WATER-QUALITY DATA OF STORMWATER RUNOFF FROM DAVENPORT, IOWA, 1992 AND 1994

by Bryan D. Schaap and Robert F. Einhellig

U.S. GEOLOGICAL SURVEY
Open-File Report 95-759

Prepared in cooperation with the
CITY OF DAVENPORT, IOWA

Iowa City, Iowa
1996

U.S. DEPARTMENT OF THE INTERIOR
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CONVERSION FACTORS, ABBREVIATIONS, AND VERTICAL DATUM

Multiply	By	To obtain
inch (in.)	25.4	millimeter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
square mile (mi^2)	2.590	square kilometer
acre	4,047	square meter
gallon (gal)	3.785	liter
cubic foot (ft^3)	28.32	liter
cubic foot per second (ft^3/s)	0.02832	cubic meter per second

Temperature in degrees Fahrenheit (^0F) can be converted to degrees Celsius (^0C) as follows:

$$^0C = (^0F-32)/1.8.$$

Abbreviated water quality units used in this report: Chemical concentrations are given in metric units. Chemical concentration is given in milligrams per liter (mg/L) or micrograms per liter (*ug*/L). Milligrams per liter and micrograms per liter are units expressing the concentration of chemical constituents in solution as weight (milligrams or micrograms) of solute per unit volume (liter) of water. For concentrations less than 7,000 mg/L, the numerical value is the same as for concentrations in parts per million. The numerical value of micrograms per liter is the same as for concentrations in parts per billion.

Sea level: In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD OF 1929)-a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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Abstract

The Water Quality Act of 1987 required the U.S. Environmental Protection Agency to regulate stormwater discharges under the National Pollutant Discharge Elimination System program, and guidelines for obtaining permits under this program were established for areas served by municipal separate storm sewer systems with populations greater than 100,000 (U.S. Environmental Protection Agency, 1992a, 1992b). The City of Davenport, Iowa, and the U.S. Geological Survey cooperatively conducted a study designed to meet technical conditions of the permit application and to develop criteria for ongoing monitoring during the term of the permit.

During 1992 and 1994, stormwater runoff in Davenport, Iowa, was sampled from the following land use types: agricultural and vacant, residential, commercial, parks and wooded areas, and industrial. Grab samples collected within the first hour of the runoff event were analyzed for many constituents including volatile organic compounds. Flow-weighted composite samples, composed from discrete samples collected at 15-minute intervals during the first three hours of the event or until discharge returned to pre-event levels, also were analyzed for many constituents including major ions, nitrogen, phosphorus, metals, total organic carbon, acid/base-neutral organics, organochlorine pesticides, and polycyclic aromatic hydrocarbons.

INTRODUCTION

The Water Quality Act of 1987 required the U.S. Environmental Protection Agency (USEPA) to regulate stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) program, and guidelines for obtaining NPDES permits were established for areas served by municipal separate storm sewer systems with populations greater than 100,000 (U.S. Environmental Protection Agency, 1992a, 1992b). The City of Davenport, Iowa, and the U.S. Geological Survey (USGS) cooperatively conducted a study designed to meet technical conditions of the permit application and to develop criteria for ongoing monitoring during the term of the permit. Stormwater runoff samples were collected from drainage areas with specified types of land use: agricultural and vacant, residential, commercial, parks and wooded, and industrial.

PURPOSE AND SCOPE

The purpose of this report is to document the sample-collection methods and to present the storm characteristics and analytical results for stormwater runoff samples collected in 1992 and 1994. Schaap and Lucey (1994) described some aspects of this study in greater detail and also explained how annual loads of selected nutrients were estimated for the area drained by the Davenport storm-sewer network.

The scope of this report includes water-quality properties and concentrations of major ions, nitrogen, phosphorus, metals, total organic carbon, acid/base-neutral organics, organochlorine pesticides, polycyclic aromatic hydrocarbons, and volatile organic compounds from stormwater runoff collected at 6 different locations and quality-assurance samples. Storms were sampled twenty-seven times with two sets of samples submitted for three of the events. During the study, nine sets of blanks were also submitted.

DESCRIPTION OF STUDY AREA

Davenport is in southeastern Iowa. It is the largest of the Quad Cities, which also include Bettendorf, Iowa, and Moline and Rock Island, Illinois. Davenport is the most populous city along the Mississippi River between St. Paul, Minnesota, and St. Louis, Missouri. Davenport and other areas of interest mentioned in the report are shown in figure 1. In 1980, Davenport had a population of 103,264 (U.S. Bureau of the Census, 1981). The population decreased to 95,754 in 1990 (U.S. Bureau of the Census, 1991), but it is expected to increase to 100,000 by 1997 (Bi-State Metropolitan Planning Commission, written commun., 1993).

Davenport has a temperate continental climate (Rudloff, 1981). January is usually the coldest month, and July is usually the warmest month. Air movement is usually from the northwest from November to April and from the south for the remainder of the year (Soenksen and Eash, 1991).

Precipitation data collected by the National Oceanic and Atmospheric Administration (1969-1988) at the Moline, Illinois, airport was used to determine that during the 20-year period, 1969-88, the mean annual precipitation was 39.10 in. and the months of July, May, August, and June received large mean monthly precipitations of 4.65, 4.50, 4.37, and 4.34 in., respectively.

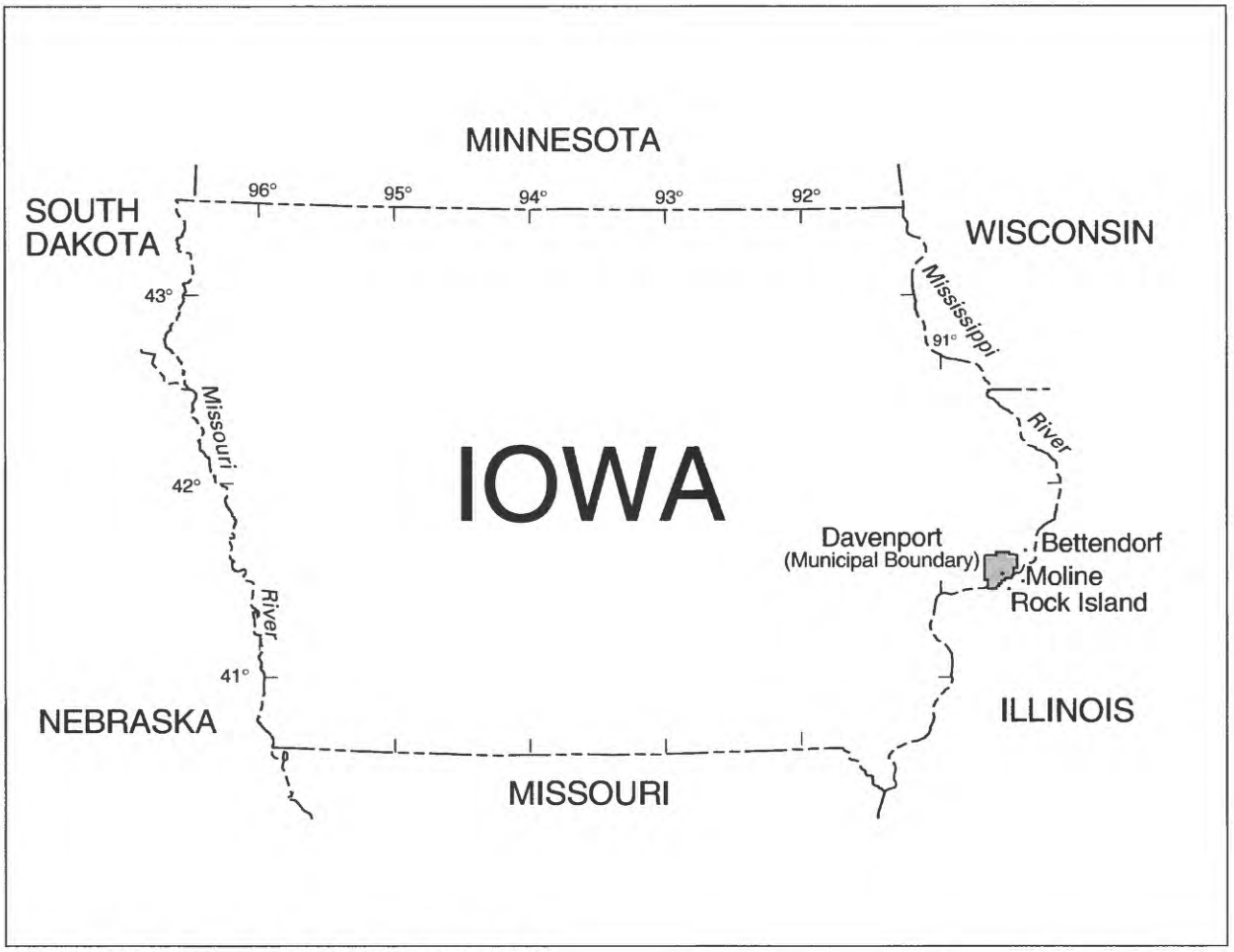
Land use within the City of Davenport is summarized in table 1, at the back of this report.The municipal boundary of Davenport encloses 63.75 mi^2. The predominant land use is agricultural and vacant. The municipal boundary extends to mid-channel of the Mississippi River, so the Mississippi River accounts for 2.00 mi^2 (3.2 percent) of Davenport. Nearly two-thirds (64.2 percent) of the municipal area is undeveloped. This includes agricultural land, vacant areas, parks, wooded areas, and the Mississippi River.The storm-sewer network of the City of Davenport drains 17.89 mi^2 (table 1). Land use within this area is primarily residential (67.2 percent).

METHODS OF INVESTIGATION

Stormwater runoff samples were collected from six different sites, each representative of a specific land use. Regulatory requirements for the municipal NPDES permit (U.S. Environmental Protection Agency, 1992b) require that samples be collected from separate storm events and that sampled events at an individual site should occur at least 30 days apart. Each sampled storm should have rainfall of at least 0.1 in and there cannot have been a storm event of greater than 0.1 in for at least 72 hours prior to the sampled event.

