VERIFICATION AND ADJUSTMENT OF REGIONAL REGRESSION MODELS FOR URBAN STORM-RUNOFF QUALITY USING DATA COLLECTED IN LITTLE ROCK, ARKANSAS

by C. Shane Barks

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CONVERSION FACTORS

Multiply	By	To obtain
inch	25.4	millimeter
foot	0.3048	meter
mile	1.609	kilometer
acre	0.4047	square kilometer
square mile	2.589	square kilometer
cubic foot	0.02832	cubic meter
pound	0.4536	kilogram

Temperature in degrees Celsius (°C) can be converted to degrees Fahrenheit (°F) using the following equation:

$$°F = 1.8 \times °C + 32$$

ABBREVIATIONS

COD	Chemical oxygen demand in storm-runoff load, in pounds, or in storm-runoff mean concentration, in milligrams per liter.
CU	Total recoverable copper in storm-runoff load, in pounds, or in storm-runoff mean concentration, in micrograms per liter.
DA	Total contributing drainage area, in square miles.
DP	Dissolved phosphorus in storm-runoff load, in pounds, or in storm-runoff mean concentration, in milligrams per liter.
IA	Impervious area, as a percent of total contributing drainage area.
INT	Maximum 24-hour precipitation intensity that has a 2-year recurrence interval, in inches.
LUC	Commercial land use, as a percent of total contributing drainage area.
LUI	Industrial land use, as a percent of total contributing drainage area.
LUN	Nonurban land use, as a percent of total contributing drainage area.
LUR	Residential land use, as a percent of total contributing drainage area.
MAP-R-P	Model adjustment procedure based upon regression with observed values against predicted values.
MAR	Mean annual rainfall, in inches.

ABBREVIATIONS (continued)

MJT	Mean minimum January temperature, in degrees Fahrenheit.
MNL	Mean annual nitrogen load in precipitation, in pounds of nitrogen per acre.
O	Observed values of storm-runoff loads or mean concentrations.
PB	Total recoverable lead in storm-runoff load, in pounds, or in storm-runoff mean concentration, in micrograms per liter.
P_u	Predicted values of storm-runoff loads or mean concentrations.
SE	Standard error of estimate.
SS	Suspended solids in storm-runoff load, in pounds, or in storm-runoff mean concentration, in milligrams per liter.
TKN	Total ammonia plus organic nitrogen as nitrogen in storm-runoff load, in pounds, or in storm-runoff mean concentration, in milligrams per liter.
TN	Total nitrogen in storm-runoff load, in pounds, or in storm-runoff mean concentration, in milligrams per liter.
TP	Total phosphorus in storm-runoff load, in pounds, or in storm-runoff mean concentration, in milligrams per liter.
TRN	Total storm rainfall, in inches.
ZN	Total recoverable zinc in storm-runoff load, in pounds, or in storm-runoff mean concentration, in micrograms per liter.

VERIFICATION AND ADJUSTMENT OF REGIONAL REGRESSION MODELS FOR URBAN STORM-RUNOFF QUALITY USING DATA COLLECTED IN LITTLE ROCK, ARKANSAS

By C. Shane Barks

ABSTRACT

Storm-runoff water-quality data were used to verify and, when appropriate, adjust regional regression models previously developed to estimate urban storm-runoff loads and mean concentrations in Little Rock, Arkansas. Data collected at 5 representative sites during 22 storms from June 1992 through January 1994 compose the Little Rock data base.

Comparison of observed values (O) of storm-runoff loads and mean concentrations to the predicted values (P_u) from the regional regression models for nine constituents (chemical oxygen demand, suspended solids, total nitrogen, total ammonia plus organic nitrogen as nitrogen, total phosphorus, dissolved phosphorus, total recoverable copper, total recoverable lead, and total recoverable zinc) shows large prediction errors ranging from 63 to several thousand percent. Prediction errors for six of the regional regression models are less than 100 percent, and can be considered reasonable for water-quality models.

Differences between O and P_u are due to variability in the Little Rock data base and error in the regional models. Where applicable, a model adjustment procedure (termed MAP-R-P) based upon regression with O against P_u was applied to improve predictive accuracy.

