number	Date	Time	Virginia-mycin, water, fltrd (µg/L) (62897)	Warfarin, water, fltrd (µg/L) (62024)	Type of quality-assurance data associated with sample, code (99111)	Type of replicate, code (99105)
01572148	20060926	1055	—	< 0.019	—	—
01572148	20060926	1056	< 0.005	—	—	—
401704076293101	20060315	1145	—	< .019	—	—
401704076293101	20060315	1146	< .005	—	—	—
401704076293101	20060503	1345	—	< .019	—	—
401704076293101	20060503	1346	< .005	—	—	—
401704076293101	20060719	1430	—	< .019	—	—
401704076293101	20060719	1431	< .005	—	—	—
401704076293101	20060913	1400	—	< .019	—	—
401704076293101	20060913	1401	< .005	—	—	—
01573095	20060315	1030	—	< .019	—	—
01573095	20060315	1031	< .005	—	—	—
01573095	20060503	1245	—	< .019	—	—
01573095	20060503	1246	< .005	—	—	—
01573095	20060719	1330	—	< .019	—	—
01573095	20060719	1331	< .005	—	—	—
01573095	20060913	1305	—	< .019	—	—
01573095	20060913	1306	< .005	—	—	—
01574050	20060316	1030	—	< .019	—	—
01574050	20060316	1031	< .005	—	spike	—
01574050	20060501	1350	—	< .019	—	—
01574050	20060501	1351	< .005	—	—	—
01574050	20060705	1045	—	< .019	—	—
01574050	20060705	1050	< .005	—	—	—
01574050	20060906	1030	—	< .019	—	—
01574050	20060906	1031	< .005	—	—	—
01574055	20060316	1130	—	< .019	—	—
01574055	20060316	1131	< .005	—	—	—
01574055	20060501	1245	—	< .019	—	—
01574055	20060501	1246	< .005	—	spike	—
01574055	20060705	1145	—	< .019	—	—
01574055	20060705	1150	< .005	—	—	—
01574055	20060906	0925	—	< .019	—	—
01574055	20060906	0926	< .005	—	—	—
01575771	20060322	1000	—	< .019	—	—
01575771	20060322	1001	< .005	—	—	—
01575771	20060515	1055	—	< .019	—	—
01575771	20060515	1056	< .005	—	—	—
01575771	20060717	1410	—	< .019	—	—
01575771	20060717	1411	< .005	—	—	—
01575771	20060911	1450	—	< .019	—	—
01575771	20060911	1451	< .005	—	—	—
015757724	20060322	1100	—	< .019	—	—
015757724	20060322	1101	< .005	—	—	—
015757724	20060515	0915	—	< .019	—	—
015757724	20060515	0916	< .005	—	—	—

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Station number	Date	Time	Virginia-mycin, water, fltrd (µg/L) (62897)	Warfarin, water, fltrd (µg/L) (62024)	Type of quality-assurance data associated with sample, code (99111)	Type of replicate, code (99105)
015757724	20060717	1310	—	< 0.019	—	—
015757724	20060717	1311	< 0.005	—	—	—
015757724	20060911	1550	—	< .019	—	—
015757724	20060911	1551	< .005	—	—	—
01578349	20060314	1145	—	< .019	—	—
01578349	20060314	1146	< .005	—	—	—
01578349	20060511	1110	—	< .019	—	—
01578349	20060511	1111	< .005	—	—	—
01578349	20060718	1250	—	< .019	—	—
01578349	20060718	1251	< .005	—	—	—
01578349	20060912	1215	—	< .019	—	—
01578349	20060912	1216	< .005	—	—	—
015783492	20060314	1400	—	< .019	—	—
015783492	20060314	1401	< .005	—	—	—
015783492	20060511	1010	—	< .019	—	—
015783492	20060511	1011	< .005	—	—	—
015783492	20060718	1115	—	< .019	—	—
015783492	20060718	1116	< .005	—	—	—
015783492	20060912	1115	—	< .019	—	—
015783492	20060912	1116	< .005	—	—	—
394643077043101	20060309	1230	—	< .019	blank	—
394643077043101	20060309	1231	< .005	—	blank	—
394643077043101	20060504	1110	—	< .019	replicate	sequential
394643077043101	20060504	1111	< .005	—	replicate	sequential
394643077043101	20060504	1112	—	< .019	—	sequential
394643077043101	20060504	1113	< .005	—	—	sequential
394643077043101	20060710	1125	—	< .019	—	—
394643077043101	20060710	1130	< .005	—	—	—
394643077043101	20060925	1055	—	< .019	—	—
394643077043101	20060925	1056	< .005	—	—	—
400610076282501	20060406	1030	—	< .019	—	—
400610076282501	20060406	1031	< .005	—	—	—
400610076282501	20060515	1315	—	< .019	replicate	sequential
400610076282501	20060515	1316	< .005	—	replicate	sequential
400610076282501	20060515	1317	—	< .019	—	sequential
400610076282501	20060515	1318	< .005	—	—	sequential
400610076282501	20060713	1100	—	< .019	blank	—
400610076282501	20060713	1101	< .005	—	blank	—
400610076282501	20060907	1100	—	< .019	replicate	sequential
400610076282501	20060907	1101	< .005	—	replicate	sequential
400610076282501	20060907	1105	—	< .019	—	sequential
400610076282501	20060907	1106	< .005	—	—	sequential
401712076235101	20060403	1415	—	< .019	—	—
401712076235101	20060403	1416	< .005	—	—	—
401712076235101	20060517	1410	—	< .019	—	—
401712076235101	20060517	1411	< .005	—	—	—