Site Selection and Land Characteristics

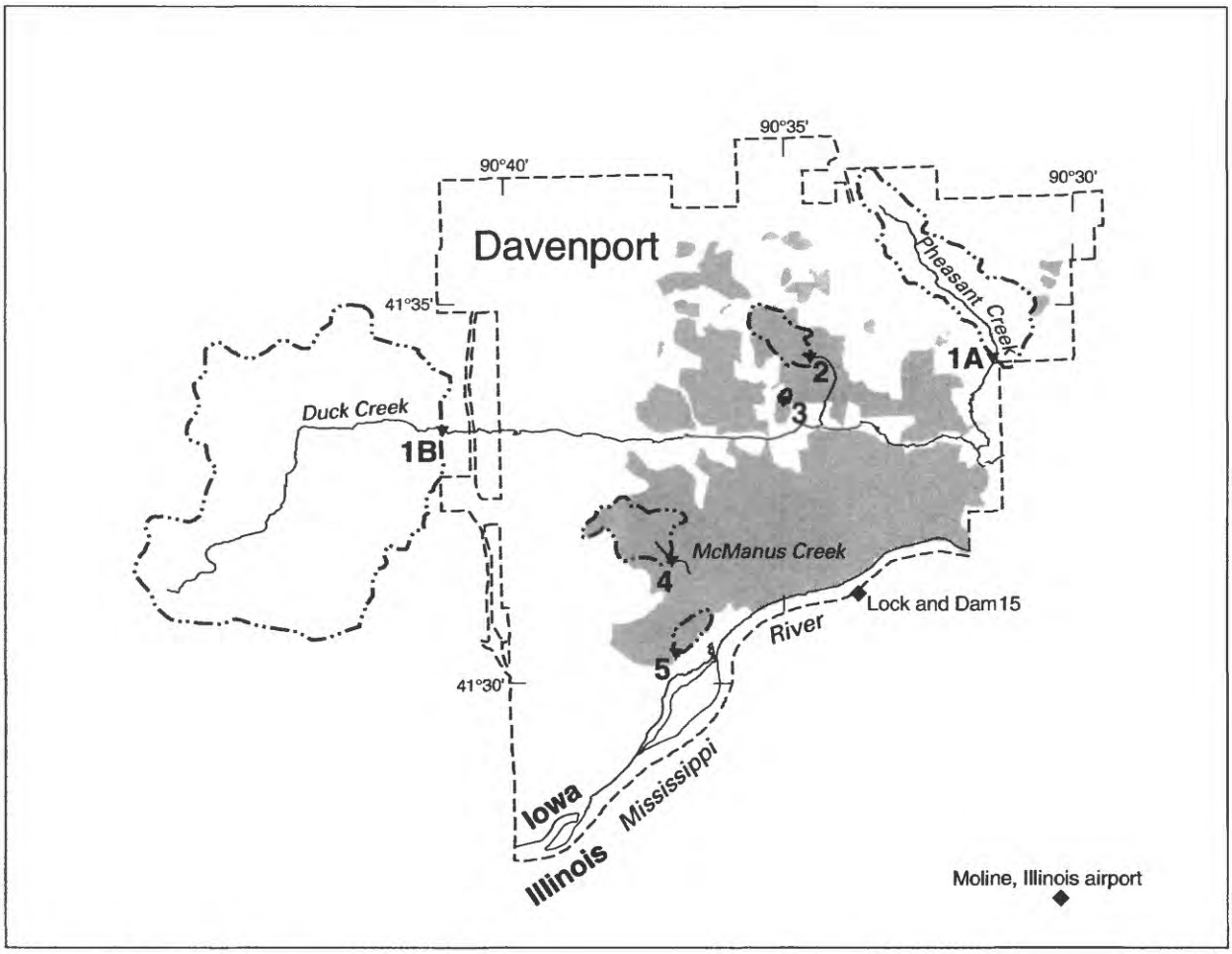
Sampling sites were selected to characterize the quality of stormwater runoff from one of five major land-use categories: agricultural and vacant, residential, commercial, parks and wooded, and industrial. The open-channel sites and their drainage basins are shown in figure 2. Throughout the rest of the report, site names will be used to refer to specific sampling sites. Table 2, at the



Base from U.S. Geological Survey digital data, 1:2,000,000, 1972
Universal Transverse Mercator projection,
Zone 15

0 40 80 MILES
0 40 80 KILOMETERS

Figure 1. Location of study area.



Base from U.S. Geological Survey
Davenport East 1:24000, 1953, interim revisions as of 1970 & 1975
Davenport West 1:24000, 1953, interim revisions as of 1970 & 1975
Andalusia 1:24000, 1953, interim revisions as of 1970 & 1975
Milan 1:24000, 1953, interim revisions as of 1970 & 1975
Silvis 1:24000, 1953, interim revisions as of 1970 & 1975
Walcott 1:24000, 1953, interim revision as of 1970
Universal Transverse Mercator projection,
Zone 15

EXPLANATION

- Area drained by storm-sewer network
- Drainage basin boundary
- Municipal boundary
- 1A ▼ Sampling site and name
- ◆ National Oceanic and Atmospheric Administration precipitation station

Figure 2. Area drained by storm-sewer network and the stormwater runoff sampling sites with their drainage basins.

back of this report, lists the USGS station number, the associated land use, the drainage area, and the sampled years for each sampling site. Sites were selected on the basis of uniformity of land use in the drainage basin, hydraulic factors allowing an adequate stage-discharge rating to be established, maximization of catchment size while maintaining reasonable uniformity of land use, accessibility, and the safety of those collecting the samples.

Runoff sampled at sites 1A and 1B is assumed to be representative of runoff from agricultural and vacant land within the city limits. Site 1A is located at Pheasant Creek in the northeastern part of Davenport. Site 1B is located at Duck Creek, about 0.5 mi west of Davenport. The larger drainage areas for agricultural and vacant land tends to minimize effects caused by runoff from individual agricultural practices or crop types and provides a runoff sample containing constituents from a variety of agricultural activities. The streams at sites 1A and 1B had flow throughout the sampling period, but care was taken to sample storm runoff, not base flow, and still comply with the sampling guidelines. Stormwater runoff samples were not collected until distinct changes in the color, pH, temperature, and specific conductance of the discharge had been observed.

Site 2 samples are considered representative of runoff from residential land. The drainage basin, which is located in north-central Davenport, is composed mostly of low- and moderate-density residential areas. At site 2 there was little or no flow in the channel except during or immediately following rainfall.

Site 3 runoff drains from a commercial area in central Davenport. The commercial land is mostly parking areas associated with small retail and service establishments. At site 3, unless it was raining or it had just finished raining, there was no flow in the channel. During periods of no flow, there was no water in the channel except for a small amount that might remain for a few days in pools just downstream from the outfalls.

Site 4 runoff samples are considered to be characteristic of runoff from parks and wooded areas. The site is located at McManus Creek in southwest Davenport. In addition to parks and wooded areas, the drainage basin includes sparsely-populated residential land mostly used for single-family homes with large wooded lots, agricultural and vacant land, and the Mississippi Valley Fair Grounds. At site 4, discharge not associated with storms was minimal, and samples were collected only after changes in color, stage, pH, temperature, and specific conductance indicated that stormwater runoff had diluted and displaced the water in the pool just downstream from the outfall.

Site 5 is located in southwest Davenport on an open channel upstream from two 48-in. diameter culverts. Intensive industrial activity has occurred in southwest Davenport along the Mississippi River for several decades. Present and previous industrial activities include battery manufacturing, locomotive works, foundries, scrapyards, and a railroad shipping terminal. Samples are considered representative of runoff from industrial land use in Davenport. At site 5, all discharge was associated with storms, but during the usual condition of no flow there was water pooled in the channel. Samples were not collected until storm-runoff discharge had greatly mixed with or displaced the pooled water as indicated by changes in color, pH, and specific conductance.

Data Collection

At each of the sampling sites, data loggers recorded water-level and rainfall information. Water levels were measured in a stilling well connected to the channel. Manual discharge measurements made periodically during and between storm events were used to develop a stage-discharge relation for each site. This information allowed flow to be determined for specified stream stages.

Rainfall was measured in 0.01-in increments by a tipping-bucket rain gage. At sampling sites 1A, 1B, 3, and 5, rain gages were mounted on the tops of the instrument shelters. At sites 2 and 4, they were installed on towers to prevent interference from nearby trees. The rainfall information is used to document the sampled storm characteristics and the preceding 72-hour dry period.

All equipment used for sample collection and processing was washed in succession with tapwater and phosphate-free detergent, tapwater, deionized water, and methanol. Items were air dried and covered with aluminum foil until they were needed. Flow in the channel was considered to be well-mixed, and cross sections were only a few feet wide, so samples were collected by lowering the appropriate bottle into the centroid of flow near the middle of the channel.

Grab samples were collected within the first hour of the runoff event. Before the grab samples were collected, a field test was made for residual chlorine in the stormwater runoff. Residual chlorine was only detected once, at site 4 on October 8, 1992, at an approximate concentration of 0.1 mg/L. When this occurred, the volatile organic compounds (VOC) samples were collected as usual, but sodium thiosulfate was added to some of these samples and additional VOC samples were collected which did not receive any preservatives.

Discrete samples for flow-weighted compositing were collected at about 15-minute intervals either manually or by automatic sampler. If runoff from the storm continued for more than 3 hours, samples were collected only during the initial 3 hours of runoff; otherwise, runoff from the entire storm was sampled. Most discrete samples were collected manually by lowering 4-liter bottles into the stormwater runoff.

The automatic samplers were installed at two of the sampling sites. After runoff samples were collected at these two sites, the samplers were moved to two sites where samples had not been collected during the previous 30 days. Polytetrafluoroethylene tubing, through which water was pumped from the channel to the sampler, remained at each site. Each time a sampler was moved, the internal tubing was washed in succession with tapwater and phosphate-free detergent, tapwater, deionized water, and methanol. The automatic sampler then was connected to the next site-dedicated tubing, and water from the channel was pumped through the tubing and the sampler. The automatic sampler was programmed to begin collecting three 2.8-liter samples at 15-minute intervals when water levels in the channel increased to a programmed height. When the specified height was reached, the sampler performed one rinse cycle with stormwater runoff before collecting samples. The intakes for the automatic samplers were installed in the middle of the channels. By collecting the first three 15-minute discrete samples when activated, the automatic sampler allowed sampling crews approximately 1 hour from the beginning of runoff to arrive at the site and begin manual sampling to collect the remaining discrete samples.

The discrete samples collected at 15-minute intervals from runoff were used to produce a flow-weighted composite sample. Using the stage-discharge relation at each site, the ratio of flow at the time each discrete sample was collected to the sum of the flows at the times each sample was collected was determined. Next, the appropriate volume of each discrete sample was calculated to prepare a composited sample volume of 12 L. The calculated volume from each discrete sample was poured into a graduated cylinder and transferred to a glass bottle while being stirred on a magnetic stir plate in a laboratory. A polytetrafluoroethylene-covered stir bar continuously mixed the composited sample, from the beginning of the compositing process until the final subsample had been withdrawn. Subsamples were withdrawn with a peristaltic pump, placed in appropriate sample bottles,

preserved with the appropriate preservative, and submitted for analysis.