For 11 of the 18 regional water-quality models, O and P_u are significantly correlated, that is much of the variation in O is explained by the regional models. Five of these 11 regional models consistently overestimate O; therefore, MAP-R-P can be used to provide a better estimate. For the remaining seven regional models, O and P_u are not significantly correlated, thus neither the unadjusted regional models nor the MAP-R-P is appropriate. A simple estimator, such as the mean of the observed values may be used if the regression models are not appropriate.

Standard error of estimate of the adjusted models ranges from 48 to 130 percent. Calibration results may be biased due to the limited data set sizes in the Little Rock data base. The relatively large values of standard error of estimate for some of the constituent models may be unacceptable for some applications. The user may need to collect additional local data for these constituents and repeat the model adjustment procedure analysis or calibrate an independent local regression model.

INTRODUCTION

Storm runoff has been determined to be a major source of nonpoint-source pollution in metropolitan areas. The city of Little Rock is a growing urban center in central Arkansas with an estimated population of 176,870 in 1992 (Arkansas State Data Center, oral commun., 1994). As in any metropolitan area, municipal storm sewer systems have been installed to provide drainage for developed areas. In a widespread area supporting a large population such as Little Rock, the storm-runoff loads associated with discharges from separate storm sewers can have significant impact on water quality in receiving streams even though the storm-runoff concentrations are often low relative to many industrial and municipal wastewater discharges. Urban water-quality managers need data on storm-runoff loads for representative watersheds in their city to design remedial programs.

The final rule implementing the Water Quality Act of 1987, published by the U.S. Environmental Protection Agency, requires municipalities with a population of 100,000 or greater to:

- characterize the quality and quantity of discharge from representative storm-sewer outfalls during representative storm events; and
- estimate annual and seasonal pollutant loadings from each major storm-sewer outfall in the reporting area (U.S. Environmental Protection Agency, 1990, p. 47990-48091).

In 1992, the U.S. Geological Survey, in cooperation with the city of Little Rock, began a study to characterize the storm-runoff water quality and to investigate procedures for estimating storm-runoff loads and concentrations for selected constituents. Rainfall, discharge, and water-quality data were collected during representative storm events between June 1992 and January 1994, at five representative catchment areas in the city of Little Rock. The local data collected were used to verify and adjust regional regression models for estimating storm-runoff loads and concentrations (Driver and Tasker, 1990). A model adjustment procedure (Hoos and Sisolak, 1993) was used to adjust the selected regional models for use in the Little Rock area.

Purpose and Scope

This report presents and describes an approach for estimating urban storm-runoff quality for the Little Rock area. Verification and calibration error statistics are presented for regional regression models used to estimate storm-runoff loads and mean concentrations. Calibration coefficients are presented for three load models and two concentration models. Simple estimators (mean of observed values) are described for two load models and five concentration models that could not be verified or adjusted. Also presented is an example that demonstrates the use of an adjusted model to estimate the load of total recoverable copper in storm runoff from an unmonitored catchment. The storm-runoff quality data collected at 5 sites during 22 storms are included in the appendix.

Description of Study Area

Little Rock is located in the geographic center of Arkansas (fig. 1), and drained solely by the Arkansas River. This area is divided physiographically into the Interior Highlands in the northwestern part and the Coastal Plain in the southeastern part (Plebuch and Hines, 1967). The Interior Highlands are underlain by consolidated rocks and the Coastal Plain is underlain by a thick sequence of unconsolidated sediments.

Little Rock occupies about 105 square miles, of which 11 percent is industrial; 10 percent commercial; 35 percent residential; and 42 percent undeveloped land use. Little Rock also consists of 2 percent agricultural land use.

For the Little Rock area, the maximum 24-hour precipitation intensity that has a 2-year recurrence interval (INT) is 4.1 inches (Hershfield, 1961). The mean annual rainfall (MAR) is 49.25 inches (National Weather Service, oral commun., 1993). The mean annual nitrogen load (MNL) in precipitation is 14.2 pounds of nitrogen per acre (Arkansas Department of Pollution Control and Ecology, oral commun., 1993). The coldest weather usually occurs in January with a mean minimum January temperature (MJT) of 29.4° F (National Weather Service, oral commun., 1993).