Station number	Date	Time	Virginia-mycin, water, fltrd (µg/L) (62897)	Warfarin, water, fltrd (µg/L) (62024)	Type of quality-assurance data associated with sample, code (99111)	Type of replicate, code (99105)
401712076235101	20060712	1355	—	< 0.019	—	—
401712076235101	20060712	1400	< 0.005	—	—	—
401712076235101	20060920	1400	—	< .019	blank	—
401712076235101	20060920	1401	< .005	—	blank	—
401920078130101	20060329	1300	—	< .019	—	—
401920078130101	20060329	1301	< .005	—	—	—
401920078130101	20060509	1400	—	< .019	—	—
401920078130101	20060509	1401	< .005	—	—	—
401920078130101	20060725	1250	—	< .019	—	—
401920078130101	20060725	1251	< .005	—	—	—
401920078130101	20060914	1230	—	< .019	—	—
401920078130101	20060914	1231	< .005	—	—	—
402052076160101	20060403	1130	—	< .019	—	—
402052076160101	20060403	1131	< .005	—	—	—
402052076160101	20060517	1135	—	< .019	—	—
402052076160101	20060517	1136	< .005	—	—	—
402052076160101	20060712	1140	—	< .019	—	—
402052076160101	20060712	1145	< .005	—	—	—
402052076160101	20060920	1050	—	< .019	—	—
402052076160101	20060920	1051	< .005	—	—	—
405931076555601	20060323	1140	—	< .019	—	—
405931076555601	20060323	1141	< .005	—	—	—
405931076555601	20060502	1140	—	< .019	—	—
405931076555601	20060502	1141	< .005	—	—	—
405931076555601	20060711	1150	—	< .019	replicate	sequential
405931076555601	20060711	1155	< .005	—	replicate	sequential
405931076555601	20060711	1200	—	< .019	—	sequential
405931076555601	20060711	1205	< .005	—	—	sequential
405931076555601	20060921	1215	—	< .019	—	—
405931076555601	20060921	1216	< .005	—	—	—

Appendix 1. Records of wells sampled in Adams, Lancaster, Lebanon, Huntingdon, and Union Counties in 2006.

[gal/min, gallons per minute; Y, yes; N, no; aquifer code, abbreviation of carbonate-rock geologic unit where well is completed: 377LDGR, Ledger Formation (Lower Cambrian); 347KRTL, Keyser, Tonoloway Formations, Undifferentiated (Lower Devonian); 374BSPG, Buffalo Springs Formation (Middle Cambrian); 367EPLR, Epler Formation (Lower Ordovician); 367SNNG, Stonehenge Formation (Lower Ordovician); --, not available]

Local well number	Latitude	Longitude	Aquifer code	Depth of well (feet)	Casing length (feet)	Casing material	Grouted (Y/N)	Date well construction	Well yield at construction (gal/min)	Water level date	Static water level (unless indicated otherwise) (feet)
AD 653	39° 46' 45"	077° 04' 31"	377LDGR	150	42.5	Steel	Y	06/82	45	03/09/06	--
										05/04/06	--
										07/10/06	--
										09/25/06	--
HU 426	40° 19' 19"	078° 13' 00"	347KRTL	247	21	Steel	N	10/22/99	30	03/29/06	13.31
										05/09/06	13.48
										07/25/06	13.62
										09/14/06	14.60
LB 1248	40° 17' 12"	076° 23' 51"	374BSPG	300	102	Steel	N	11/11/03	40	04/03/06	45.31
										05/17/06	43.11
										07/12/06	30.36
										09/20/06	42.75
LB 1249	40° 20' 52"	076° 16' 01"	367EPLR	240	121	Steel	N	05/25/04	60+	Not static	
										04/03/06	59.60
										05/17/06	62.85
										07/12/06	44.50
LN 2114	40° 06' 09"	076° 28' 25"	367SNNG	175	61	Steel	N	07/16/87	100+	09/20/06	59.58
										04/06/06	48.37
										05/15/06	49.96
										07/13/06	44.57
UN 205	40° 59' 31"	076° 55' 55"	347KRTL	147	42	Steel	N	01/91	20	09/07/06	50.49
										03/23/06	38.05
										05/02/06	38.37
										07/11/06	36.06
										09/21/06	37.18