Sample Analysis

Most samples collected for this study were analyzed by the USGS National Water Quality Laboratory (NWQL) in Arvada, Colorado, using the methods (Wershaw and others, 1987; Fishman and Friedman, 1989) prescribed by the USEPA (Code of Federal Regulations, 1990). The pH and temperature of the grab samples were determined at the sampling sites. Colony densities of fecal coliform and fecal streptococci in the grab samples were determined at USGS Iowa City facilities using membrane-filter methods described in Britton and Greeson (1989). An investigation of the methods used to determine total nitrite and nitrate nitrogen and total ammonia nitrogen concentrations showed that the methods determined only dissolved concentrations (U.S. Geological Survey, Office of Water Quality, Technical Memorandum 93.04, December 2, 1992). This occurred because the nitrogen on the particulates in the unfiltered samples was not detected; the methods did not include a digestion procedure to remove the nitrogen species from the particulates because this would alter the nitrogen species (C.J. Patton, NWQL, oral commun., 1993). Because nitrite, nitrate, and ammonia ions are extremely soluble and very little nitrogen is removed by filtering (C.J. Patton, NWQL, oral commun., 1993), the reported total concentration would be very close to the actual total concentration. Throughout this report, the concentrations for the stormwater runoff samples are considered to be for total nitrite and nitrate nitrogen and total ammonia nitrogen.

Five-digit Water Data Storage and Retrieval System (WATSTORE) parameter codes, which are used to store and retrieve values in and from the USGS computerized data base, are supplied for each constituent. The parameter codes conform to those used by the USEPA's data base, STORET, for storage and retrieval of constituent data for United States waterways.

Quality Assurance

Field and laboratory quality-assurance samples are important to assess the validity of analytical results. Duplicate and replicate samples were submitted to investigate the precision of the analytical results and to check sample handling in the field and the laboratory. Trip blanks, field blanks, sampler blanks, and composited blanks were submitted to determine possible sources of contamination during transportation, collection, or processing.

Precision is the measure of the variability of individual sample measurements. NWQL precision was tested by submitting duplicate sets of grab samples and replicate sets of the composited samples. On August 25 and on October 31, 1992, two sets of grab samples were collected concurrently at sites 1A and 2, respectively. These duplicate samples would be expected to have the same concentrations within the limits of the analytical methods.

Replicate composited samples were submitted for samples collected on August 25, 1992, at site 1A; on October 31, 1992, at site 2; and on August 18, 1994 at site 5. These replicate samples were produced by preparing two separate sets of subsamples from the same composited sample. For example, the discrete samples collected at site 1A on August 25, 1992, were used to produce 20 liters of composited sample. From this 20 liters, two complete sets of subsamples, the field samples and the field-sample replicates, were submitted to NWQL. This procedure was repeated for the October 31, 1992, and the August 18, 1994, samples. Again, the differences between concentrations are expected to be within the limits of the analytical methods.

In 1992, three sets of VOC trip blanks were submitted for analysis. The trip blanks were prepared by the USGS Quality Water Service

Unit in Ocala, Florida, by filling clean bottles with certified organic-free water and capping the bottles. After this, the trip blanks accompanied the sample VOC bottles throughout field activities. The trip blanks were sent from Ocala to the USGS Iowa City office with the empty VOC bottles, were stored with the empty VOC bottles, accompanied the empty bottles to the sampling sites, and were sent to NWQL with the filled sample bottles. This way, the trip blanks were exposed to the same conditions as the samples and any possible sources of VOC other than the stormwater runoff might be identified.

To determine if sample collection and shipping procedures could be producing detectable contamination in the grab samples, one set of field blank samples were prepared in 1994 in the Iowa District by filling bottles with water with less than detectable concentrations of the substances being analyzed for, adding preservatives, and sending the samples to NWQL, as usual.

In 1992, a set of field blanks from each of the automatic samplers and two sets of composite sample blanks were submitted to investigate possible sample contamination from cleaning techniques and compositing procedures. The automatic sampler field blanks were produced by pumping water with less than detectable concentrations of the constituents of interest through the samplers and filling sample bottles. This was done at the sampling sites, using the same procedures and cleaned equipment used to retrieve stormwater runoff samples. The composited blanks were produced by processing, as described earlier in the report, the clean water as though it were stormwater runoff. Clean compositing equipment, which includes the discrete sample bottles, the graduated cylinders, and the peristaltic pumps, was used to prepare the 1992 and 1994 composited blanks.

DESCRIPTION OF SAMPLED STORMS AND PRECIPITATION

Information about the storms sampled during 1992 and 1994, is listed in tables 3 and 4, respectively, at the back of this report. The tables include the date and duration of the storm sampled, an estimate of the amount of rainfall that generated the sampled discharge, peak rainfall intensity from the beginning of the storm until the last sample was collected, and the elapsed time between the storm sampled and the end of the previous storm. During 1992, rainfall from the beginning of the sampled storms to the time the last discrete samples were collected ranged from 0.09 to 0.48 in. During 1994, rainfall from the beginning of the sampled storm to the time the last discrete samples were collected ranged from 0.12 to 1.58 in. For comparison, total rainfall from the beginning of the sampled storms to the end of the sampled storms ranged from 0.09 to 2.10 in. during 1992 and from 0.44 to 1.59 in. during 1994.

Most samples were collected manually, but the automatic samplers collected samples during 1992. On July 11, July 22, August 25, and October 8, 1992, the initial three discrete samples at sites 1A, 4, 2, and 3, respectively, were collected by automatic sampler.

The 15.4-acre drainage basin for site 3 is predominately a parking area, so the 0.09-in. rain on August 10, 1992, produced an adequate volume of representative runoff. The 67.7 hours since the previous storm should have allowed the accumulation of materials on exposed surfaces in the drainage basin, which was the intent of the 72-hour regulatory requirement.

WATER-QUALITY DATA

Analytical results presented in this report are from NWQL except for pH and temperature values reported for the 1992 and 1994 grab samples and the bacteria values reported for the

1994 grab samples. The pH and temperature values were determined by USGS personnel as the grab samples were collected. The bacteria values were determined by USGS personnel in Iowa City after the samples had been cultured and incubated.

Table 5, at the back of this report, presents the analytical results for the 1992 grab samples. Water-quality properties, pH and temperature are listed first, and then the VOC are listed alphabetically. The analysis results of the 1994 grab samples are listed in table 6, at the back of this report. The format of table 6 is similar to that of table 5, but analytical results for cyanide, oil and grease, and total phenols are listed between temperature and acrolein, the first of the VOC. Bacteria data are presented at the end of the table after xylene, the last VOC.

In table 7, at the back of this report, analytical results of the 1992 composited samples are presented in the following order: nutrients (nitrogen and phosphorus species), trace elements (antimony, arsenic, beryllium, mercury, selenium, and thallium), total organic carbon, and the organic compound categories of acid/base-neutral organics (2-chlorophenol to 2, 4, 6-trichlorophenol), pesticides (aldrin to toxaphene), and polycyclic aromatic hydrocarbons (acenapthene to 1, 2, 4-trichlorobenzene). Table 8, at the back of this report, is similar in format to table 7, but the 1994 composited sample results include water-quality properties (specific conductance, pH, chemical oxygen demand, and alkalinity), dissolved and suspended solids, and major ions (calcium to chloride), and several more trace elements (cadmium, chromium, copper, lead, nickel, silver, and zinc).

The duplicate samples, replicate samples, trip blanks, field blanks, sampler blanks, and composited blanks are indicated by footnotes in the tables.

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Table 1. Land use within the municipal boundary and the area drained by the Davenport municipal storm-sewer network

[From the City of Davenport (Kenneth Oestreich, Community and Economic Development, written commun., 1991) and the Bi-State Metropolitan Planning Commission (1984); mi^2 , square mile]

Land use	Area within municipal boundary			Area drained by storm-sewer network		
	(mi^2)	(acres)	(percent)	(mi^2)	(acres)	(percent)
Agricultural and vacant	31.18	19,955	48.9	1.63	1,043	9.1
Residential	17.27	11,053	27.1	12.02	7,693	67.2
Parks and wooded	7.73	4,947	12.1	1.66	1,062	9.3
Commercial	3.71	2,375	5.8	2.07	1,325	11.6
Mississippi River	2.00	1,280	3.2	0	0	0
Industrial	1.86	1,190	2.9	.51	327	2.8
Total	63.75	40,800	100.0	17.89	11,450	100.0

Table 2. Land use in sampling-site drainage basins

Sampling site (fig. 2)	USGS station number	Land use category	Drainage area (square miles)	Sampled	
				1992	1994
1A	05422590	Agricultural and vacant	2.663	Yes	No
1B	05422560	Agricultural and vacant	15.79	No	Yes
2	05422586	Residential	.521	Yes	Yes
3	05422584	Commercial	.024	Yes	Yes
4	05422640	Parks and wooded	.879	Yes	Yes
5	05422650	Industrial	.217	Yes	Yes

Table 3. Characteristics of storms sampled in 1992

[RS, total rainfall from the beginning of the storm until the last sample was collected; IS, peak intensity of rainfall from the beginning of the storm until the last sample was collected; Total, total rainfall for the entire storm; Elapsed time, time between the storm sampled and the previous storm of greater than 0.10 inch; in., inch; in/5 min, inch per 5 minutes]

Sampling site (fig. 2)	Date	Date and time (24-hour) storm began	Date and time (24-hour) storm ended	Rainfall			Elapsed time (hours)
				RS (in.)	IS (in/5 min)	Total (in.)	
1A	07-11-92	07-11 at 1755	07-11 at 1820	0.34	0.14	0.34	98.4
	08-25-92	08-25 at 1940	08-26 at 1725	.40	.06	.82	164.8
	10-31-92	10-31 at 1610	11-01 at 1700	.37	.02	1.64	279.6
2	07-02-92	07-02 at 0825	07-02 at 1650	.13	.08	1.05	[1]161.6
	08-25-92	08-25 at 1935	08-26 at 1820	.48	.11	.77	313.2
	10-31-92	10-31 at 1615	11-01 at 1655	.29	.02	1.29	275.8
3	07-02-92	07-02 at 0825	07-02 at 1700	.15	.08	1.08	161.6
	08-10-92	08-10 at 1115	08-10 at 1125	.09	.05	.09	67.7
	10-08-92	10-08 at 0500	10-08 at 0845	.26	.05	.26	274.9
4	07-22-92	07-22 at 2030	07-22 at 2140	.19	.11	.19	162.4
	10-08-92	10-08 at 0850	10-08 at 0940	.20	.07	.20	[2]278.6
	11-19-92	11-19 at 0730	11-21 at 0040	.22	.01	2.10	164.3
5	07-22-92	07-22 at 2025	07-22 at 2130	.30	.19	.30	[3]162.3
	10-08-92	10-08 at 0845	10-08 at 1015	.20	.09	.20	[4]278.3
	11-19-92	11-19 at 0635	11-21 at 0115	.20	.01	2.06	161.5

[1] Elapsed time from site 3 rain gage was used because site 2 rain gage was partially obstructed.
[2] Rainfall of 0.11 in. from 0455 to 0610 on October 8, 1992, did not produce significant runoff.
[3] Elapsed time from site 4 rain gage because site 5 rain gage was not installed until July 22, 1992.
[4] Rainfall of 0.11 in. from 0455 to 0610 on October 8, 1992, did not produce significant runoff.