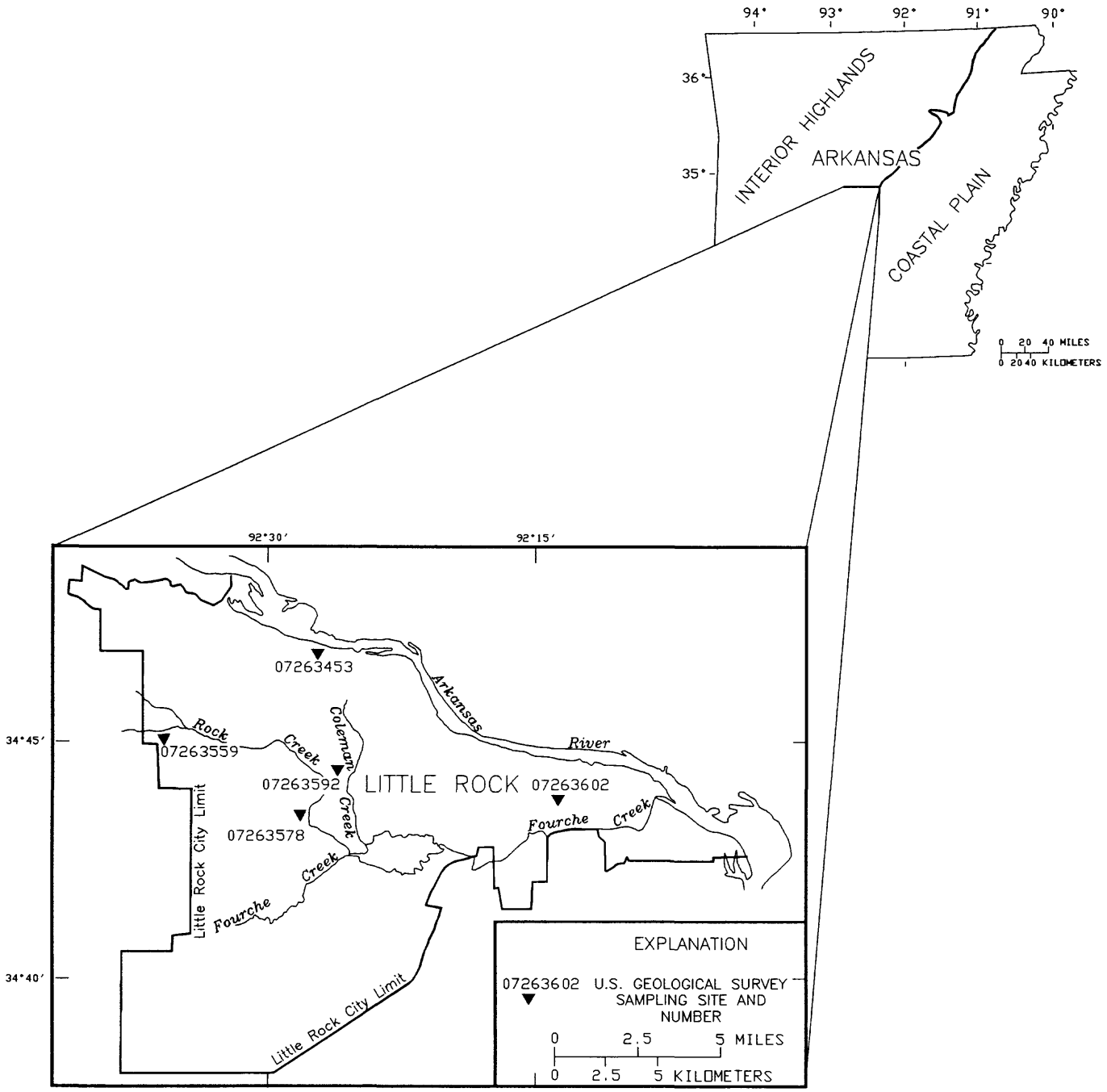

Figure 1.--Location of study area.

LITTLE ROCK DATA BASE

Samples were collected at 5 sites during 22 storms from June 1992 through January 1994. The water-quality data were compiled in a data base referred to in this report as the Little Rock data base. The station locations were selected based upon representative basin characteristics including total contributing drainage area, impervious area, industrial land use, commercial land use, residential land use, and undeveloped land use (table 1). Flow-weighted composite water-quality samples were collected during the duration of the storms or during the first 3 hours of the hydrograph if the duration of the storms exceeded 3 hours. Total storm rainfall (TRN) was calculated for each event by summing the measured rainfall amounts before and during the sampling only. Storm-runoff volume was calculated from the measured discharge that occurred during sampling.

Table 1.--*Basin characteristics for the Little Rock data base*

[DA, total contributing drainage area; IA, impervious area; LUI, industrial land use; LUC, commercial land use; LUR, residential land use; LUN, undeveloped land use]

Station number	DA (square miles)	IA (percent)	LUI (percent)	LUC (percent)	LUR (percent)	LUN (percent)
07263453	0.18	5	0	0	10	90
07263559	.08	10	0	0	80	20
07263578	.54	20	0	0	100	0
07263592	.28	60	0	100	0	0
07263602	.10	35	80	0	20	0

Storm-runoff loads were calculated for chemical oxygen demand (COD), suspended solids (SS), total nitrogen (TN), total ammonia plus organic nitrogen as nitrogen (TKN), total phosphorus (TP), dissolved phosphorus (DP), total recoverable copper (CU), total recoverable lead (PB), and total recoverable zinc (ZN). Values for the storm-runoff loads were calculated by multiplying the storm-runoff mean concentrations (see appendix) by the storm-runoff volumes and by a conversion factor.

Predicted values of storm-runoff load and mean concentration for each of the monitored storms were computed from the linear regression models for region III presented in table 2 (Driver and Tasker, 1990). Region III consists of areas within the United States that have mean annual rainfalls equal to or greater than 40 inches. If appropriate, a model adjustment procedure was used to provide a more accurate estimate (as compared to the regional models) for storm-runoff quality in Little Rock. The model adjustment procedure can be expected to provide more accurate estimates of storm-runoff quality at a wide range of monitored sites in Little Rock if the Little Rock data base used for the adjustment represents a large range of physical, land-use, and storm characteristics. The range, mean, and median are determined from all 22 observations in the data base (table 3). These values may be slightly different for data sets from which water-quality data for certain storms are missing.

Table 2.--*Summary of regression models for storm-runoff loads and mean concentrations for region III*

[$\hat{\beta}_o'$, regression coefficient that is the intercept in the regression model; TRN, total storm rainfall; DA, total contributing drainage area; IA, impervious area; LUI, industrial land use; LUC, commercial land use; LUR, residential land use; LUN, undeveloped land use; INT, maximum 24-hour precipitation intensity that has a 2-year recurrence interval; MAR, mean annual rainfall; MNL, mean annual nitrogen load in precipitation; MJT, mean minimum January temperature; BCF, bias correction factor; COD, chemical oxygen demand; LOAD, storm-runoff load, in pounds; SS, suspended solids; TN, total nitrogen; TKN, total ammonia plus organic nitrogen as nitrogen; TP, total phosphorus; DP, dissolved phosphorus; CU, total recoverable copper; PB, total recoverable lead; ZN, total recoverable zinc; CONC, storm-runoff mean concentration, in milligrams per liter (except for CU, PB, and ZN which are in micrograms per liter); dashes (--) indicate that the variable is not included in the model; equation form is:

$$Y = \hat{\beta}_o' \times X_1^{\hat{\beta}_1} \times X_2^{\hat{\beta}_2} \ldots X_n^{\hat{\beta}_n} \times BCF\ ]$$