Table 4. Characteristics of storms sampled in 1994

[RS, total rainfall from the beginning of the storm until the last sample was collected; IS, peak intensity of rainfall from the beginning of the storm until the last sample was collected; Total, total rainfall for the entire storm; Elapsed time, time between the storm sampled and the previous storm of greater than 0.10 inch; in., inch; in/5 min, inch per 5 minutes]

Sampling site (fig. 2)	Date	Date and time (24-hour) storm began	Date and time (24-hour) storm ended	Rainfall			Elapsed time (hours)
				RS (in.)	IS (in/5 min)	Total (in.)	
1B	05-23-94	05-23 at 1745	05-23 at 2030	0.71	0.07	0.71	215
	08-18-94	08-18 at 0530	08-18 at 1115	1.58	.14	1.59	184
2	05-23-94	05-23 at 1745	05-23 at 2230	.46	.03	.48	215
	08-03-94	08-03 at 1250	08-04 at 0450	.12	.02	.66	306
3	05-14-94	05-14 at 0840	05-14 at 1850	.20	.03	.65	169
	08-03-94	08-03 at 0825	08-04 at 0455	.12	.01	.69	306
	09-22-94	09-22 at 0100	09-23 at 0200	.25	.02	.55	146
	11-04-94	11-04 at 0625	11-04 at 1045	.40	.06	.44	88
[1]4	05-14-94	05-14 at 0700	05-14 at 2000	.20	.03	.67	169
	07-13-94	07-13 at 2030	07-14 at 0530	.14	.02	1.37	133
	09-22-94	09-22 at 0045	09-23 at 0500	.28	.01	.48	146
5	08-18-94	08-18 at 0155	08-18 at 1200	1.21	.29	1.21	181

[1] Rainfall data from this station were supplemented with precipitation data from site 3 and from stations at Mississippi River Lock and Dam 15 and the Moline, Illinois airport (National Oceanic and Atmospheric Administration, 1994a, b, c).

Table 5. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1992

[Number in parentheses is the U.S. Geological Survey Water Data Storage and Retrieval System parameter code.
<, less than method minimum reporting level; --; analysis not performed]

Sampling site (fig. 2)	Date	PH water whole field (standard units) (00400)	Temperature water (deg C) (00010)	Acrolein total (ug/L) (34210)	Acrylonitrile total (ug/L) (34215)	Benzene total (ug/L) (34030)	Benzene 1,3-dichloro-water unfiltrd rec (ug/L) (34566)	Benzene 1,4-dichloro-water unfiltrd rec (ug/L) (34571)	Benzene N-butyl water unfiltrd rec (ug/L) (77342)	Benzene N-propy water unfiltrd rec (ug/L) (77224)	Benzene O-chloro-water unfiltrd rec (ug/L) (34536)
1A	07-11-92	7.7	20.0	<20	<20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	08-25-92	7.4	20.5	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	[1]08-25-92	--	--	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	10-31-92	8.2	8.0	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
2	07-02-92	7.7	23.0	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	08-25-92	--	23.0	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	10-31-92	7.2	8.0	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	[1]10-31-92	--	--	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
3	07-02-92	8.2	24.0	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	08-10-92	7.9	26.0	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	10-08-92	7.4	15.0	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	[2]10-08-92	--	--	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
4	07-22-92	--	--	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	[2]07-22-92	--	--	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	10-08-92	8.2	13.0	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	11-19-92	7.8	7.0	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	[2]11-19-92	--	--	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
5	07-22-92	7.5	21.0	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2
	10-08-92	7.5	14.0	<2000	<2000	<20	<20	<20	<20	<20	<20
	11-19-92	6.5	5.0	<20	<20	<.2	<.2	<.2	<.2	<.2	<.2

[1] Duplicate sample.
[2] Trip blank sample.

Table 5. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1992--Continued

Date	Benzene sec butyl-unfltrd rec (ug/L) (77350)	Benzene tert-butyl water unfltrd rec (ug/L) (77353)	Benzene 1, 2, 4-tri-chloro-wat unf rec (ug/L) (34551)	Bromo-benzene water, whole, total (ug/L) (81555)	Bromo-form total (ug/L) (32104)	Carbon-tetra-chlo-ride total (ug/L) (32102)	Chloro-benzene total (ug/L) (34301)	Chloro-di-bromo-methane total (ug/L) (32105)	Chloro-ethane total (ug/L) (34311)	2-chloro-ethyl-vinyl-ether total (ug/L) (34576)	Chloro-form total (ug/L) (32106)
07-11-92	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2
08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
[1]08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
07-02-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
[1]10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
07-02-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
08-10-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
[2]10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
[2]07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
[2]11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2
10-08-92	<20	<20	<20	<20	<20	<20	<20	<20	<20	<100	<20
11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2

[1] Duplicate sample.
[2] Trip blank sample.

Table 5. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1992--Continued

Date	1, 2-dibromo ethane water whole total (ug/L) (77651)	Di-bromo-methane water whole recover (ug/L) (30217)	Di-chloro-bromo-methane total (ug/L) (32101)	Di-chloro-di-fluoro-methane total (ug/L) (34668)	1, 1-di-chloro-ethane total (ug/L) (34496)	1,2-di-chloro-ehtane total (ug/L) (32103)	Cis-1,2-di-chloro-ethene water total (ug/L) (77093)	1, 1-di-chloro-ethyl-ene total (ug/L) (34501)	1, 2-di-chloro-propane total (ug/L) (34541)	1, 3-di-chloro-propane wat.wh total (ug/L) (77173)	2, 2-di chloro-pro-pane-wat, wh total (ug/L) (77170)
07-11-92	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[1]08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-02-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[1]10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-02-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-10-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-08-92	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2

[1] Duplicate sample.
[2] Trip blank sample.

Table 5. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1992--Continued

Date	1, 1-di chloro-pro-pene, wat, wh total (ug/L) (77168)	Cis 1, 3-di-chloro-propene total (ug/L) (34704)	Trans-1, 3-di-chloro-propene total (ug/L) (34699)	Ethane, 1112-tetra-chloro-wat unf rec (ug/L) (77562)	Ethane, 1, 1, 2, 2 tetra-chloro-wat unf rec (ug/L) (34516)	Ethyl-benzene total (ug/L) (34371)	Freon-113 water unfltrd rec (ug/L) (77652)	Hexa-chloro-but-adiene total (ug/L) (39702)	Iso-propyl-benzene water whole rec (ug/L) (77223)	Mesit-ylene water unfltrd rec (ug/L) (77226)	Methane bromo chloro-wat unfltrd rec (ug/L) (77297)
07-11-92	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2
08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
[1]08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
07-02-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
[1]10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
07-02-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
08-10-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
[2]10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
[2]07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
[2]11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2
10-08-92	<20	<20	<20	<20	<20	<20	<50	<20	<20	<20	<20
11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.5	<.2	<.2	<.2	<.2

[1] Duplicate sample.
[2] Trip blank sample.

Table 5. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1992--Continued

Date	Methyl-bromide total (ug/L) (34413)	Methyl-chloride total (ug/L) (34418)	Methyl-ene chloride total (ug/L) (34423)	Methyl ether tert-butyl wat unf rec (ug/L) (78032)	Napth-alene total (ug/L) (34696)	O-chloro-toluene water whole total (ug/L) (77275)	P-iso-propyl toluene water whole rec (ug/L) (77356)	Pseudo-cumene water unfiltrd rec (ug/L) (77222)	Styrene total (ug/L) (77128)	Tetra-chloro-ethyl-ene total (ug/L) (34475)	Toluene total (ug/L) (34010)
07-11-92	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
08-25-92	<.2	<.2	<.4	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	.2
[1]08-25-92	<.2	<.2	<.4	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-31-92	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-02-92	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	.7
08-25-92	<.2	<.2	.2	<1.0	<.2	<.2	<.2	.40	<.2	<.2	.2
10-31-92	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	<.2	.2	<.2	<.2
[1]10-31-92	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	<.2	.2	<.2	<.2
07-02-92	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-10-92	<.2	<.2	1.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-08-92	<.2	<.2	.3	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]10-08-92	<.2	<.2	.3	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	.2
07-22-92	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]07-22-92	<.2	<.2	.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	.2
10-08-92	<.2	<2.9	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2
11-19-92	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	.2
[2]11-19-92	<.2	<.2	.4	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	.3
07-22-92	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-08-92	<20	--	<20	<100	<20	<20	<20	<20	<20	<20	<02
11-19-92	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2

[1] Duplicate sample.
[2] Trip blank sample.

Table 5. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1992--Continued

Date	Toluene p-chlor water unfltrd rec (ug/L) (77277)	1, 2-transdi chloro-ethene total (ug/L) (34546)	1, 2, 3-tri-chloro benzene wat, wh rec (ug/L) (77613)	1, 1, 1-tri-chloro-ethane total (ug/L) (34506)	1, 1, 2-tri-chloro-ethane total (ug/L) (34511)	Tri-chloro-ethyl-ene total (ug/L) (39180)	Tri-chloro-fluoro-methane total (ug/L) (34488)	123-tri chloro-propane water whole total (ug/L) (77443)	Vinyl chlo-ride total (ug/L) (39175)	Xylene water unfltrd rec (ug/L) (81551)
07-11-92	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[1]08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-02-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-25-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[1]10-31-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-02-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-10-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-08-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-22-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
10-08-92	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
11-19-92	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2

[1] Duplicate sample.
[2] Trip blank sample.

Table 6. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1994

[Number in parentheses is the U.S. Geological Survey Water Data Storage and Retrieval System parameter code.
<, less than method minumum reporting level; --, analysis not performed]

Sampling site (fig. 2)	Date	PH water whole field (standard units) (00400)	Temperature water (deg C) (00010)	Cyanide total (mg/L) (99896)	Oil and grease, total recov. gravimetric (mg/L) (00556)	Phenols total (µg/L) (32730)	Acrolein total (µg/L) (34210)	Acrylonitrile total (µg/L) (34215)	Benzene total (µg/L) (34030)	Benzene 1, 3-dichloro-water unfiltrd rec (µg/L) (34566)	Benzene 1, 4-dichloro-water unfiltrd rec (µg/L) (34571)
1B	05-23-94	7.9	21.0	<0.01	<1	<1	<20	<20	<0.2	<0.2	<0.2
	08-18-94	8.1	20.0	<.01	<1	<1	<20	<20	<.2	<.2	<.2
2	05-23-94	7.6	19.5	<.01	<1	<1	<20	<20	<.2	<.2	<.2
	08-03-94	7.2	22.5	<.01	<1	1	<20	<20	<.2	<.2	<.2
3	05-14-94	7.2	13.5	<.01	2	3	<20	<20	<.2	<.2	<.2
	08-03-94	7.1	23.0	<.01	<1	12	<20	<20	<.2	<.2	<.2
	09-22-94	8.0	20.0	<.01	<1	1	<20	<20	<.2	<.2	<.2
	11-04-94	6.4	12.0	<.01	<1	<1	<800	<800	<.2	<.2	<.2
	[1]12-06-94	8.5	--	<.01	<1	11	<20	<20	<.2	<.2	<.2
4	05-14-94	7.4	11.0	<.01	2	3	<20	<20	<.2	<.2	<.2
	07-13-94	7.2	22.5	<.01	1	2	<20	<20	<.2	<.2	<.2
	09-22-94	6.8	18.0	<.01	<1	1	<20	<20	<.2	<.2	<.2
5	08-18-94	8.9	20.0	<.01	<1	<1	<20	<20	<.2	<.2	<.2
	[2]08-18-94	8.9	20.0	<.01	1	<1	<20	<20	<.2	<.2	<.2

[1] Field blank sample.
[2] Duplicate sample.

Table 6. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1994--Continued

Date	Benzene N-butyl water unfltrd rec (µg/L) (77342)	Benzene N-propy water unfltrd rec (µg/L) (77224)	Benzene O-chloro-water unfltrd rec (µg/L) (34536)	Benzene sec butyl-unfltrd rec (µg/L) (77350)	Benzene tert-butyl-water unfltrd rec (µg/L) (77353)	Benzene 1, 2, 4-tri-chloro-wat unf rec (µg/L) (34551)	Bromo-benzene water, whole, total (µg/L) (81555)	Bromo-form total (µg/L) (32104)	Carbon-tetra-chlo-ride total (µg/L) (32102)	Chloro-benzene total (µg/L) (34301)	Chloro-di-bromo-methane total (µg/L) (32105)
05-23-94	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
08-18-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-23-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-03-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-14-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-03-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
09-22-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
11-04-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[1]12-06-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-14-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-13-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
09-22-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-18-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]08-18-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2

[1] Field blank sample.
[2] Duplicate sample.

Table 6. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1994--Continued

Date	Chloro-ethane total (ug/L) (34311)	2-chloro-ethyl-vinyl-ether total (ug/L) (34576)	Chloro-form total (ug/L) (32106)	1, 2-dibromo ethane water whole total (ug/L) (77651)	Di-bromo-methane water whole recover (ug/L) (30217)	Di-chloro-bromo-methane total (ug/L) (32101)	Di-chloro-di-fluoro-methane total (ug/L) (34668)	1, 1-di-chloro-ethane total (ug/L) (34496)	1,2-di-chloro-ehtane total (ug/L) (32103)	Cis-1,2-di-chloro-ethene water total (ug/L) (77093)	1, 1-di-chloro-ethyl-ene total (ug/L) (34501)
05-23-94	<0.2	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
08-18-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-23-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-03-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-14-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-03-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
09-22-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
11-04-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[1]12-06-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-14-94	<.2	<1.0	1.3	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-13-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
09-22-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-18-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]08-18-94	<.2	<1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2

[1] Field blank sample.
[2] Duplicate sample.

Table 6. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1994--Continued

Date	1, 2-di-chloro-propane total (µg/L) (34541)	1, 3-di-chloro-propane wat.wh total (µg/L) (77173)	2, 2-di chloro-pro-pane-wat, wh total (µg/L) (77170)	1, 1-di chloro-pro-pene, wat, wh total (µg/L) (77168)	Cis 1, 3-di-chloro-propene total (µg/L) (34704)	Trans-1, 3-di-chloro-propene total (µg/L) (34699)	Ethane, 1112-tetra-chloro-wat unf rec (µg/L) (77562)	Ethane, 1, 1, 2, 2 tetra-chloro-wat unf rec (µg/L) (34516)	Ethyl-benzene total (µg/L) (34371)	Freon-113 water unfltrd rec (µg/L) (77652)	Hexa-chloro-but-adiene total (µg/L) (39702)
05-23-94	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
08-18-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-23-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-03-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-14-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-03-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
09-22-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
11-04-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[1]12-06-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-14-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-13-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
09-22-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-18-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]08-18-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2

[1] Field blank sample.
[2] Duplicate sample.

Table 6. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1994--Continued

Date	Iso-propyl-benzene water whole rec (ug/L) (77223)	Mesit-ylene water unfltrd rec (ug/L) (77226)	Methane bromo chloro-wat unfltrd rec (ug/L) (77297)	Methyl-bromide total (ug/L) (34413)	Methyl-chlo-ride total (ug/L) (34418)	Methyl-ene chlo-ride total (ug/L) (34423)	Methyl ether tert-butyl wat unf rec (ug/L) (78032)	Napth-alene total (ug/L) (34696)	O-chloro-toluene water whole total (ug/L) (77275)	P-iso-propyl toluene water whole rec (ug/L) (77356)	Pseudo-cumene water unfltrd rec (ug/L) (77222)
05-23-94	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
08-18-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-23-94	<.2	<.2	<.2	<.2	<.2	.2	<.2	<.2	<.2	<.2	<.2
08-03-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-14-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-03-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
09-22-94	<.2	<.2	<.2	<.2	<.2	13	<.2	<.2	<.2	<.2	<.2
11-04-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[1]12-06-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-14-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-13-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
09-22-94	<.2	<.2	<.2	<.2	<.2	<.3	<.2	<.2	<.2	<.2	<.2
08-18-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]08-18-94	<.2	<.2	<.2	<.2	<.2	<.3	<.2	<.2	<.2	<.2	<.2

[1] Field blank sample.
[2] Duplicate sample.

Table 6. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1994--Continued

Date	Styrene total (ug/L) (77128)	Tetra-chloro-ethyl-ene total (ug/L) (34475)	Toluene total (ug/L) (34010)	Toluene p-chlor water unfltrd rec (ug/L) (77277)	1, 2-transdi chloro-ethene total (ug/L) (34546)	1, 2, 3-tri-chloro benzene wat, wh rec (ug/L) (77613)	1, 1, 1-tri-chloro-ethane total (ug/L) (34506)	1, 1, 2-tri-chloro-ethane total (ug/L) (34511)	Tri-chloro-ethyl-ene total (ug/L) (39180)	Tri-chloro-fluoro-methane total (ug/L) (34488)	123-tri chloro-propane water whole total (ug/L) (77443)
05-23-94	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
08-18-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-23-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-03-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-14-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-03-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	.3	<.2	<.2
09-22-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
11-04-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[1]12-06-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
05-14-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
07-13-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
09-22-94	<.2	<.2	.5	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
08-18-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
[2]08-18-94	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2

[1] Field blank sample.
[2] Duplicate sample.

Table 6. Results of analysis of stormwater runoff grab samples and blanks from Davenport, Iowa, 1994--Continued

Date	Vinyl chloride total (µg/L) (39175)	Xylene water unfltrd rec (µg/L) (81551)	Coliform, fecal, 0.7 µm-mf (cols./ 100 mL) (31625)	Streptococci fecal, kf agar (cols. per 100 mL) (31673)
05-23-94	<0.2	<0.2	14000	20000
08-18-94	<.2	<.2	36000	100000
05-23-94	<.2	<.2	31000	25000
08-03-94	<.2	<.2	970000	3400000
05-14-94	<.2	<.2	3900	5200
08-03-94	<.2	<.2	220000	2700000
09-22-94	<.2	<.2	2300	25000
11-04-94	<.2	<.2	16000	120000
[1]12-06-94	<.2	<.2	--	--
05-14-94	<.2	<.2	3600	13000
07-13-94	<.2	<.2	46000	34000
09-22-94	<.2	<.2	55000	150000
08-18-94	<.2	<.2	13000	66000
[2]08-18-94	<.2	<.2	14000	65000

[1] Field blank sample.
[2] Duplicate sample.

Table 7. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1992

[Number in parentheses is the U.S. Geological Survey Water Data Storage and Retrieval System parameter code. --; analysis not performed; <, less than minimum reporting level]

Sampling site (fig. 2)	Date	Nitrogen, NO_2+NO_3, total (mg/L as N) (00630)	Nitrogen, ammonia + organic total (mg/L as N) (00625)	Nitrogen, total (mg/L as N) (00600)	Phosphorus dissolved (mg/L as P) (00666)	Phosphorus total (mg/L as P) (00665)	Antimony, total, recoverable (µg/L as Sb) (99897)	Arsenic total (µg/L as As) (01002)	Beryllium, total recoverable (µg/L as Be) (01012)	Mercury total recoverable (µg/L as Hg) (71900)	Selenium, total (µg/L as Se) (01147)
1A	07-11-92	4.80	2.5	7.3	--	1.00	<10.0	6	<10	0.1	<2
	[1]07-13-92	<.050	<.20	--	--	<.010	<10.0	<1	<10	.1	<2
	08-25-92	6.90	.70	7.6	0.120	.140	<10.0	7	<10	<.1	<1
	[2]08-25-92	6.90	.60	7.5	.110	.140	<10.0	9	<10	<.1	<1
	[1]09-30-92	<.050	<.20	--	.020	.010	<10.0	<1	<10	<.1	<2
	10-31-92	6.70	.60	7.3	.080	.130	<20.0	1	<10	<.1	<2
2	07-02-92	1.40	3.3	4.7	--	.380	<10.0	4	<10	<.1	<2
	08-25-92	.670	.90	1.6	.140	.220	<10.0	9	<10	<.1	<1
	10-31-92	.830	1.9	2.7	.820	.990	<20.0	3	<10	<.1	<2
	[2]10-31-92	.820	1.9	2.7	.870	.980	<20.0	3	<10	<.1	<2
3	07-02-92	1.60	2.7	4.3	--	.680	<10.0	<1	<10	<.1	<2
	[3]07-16-92	<.050	<.20	--	--	<.010	<10.0	<1	<10	.1	<2
	08-10-92	.800	1.5	2.3	--	.240	<10.0	<1	<10	<.1	<1
	10-08-92	1.30	2.4	3.7	.230	.370	<10.0	1	<10	<.1	<2
4	07-22-92	1.10	1.5	2.6	--	.590	<10.0	5	<10	.1	1
	[3]09-30-92	<.050	<.20	--	<.010	.010	<10.0	<1	<10	<.1	<2
	10-08-92	1.20	2.1	3.3	.360	.800	<10.0	4	<10	<.1	<2
	11-19-92	1.60	.80	2.4	.130	.230	<10.0	2	<10	<.1	<2
5	07-22-92	.500	2.0	2.5	--	.450	<10.0	4	<10	.2	<1
	10-08-92	.650	42	43	.040	.040	<10.0	5	<10	.1	<2
	11-19-92	1.00	5.5	6.5	.060	.520	<10.0	3	<10	.2	<2

[1] Composite blank sample.

[2] Replicate sample.

[3] Sampler blank sample.

Table 7. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1992--Continued

Date	Thallium, total (µg/L as Tl) (01059)	Carbon, organic total (mg/L as C) (00680)	2-chlorophenol total (µg/L) (34586)	2,4-dichlorophenol total (µg/L) (34601)	2,4-dimethylphenol total (µg/L) (34606)	4,6-dinitro-ortho-cresol total (µg/L) (34657)	2,4,-dinitrophenol total (µg/L) (34616)	2-nitrophenol total (µg/L) (34591)	4-nitro phenol total (µg/L) (34646)	Para-chloro-meta cresol total (µg/L) (34452)	Pentachlorophenol total (µg/L) (39032)
07-11-92	<10	26	--	--	--	--	--	--	--	--	--
[1]07-13-92	<5	.2	--	--	--	--	--	--	--	--	--
08-25-92	<10	9.8	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<30.0	<30.0	<30.0
[2]08-25-92	<5	10	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<30.0	<30.0	<30.0
[1]09-30-92	<5	2.8	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<30.0	<30.0	<30.0
10-31-92	<25	7.8	--	--	--	--	--	--	--	--	--
07-02-92	<10	37	--	--	--	--	--	--	--	--	--
08-25-92	<5	23	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<30.0	<30.0	<30.0
10-31-92	<20	64	--	--	--	--	--	--	--	--	--
[2]10-31-92	<20	68	--	--	--	--	--	--	--	--	--
07-02-92	<10	42	--	--	--	--	--	--	--	--	--
[3]07-16-92	<5	1.6	--	--	--	--	--	--	--	--	--
08-10-92	<5	30	--	--	--	--	--	--	--	--	--
10-08-92	<5	26	--	--	--	--	--	--	--	--	--
07-22-92	<5	18	--	--	--	--	--	--	--	--	--
[3]09-30-92	<5	9.1	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<30.0	<30.0	<30.0
10-08-92	<5	25	--	--	--	--	--	--	--	--	--
11-19-92	<10	13	--	--	--	--	--	--	--	--	--
07-22-92	<10	48	--	--	--	--	--	--	--	--	--
10-08-92	<5	1000	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<30.0	<30.0	<30.0
11-19-92	<10	170	<5.0	<5.0	<5.0	<30.0	<20.0	<5.0	<30.0	<30.0	<30.0

[1] Composite blank sample.

[2] Replicate sample.

[3] Sampler blank sample.

Table 7. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1992--Continued

Date	Phenol (C6H-5OH) total (ug/L) (34694)	2, 4, 6-tri-chloro-phenol total (ug/L) (34621)	Aldrin, total (ug/L) (39330)	Aroclor 1016 PCB total (ug/L) (34671)	Aroclor 1221 PCB total (ug/L) (39488)	Aroclor 1232 PCB total (ug/L) (39492)	Aroclor 1242 PCB total (ug/L) (39496)	Aroclor 1248 PCB total (ug/L) (39500)	Aroclor 1254 PCB total (ug/L) (39504)	Aroclor 1260 PCB total (ug/L) (39508)	Alpha BHC total (ug/L) (39337)
07-11-92	--	--	--	--	--	--	--	--	--	--	--
[1]07-13-92	--	--	--	--	--	--	--	--	--	--	--
08-25-92	<5.0	<20.0	<0.04	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.03
[2]08-25-92	<5.0	<20.0	<.04	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03
[1]09-30-92	<5.0	<20.0	<.04	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03
10-31-92	--	--	--	--	--	--	--	--	--	--	--
07-02-92	--	--	--	--	--	--	--	--	--	--	--
08-25-92	<5.0	<20.0	<.04	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03
10-31-92	--	--	--	--	--	--	--	--	--	--	--
[2]10-31-92	--	--	--	--	--	--	--	--	--	--	--
07-02-92	--	--	--	--	--	--	--	--	--	--	--
[3]07-16-92	--	--	--	--	--	--	--	--	--	--	--
08-10-92	--	--	--	--	--	--	--	--	--	--	--
10-08-92	--	--	--	--	---	--	--	--	--	--	--
07-22-92	--	--	--	--	--	--	--	--	--	--	--
[3]09-30-92	<5.0	<20.0	<.04	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03
10-08-92	--	--	--	--	--	--	--	--	--	--	--
11-19-92	--	--	--	--	--	--	--	--	--	--	--
07-22-92	--	--	--	--	--	--	--	--	--	--	--
10-08-92	<5.0	<20.0	<.04	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03
11-19-92	<5.0	<20.0	<.04	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03

[1] Composite blank sample.

[2] Replicate sample.

[3] Sampler blank sample.

Table 7. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1992--Continued

Date	Beta benzene hexachloride total (µg/L) (39338)	Delta benzene hexachloride total (µg/L) (34259)	Chlordane, total (µg/L) (39350)	Chlordane cis water whole total (µg/L) (39062)	Chlordane trans water whole total (µg/L) (39065)	P, P' DDD, total (µg/L) (39310)	P, P' DDE, total (µg/L) (39320)	P, P' DDT, total (µg/L) (39300)	Dieldrin total (µg/L) (39380)	Endosulfan-I water whole rec total (µg/L) (34361)	Endosulfan beta total (µg/L) (34356)
07-11-92	--	--	--	--	--	--	--	--	--	--	--
[1]07-13-92	--	--	--	--	--	--	--	--	--	--	--
08-25-92	<0.03	<0.09	<0.1	<0.1	<0.1	<0.1	<0.04	<0.1	<0.02	<0.10	<0.04
[2]08-25-92	<.03	<.09	<.1	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04
[1]09-30-92	<.03	<.09	<.1	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04
10-31-92	--	--	--	--	--	--	--	--	--	--	--
07-02-92	--	--	--	--	--	--	--	--	--	--	--
08-25-92	<.03	<.09	<.1	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04
10-31-92	--	--	--	--	--	--	--	--	--	--	--
[2]10-31-92	--	--	--	--	--	--	--	--	--	--	--
07-02-92	--	--	--	--	--	--	--	--	--	--	--
[3]07-16-92	--	--	--	--	--	--	--	--	--	--	--
08-10-92	--	--	--	--	--	--	--	--	--	--	--
10-08-92	--	--	---	--	--	--	--	--	--	--	--
07-22-92	--	--	--	--	--	--	--	--	--	--	--
[3]09-30-92	<.03	<.09	<.1	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04
10-08-92	--	--	--	--	--	--	--	--	--	--	--
11-19-92	--	--	--	--	--	--	--	--	--	--	--
07-22-92	--	--	--	--	--	--	--	--	--	--	--
10-08-92	<.03	<.09	<.1	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04
11-19-92	<.03	<.09	<.1	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04

[1] Composite blank sample.

[2] Replicate sample.

[3] Sampler blank sample.

Table 7. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1992--Continued

Date	Endo-sulfan sulfate total (ug/L) (34351)	Endrin water unfiltrd rec total (ug/L) (39390)	Endrin alde-hyde total (ug/L) (34366)	Hepta-chlor, total (ug/L) (39410)	Hepta-chlor epoxide total (ug/L) (39420)	Lindane total (ug/L) (39340)	Tox-aphene, total (ug/L) (39400)	Ace-napth-ene total (ug/L) (34205)	Ace-napth-ylene total (ug/L) (34200)	Anthra-cene total (ug/L) (34220)	Benzi-dine total (ug/L) (39120)
07-11-92	--	--	--	--	--	--	--	--	--	--	<40.0
[1]07-13-92	--	--	--	--	--	--	--	--	--	--	<40.0
08-25-92	<0.6	<0.06	<0.20	<0.03	<0.8	<0.03	<2	<5.0	<5.0	<5.0	<40.0
[2]08-25-92	<.6	<.06	<.20	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0
[1]09-30-92	<.6	<.06	<.20	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0
10-31-92	--	--	--	--	--	--	--	--	--	--	<40.0
07-02-92	--	--	--	--	--	--	--	--	--	--	<40.0
08-25-92	<.6	<.06	<.20	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0
10-31-92	--	--	--	--	--	--	--	--	--	--	<40.0
[2]10-31-92	--	--	--	--	--	--	--	--	--	--	<40.0
07-02-92	--	--	--	--	--	--	--	--	--	--	<40.0
[3]07-16-92	--	--	--	--	--	--	--	--	--	--	<40.0
08-10-92	--	--	--	--	--	--	--	--	--	--	<40.0
10-08-92	--	--	---	--	--	--	--	--	--	--	<40.0
07-22-92	--	--	--	--	--	--	--	--	--	--	<40.0
[3]09-30-92	<.6	<.06	<.20	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0
10-08-92	--	--	--	--	--	--	--	--	--	--	<40.0
11-19-92	--	--	--	--	--	--	--	--	--	--	<40.0
07-22-92	--	--	--	--	--	--	--	--	--	--	<40.0
10-08-92	<.6	<.06	<.20	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0
11-19-92	<.6	<.06	<.20	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0

[1] Composite blank sample.

[2] Replicate sample.

[3] Sampler blank sample.

Table 7. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1992--Continued

Date	Benzo A anthracene1,2-benzanthracene total (ug/L) (34526)	Benzo-A-pyrene total (ug/L) (34247)	Benzo B fluoranthene total (ug/L) (34230)	BenzoGHI perylene1,12-benzo Perylene total (ug/L) (34521)	Benzo K fluoranthene total (ug/L) (34242)	4-bromophenyl phenyl ether total (ug/L) (34636)	Bis (2-chloroethoxy) methane total (ug/L) (34278)	Bis 2-chloroethyl ether total (ug/L) (34273)	Bis (2-chloroisopropyl) ether total (ug/L) (34283)	2-chloronaphthalene total (ug/L) (34581)	4-chlorophenyl phenyl ether total (ug/L) (34641)
07-11-92	--	--	--	--	--	--	--	--	--	--	--
[1]07-13-92	--	--	--	--	--	--	--	--	--	--	--
08-25-92	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
[2]08-25-92	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
[1]09-30-92	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
10-31-92	--	--	--	--	--	--	--	--	--	--	--
07-02-92	--	--	--	--	--	--	--	--	--	--	--
08-25-92	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
10-31-92	--	--	--	--	--	--	--	--	--	--	--
[2]10-31-92	--	--	--	--	--	--	--	--	--	--	--
07-02-92	--	--	--	--	--	--	--	--	--	--	--
[3]07-16-92	--	--	--	--	--	--	--	--	--	--	--
08-10-92	--	--	--	--	--	--	--	--	--	--	--
10-08-92	--	--	--	--	--	--	--	--	--	--	--
07-22-92	--	--	--	--	--	--	--	--	--	--	--
[3]09-30-92	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
10-08-92	--	--	--	--	--	--	--	--	--	--	--
11-19-92	--	--	--	--	--	--	--	--	--	--	--
07-22-92	--	--	--	--	--	--	--	--	--	--	--
10-08-92	<10.0	<10.0	<10.0	12.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11-19-92	<10.0	<10.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

[1] Composite blank sample.

[2] Replicate sample.

[3] Sampler blank sample.

Table 7. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1992--Continued

Date	Chrysene total (ug/L) (34320)	1, 2, 5, 6 -dibenz -anthra -cene total (ug/L) (34556)	Benzene 1, 3-dichloro- water unfltrd rec (ug/L) (34566)	Benzene 1, 4-dichloro- water unfltrd rec (ug/L) (34571)	3, 3'-dichloro- benzidine total (ug/L) (34631)	Diethyl phthalate total (ug/L) (34336)	Dimethyl phthalate toal (ug/L) (34341)	Di-N-butyl phthalate total (ug/L) (39110)	2, 4-dinitro- toluene total (ug/L) (34611)	2, 6-dinitro- toluene total (ug/L) (34626)	Di-N-octyl phthalate total (ug/L) (34596)
07-11-92	--	--	--	--	<20	--	--	--	--	--	--
[1]07-13-92	--	--	--	--	<20	--	--	--	--	--	--
08-25-92	<10	<10	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10
[2]08-25-92	<10	<10	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10
[1]09-30-92	<10	<10	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10
10-31-92	--	--	--	--	<20	--	--	--	--	--	--
07-02-92	--	--	--	--	<20	--	--	--	--	--	--
08-25-92	<10	<10	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10
10-31-92	--	--	--	--	<20	--	--	--	--	--	--
[2]10-31-92	--	--	--	--	<20	--	--	--	--	--	--
07-02-92	--	--	--	--	<20	--	--	--	--	--	--
[3]07-16-92	--	--	--	--	<20	--	--	--	--	--	--
08-10-92	--	--	--	--	<20	--	--	--	--	--	--
10-08-92	--	--	--	--	<20	--	--	--	--	--	--
07-22-92	--	--	--	--	<20	--	--	--	--	--	--
[3]09-30-92	<10	<10	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10
10-08-92	--	--	--	--	<20	--	--	--	--	--	--
11-19-92	--	--	--	--	<20	--	--	--	--	--	--
07-22-92	--	--	--	--	<20	--	--	--	--	--	--
10-08-92	<10	<10	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10
11-19-92	<10	<10	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10

[1] Composite blank sample.

[2] Replicate sample.

[3] Sampler blank sample.

Table 7. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1992--Continued

Date	1, 2-di-phenyl-hydra-zine water tot.rec (ug/L) (82626)	Fluor-anthene total (ug/L) (34376)	Fluor-ene total (ug/L) (34381)	Hexa-chloro-benzene total (ug/L) (39700)	Hexa-chloro-but-adiene total (ug/L) (39702)	Hexa-chloro-cyclo-pent-adiene total (ug/L) (34386)	Hexa-chloro-ethane total (ug/L) (34396)	Indeno (1, 2, 3-CD) pyrene total (ug/L) (34403)	Iso-phorone total (ug/L) (34408)	N-butyl benzyl phthal-ate total (ug/L) (34292)	N-nitro -sodi-methy-lamine total (ug/L) (34438)
07-11-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
[1]07-13-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
08-25-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
[2]08-25-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
[1]09-30-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
10-31-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
07-02-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
08-25-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
10-31-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
[2]10-31-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
07-02-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
[3]07-16-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
08-10-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
10-08-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
07-22-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
[3]09-30-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
10-08-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
11-19-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
07-22-92	<5.0	--	--	--	--	--	--	--	--	--	<5.0
10-08-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	12.0	<5.0	<5.0	<5.0
11-19-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0

[1] Composite blank sample.

[2] Replicate sample.

[3] Sampler blank sample.

Table 7. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1992--Continued

Date	Phenanthrene total (ug/L) (34461)	N-nitrosodi-N-propylamine total (ug/L) (34428)	N-nitrosodiphenylamine total (ug/L) (34433)	Naphthalene total (ug/L) (34696)	Nitrobenzene total (ug/L) (34447)	Benzene O-chloro-water unfltrd rec (ug/L) (34536)	Bis (2-ethyl hexyl) phthalate total (ug/L) (39100)	Pyrene total (ug/L) (34469)	Benzene 1, 2, 4-trichloro-wat unf rec total (ug/L) (34551)
07-11-92	--	<5.0	<5.0	--	--	--	--	--	--
[1]07-13-92	--	<5.0	<5.0	--	--	--	--	--	--
08-25-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
[2]08-25-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
[1]09-30-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
10-31-92	--	<5.0	<5.0	--	--	--	--	--	--
07-02-92	--	<5.0	<5.0	--	--	--	--	--	--
08-25-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
10-31-92	--	<5.0	<5.0	--	--	--	--	--	--
[2]10-31-92	--	<5.0	<5.0	--	--	--	--	--	--
07-02-92	--	<5.0	<5.0	--	--	--	--	--	--
[3]07-16-92	--	<5.0	<5.0	--	--	--	--	--	--
08-10-92	--	<5.0	<5.0	--	--	--	--	--	--
10-08-92	--	<5.0	<5.0	--	--	--	--	--	--
07-22-92	--	<5.0	<5.0	--	--	--	--	--	--
[3]09-30-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
10-08-92	--	<5.0	<5.0	--	--	--	--	--	--
11-19-92	--	<5.0	<5.0	--	--	--	--	--	--
07-22-92	--	<5.0	<5.0	--	--	--	--	--	--
10-08-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11-19-92	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

[1] Composite blank sample.

[2] Replicate sample.

[3] Sampler blank sample.

Table 8. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1994

[Number in parentheses is the U.S. Geological Survey Water Data Storage and Retrieval System parameter code.
<, less than method minimum reporting level; --, analysis not performed]

Sampling site (fig. 2)	Date	Specific conductance lab (µS/cm) (90095)	pH water whole lab (standard units) (00403)	Oxygen demand, chemical (high level) (mg/L) (00340)	Alkalinity lab (mg/L as $CaCO_3$) (90410)	Solids, residue at 180 deg. C dissolved (mg/L) (70300)	Residue total at 105 deg. C, suspended (mg/L) (00530)	Calcium dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Potassium, dissolved (mg/L as K) (00935)
1B	05-23-94	631	7.5	53	255	365	194	73	29	7.6	1.8
	08-18-94	500	7.3	84	199	293	412	58	23	7.3	5.5
2	05-23-94	386	6.8	140	128	217	230	30	11	19	7.2
	08-03-94	561	7.1	470	191	331	59	47	19	27	6.9
3	05-14-94	205	7.0	76	48	122	63	18	2.6	12	1.2
	08-03-94	248	6.8	140	64	192	29	25	3.5	14	2.4
	09-22-94	104	6.8	44	34	73	19	11	.80	2.0	.60
	11-04-94	96	7.1	58	57	45	70	8.6	.54	2.9	.50
	[1]12-06-94	2	7.7	<10	1.6	<1	3	.07	<.01	<.20	<.10
4	05-14-94	618	7.1	110	193	369	117	58	21	30	3.7
	07-13-94	298	7.2	91	102	168	824	23	6.3	17	4.2
	09-22-94	358	6.9	53	112	210	39	31	8.0	21	4.8
5	08-18-94	302	7.6	89	85	156	462	27	1.4	15	1.7
	[2]08-18-94	348	7.8	84	76	158	111	27	1.4	15	1.8

[1] Composite blank sample.
[2] Replicate sample.

Table 8. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1994--Continued

Date	Sulfate dissolved (mg/L as SO_4) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Nitrogen, NO_2+NO_3, total (mg/L as N) (00630)	Nitrogen, ammonia + organic total (mg/L as N) (00625)	Nitrogen, total (mg/L as N) (00600)	Phosphorus dissolved (mg/L as P) (00666)	Phosphorus total (mg/L as P) (00665)	Antimony, total, recoverable (µg/L as Sb) (99897)	Arsenic total (µg/L as As) (01002)	Beryllium, total recoverable (µg/L as Be) (01012)	Cadmium total recoverable (µg/L as Cd) (01027)
05-23-94	42	16	7.00	1.2	8.2	0.070	.230	<10	4	<10	<1
08-18-94	35	14	2.40	2.7	5.1	.440	1.10	<10	6	<10	<1
05-23-94	13	32	1.10	5.8	6.9	.370	1.10	<10	6	<10	<1
08-03-94	16	58	.810	1.7	2.5	.230	.410	<10	3	<10	<1
05-14-94	20	17	1.20	1.6	2.8	.120	.200	<10	<1	<10	<1
08-03-94	22	19	.770	2.0	2.8	.130	.230	<10	<1	<10	<1
09-22-94	9.3	3.2	.600	.70	1.3	.080	.100	<10	<1	<10	<1
11-04-94	6.4	3.9	.520	.70	1.2	.040	.100	<20	<1	<10	<1
[1]12-06-94	<.10	<.10	--	<.20	--	<.010	<.010	<10	<1	<10	<1
05-14-94	39	55	1.70	2.1	3.8	.170	.410	<10	2	<10	<1
07-13-94	21	26	1.30	2.8	4.1	.160	1.00	<10	9	<10	<1
09-22-94	19	29	.500	.90	1.4	.240	.370	<10	<1	<10	<1
08-18-94	45	23	.740	.80	1.5	.060	.150	<10	3	<10	<1
[2]08-18-94	44	23	.730	1.1	1.8	.050	.250	<10	3	<10	<1

[1] Composite blank sample.
[2] Replicate sample.

Table 8. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1994--Continued

Date	Chromium, total recoverable (µg/L as Cr) (01034)	Copper, total recoverable (µg/L as Cu) (01042)	Lead, total recoverable (µg/L as Pb) (01051)	Mercury total recoverable (µg/L as Hg) (71900)	Nickel, total recoverable (µg/L as Ni) (01067)	Selenium, total (µg/L as Se) (01147)	Silver, total recoverable (µg/L as Ag) (01077)	Thallium, total (µg/L as Tl) (01059)	Zinc, total recoverable (µg/L as Zn) (01092)	Carbon, organic total (mg/L as C) (00680)	2-chlorophenol total (µg/L) (34586)
05-23-94	4	6	4	<0.1	6	<1	<1	<5	30	12	<5.0
08-18-94	7	18	9	<.1	12	<1	<1	<10	60	28	<5.0
05-23-94	7	14	13	<.1	9	<1	<1	<5	100	43	<5.0
08-03-94	3	7	5	<.1	5	<1	<1	<10	40	120	<5.0
05-14-94	5	10	14	<.1	4	<1	<1	<5	120	25	--
08-03-94	4	13	8	<.1	5	<1	<1	<5	130	46	<5.0
09-22-94	2	6	6	<.1	3	<1	<1	<5	90	15	<5.0
11-04-94	5	9	23	<.1	3	<1	<1	<5	130	15	<5.0
[1]12-06-94	<1	<1	<1	<.1	<1	<1	<1	<5	<10	.8	<5.0
05-14-94	3	10	6	<.1	5	<1	<1	<10	60	37	<5.0
07-13-94	18	38	46	<.1	23	<1	<1	<5	170	37	<5.0
09-22-94	4	26	5	<.1	4	<1	<1	<10	50	18	<5.0
08-18-94	7	110	98	.1	12	<1	<1	<10	170	26	<5.0
[2]08-18-94	7	110	99	.1	13	<1	<1	<10	170	25	<5.0

[1] Composite blank sample.
[2] Replicate sample.

Table 8. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1994--Continued

Date	2,4-di-chloro-phenol total (ug/L) (34601)	2,4-di-methyl-phenol total (ug/L) (34606)	4,6-dinitro -ortho-cresol total (ug/L) (34657)	2,4,-di-nitro-phenol total (ug/L) (34616)	2-nitro-phenol total (ug/L) (34591)	4-nitro phenol total (ug/L) (34646)	Para-chloro-meta cresol total (ug/L) (34452)	Penta-chloro-phenol total (ug/L) (39032)	Phenol (C6H-5OH) total (ug/L) (34694)	2, 4, 6-tri-chloro-phenol total (ug/L) (34621)	Aldrin, total (ug/L) (39330)
05-23-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<0.04
08-18-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04
05-23-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04
08-03-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04
05-14-94	--	--	--	--	--	--	--	--	--	--	<.04
08-03-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04
09-22-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04
11-04-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04
[1]12-06-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04
05-14-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04
07-13-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04
09-22-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04
08-18-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04
[2]08-18-94	<5.0	<5.0	<30	<20	<5.0	<30	<30	<30	<5.0	<20	<.04

[1] Composite blank sample.
[2] Replicate sample.

Table 8. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1994--Continued

Date	Aroclor 1016 PCB total (µg/L) (34671)	Aroclor 1221 PCB total (µg/L) (39488)	Aroclor 1232 PCB total (µg/L) (39492)	Aroclor 1242 PCB total (µg/L) (39496)	Aroclor 1248 PCB total (µg/L) (39500)	Aroclor 1254 PCB total (µg/L) (39504)	Aroclor 1260 PCB total (µg/L) (39508)	Alpha BHC total (µg/L) (39337)	Beta benzene hexa-chlor-ide total (µg/L) (39338)	Delta benzene hexa-chlor-ide total (µg/L) (34259)	Chlor-dane, total (µg/L) (39350)
05-23-94	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.03	<0.03	<0.09	<0.1
08-18-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
05-23-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
08-03-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
05-14-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
08-03-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
09-22-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
11-04-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
[1]12-06-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
05-14-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
07-13-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
09-22-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
08-18-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1
[2]08-18-94	<.1	<1.0	<.1	<.1	<.1	<.1	<.1	<.03	<.03	<.09	<.1

[1] Composite blank sample.
[2] Replicate sample.

Table 8. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1994--Continued

Date	Chlordane cis water whole total (µg/L) (39062)	Chlordane trans water whole total (µg/L) (39065)	P, P' DDD, total (µg/L) (39310)	P, P' DDE, total (µg/L) (39320)	P, P' DDT, total (µg/L) (39300)	Dieldrin total (µg/L) (39380)	Endosulfan-I water whole rec total (µg/L) (34361)	Endosulfan beta total (µg/L) (34356)	Endosulfan sulfate total (µg/L) (34351)	Endrin water unfltrd rec total (µg/L) (39390)	Endrin aldehyde total (µg/L) (34366)
05-23-94	<0.1	<0.1	<0.1	<0.04	<0.1	<0.02	<0.10	<0.04	<0.6	<0.06	<0.20
08-18-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
05-23-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
08-03-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
05-14-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
08-03-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
09-22-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
11-04-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
[1]12-06-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
05-14-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
07-13-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
09-22-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
08-18-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20
[2]08-18-94	<.1	<.1	<.1	<.04	<.1	<.02	<.10	<.04	<.6	<.06	<.20

[1] Composite blank sample.
[2] Replicate sample.

Table 8. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1994--Continued

Date	Heptachlor, total (ug/L) (39410)	Heptachlor epoxide total (ug/L) (39420)	Lindane total (ug/L) (39340)	Toxaphene, total (ug/L) (39400)	Acenaphthene total (ug/L) (34205)	Acenaphthylene total (ug/L) (34200)	Anthracene total (ug/L) (34220)	Benzidine total (ug/L) (39120)	Benzo A anthracene1,2-benzanthracene total (ug/L) (34526)	Benzo-A-pyrene total (ug/L) (34247)	Benzo B fluoranthene total (ug/L) (34230)
05-23-94	<0.03	<0.8	<0.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
08-18-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
05-23-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
08-03-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
05-14-94	<.03	<.8	<.03	<2	--	--	--	--	--	--	--
08-03-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
09-22-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
11-04-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
[1]12-06-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
05-14-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
07-13-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
09-22-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
08-18-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0
[2]08-18-94	<.03	<.8	<.03	<2	<5.0	<5.0	<5.0	<40.0	<10.0	<10.0	<10.0

[1] Composite blank sample.
[2] Replicate sample.

Table 8. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1994--Continued

Date	BenzoGH I peryl ene1,12 -benzo P erylene total (ug/L) (34521)	Benzo K fluor- an- thene total (ug/L) (34242)	4- bromo- phenyl phenyl ether total (ug/L) (34636)	Bis (2- chloro- ethoxy) methane total (ug/L) (34278)	Bis 2- chloro- ethyl ether total (ug/L) (34273)	Bis (2- chloro- iso- propyl) ether total (ug/L) (34283)	2- chloro- naph- thalene total (ug/L) (34581)	4- chloro- phenyl phenyl ether total (ug/L) (34641)	Chry- sene total (ug/L) (34320)	1, 2, 5, 6 -dibenz -anthra -cene total (ug/L) (34556)	Benzene 1, 3-di- chloro- water unfltrd rec (ug/L) (34566)
05-23-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
08-18-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
05-23-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
08-03-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
05-14-94	--	--	--	--	--	--	--	--	--	--	--
08-03-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
09-22-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
11-04-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
[1]12-06-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
05-14-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
07-13-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
09-22-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
08-18-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0
[2]08-18-94	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0

[1] Composite blank sample.
[2] Replicate sample.

Table 8. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1994--Continued

Date	Benzene 1, 4-di-chloro-water unfltrd rec (ug/L) (34571)	3, 3'-di-chloro-benzi-dine total (ug/L) (34631)	Diethyl phthal-ate total (ug/L) (34336)	Di-methyl phthal-ate toal (ug/L) (34341)	Di-N-butyl phthal-ate total (ug/L) (39110)	2, 4-di-nitro-toluene total (ug/L) (34611)	2, 6-di-nitro-toluene total (ug/L) (34626)	Di-N-octyl phthal-ate total (ug/L) (34596)	1, 2-di-phenyl-hydra-zine water tot.rec (ug/L) (82626)	Fluor-anthene total (ug/L) (34376)	Fluor-ene total (ug/L) (34381)
05-23-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
08-18-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
05-23-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
08-03-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
05-14-94	--	--	--	--	--	--	--	--	--	--	--
08-03-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
09-22-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
11-04-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
[1]12-06-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
05-14-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
07-13-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
09-22-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
08-18-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0
[2]08-18-94	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0

[1] Composite blank sample.
[2] Replicate sample.

Table 8. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1994--Continued

Date	Hexachlorobenzene total (ug/L) (39700)	Hexachlorobutadiene total (ug/L) (39702)	Hexachlorocyclopentadiene total (ug/L) (34386)	Hexachloroethane total (ug/L) (34396)	Indeno (1, 2, 3-CD) pyrene total (ug/L) (34403)	Isophorone total (ug/L) (34408)	N-butyl benzyl phthalate total (ug/L) (34292)	N-nitrosodimethylamine total (ug/L) (34438)	Phenanthrene total (ug/L) (34461)	N-nitrosodi-N-propylamine total (ug/L) (34428)	N-nitrosodiphenylamine total (ug/L) (34433)
05-23-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08-18-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
05-23-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08-03-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
05-14-94	--	--	--	--	--	--	--	--	--	--	--
08-03-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09-22-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11-04-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
[1]12-06-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
05-14-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
07-13-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09-22-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08-18-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
[2]08-18-94	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

[1] Composite blank sample.
[2] Replicate sample.

Table 8. Results of analysis of stormwater runoff composited samples and blanks from Davenport, Iowa, 1994--Continued

Date	Naphthalene total (µg/L) (34696)	Nitrobenzene total (µg/L) (34447)	Benzene O-chloro-water unfltrd rec (µg/L) (34536)	Bis (2-ethyl hexyl) phthalate total (µg/L) (39100)	Pyrene total (µg/L) (34469)	Benzene 1, 2, 4-trichloro-wat unf rec total (µg/L) (34551)
05-23-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08-18-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
05-23-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08-03-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
05-14-94	--	--	--	--	--	--
08-03-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09-22-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11-04-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
[1]12-06-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
05-14-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
07-13-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09-22-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08-18-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
[2]08-18-94	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

[1] Composite blank sample.
[2] Replicate sample.

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