	Regression coefficients												
Response variable	$\hat{\beta}_o'$	TRN (inches)	DA (square miles)	IA +1 (percent)	LUI +1 (percent)	LUC +1 (percent)	LUR +1 (percent)	LUN +2 (percent)	INT (inches)	MAR (inches)	MNL (pounds of nitrogen per acre)	MJT (degrees Fahrenheit)	BCF
COD.LOAD	479	0.857	0.634	--	0.321	0.217	--	-0.111	--	--	--	--	1.865
SS.LOAD	1,990	1.017	.984	--	.226	.228	--	-.286	--	--	--	--	2.477
TN.LOAD	0.361	.776	.474	0.611	--	--	--	--	--	--	0.863	--	1.709
TKN.LOAD	199,572	.875	.393	--	--	--	--	.082	--	-2.643	--	--	1.736
TP.LOAD	53.2	1.019	.846	--	---	.189	0.103	-.160	--	--	--	-0.754	2.059
DP.LOAD	.369	.955	.471	--	--	--	--	.364	--	--	--	--	2.027
CU.LOAD	4.508	.896	.609	--	.648	.253	--	-.328	-2.071	--	--	--	2.149
PB.LOAD	.081	.852	.857	.999	--	--	--	--	--	--	--	--	2.314
ZN.LOAD	4.355	.830	.555	--	.402	.287	-.191	--	--	--	--	-.500	1.942
COD.CONC	46.9	-.179	-.047	--	.320	.031	--	-.169	--	--	--	--	1.270
SS.CONC	176	.054	.286	--	.168	.072	--	-.295	--	--	--	--	1.928
TN.CONC	26,915	-.253	-.169	.057	--	--	--	--	--	-2.737	--	--	1.308
TKN.CONC	9,549	-.157	-.159	--	--	--	--	-.086	--	-2.447	--	--	1.326
TP.CONC	2.630	-.016	-.107	--	--	.053	.184	-.168	--	--	--	-.710	1.365
DP.CONC	.060	.189	-.076	--	--	--	--	.358	--	--	--	--	1.341
CU.CONC	1,774	-.104	-.077	--	.446	.078	--	-.204	-3.247	--	--	--	1.348
PB.CONC	39.8	-.196	.123	.404	--	--	--	--	--	--	--	--	1.510
ZN.CONC	1,879	-.149	-.061	--	.285	.146	-.078	--	--	--	--	-.916	1.322

Table 3.--*Ranges of values of explanatory variables in the Little Rock data base*

[TRN, total storm rainfall; DA, total contributing drainage area; IA, impervious area; LUI, industrial land use; LUC, commercial land use; LUR, residential land use; LUN, undeveloped land use]

Explanatory variable	Minimum	Maximum	Mean	Median
TRN, inches	0.25	1.25	0.74	0.72
DA, square miles	.08	.54	.24	.18
IA, percent	5	60	26	20
LUI, percent	0	80	16	0
LUC, percent	0	100	20	0
LUR, percent	0	100	42	20
LUN, percent	0	90	22	0

Ranges of values for TRN, DA, LUI, LUC, LUR, MAR, and MJT in the Little Rock data base are within the ranges of values in the Nationwide Urban Runoff Program (NURP) region III data base, which were used to develop the regional regression models (compare to Driver and Tasker, 1990, table 4). Maximum values for LUN, INT, and MNL in the Little Rock data base, however, are considerably larger than the maximum values in the NURP region III data base.

VERIFICATION AND ADJUSTMENT OF REGIONAL REGRESSION MODELS

Comparison of observed values (O) of storm-runoff load and mean concentration in the Little Rock data base to predicted values from the regional regression models (P_u) shows large prediction errors for almost all constituent models. Values for root mean square error (RMSE) range from 0.251 log units (63 percent) for TN load to over several thousand percent for CU load (table 4, column 2). The RMSE's for the COD, TN, and TP load models and the COD, TN, and TKN concentration models are smaller than 0.36 log units (100 percent), which can be considered reasonable for water-quality models.

Differences between O and P_u are caused by variability in the Little Rock data base or by error in the regional models. For most of the constituents, the RMSE is too large to be reasonably explained by variability alone. Some of the prediction error is attributed to error in the regional models due in part to differences in physiographic settings. In the NURP region III data base, 8 of the 11 cities are in, or very close to, a coastal setting (Driver and Tasker, 1990, figure 1). Furthermore, most of the cities in the NURP region III data base are larger and have been established longer than Little Rock.

With such high RMSE's, it would be inappropriate to use several of the regional regression models to estimate storm-runoff loads and mean concentrations in Little Rock. Because of a maximum data set size of 22, local regression models could not be developed using only the Little Rock data base. An alternative is to use model adjustment procedures to combine the regional model predictions with local data, thereby effectively increasing the size of the local data base (Hoos and Sisolak, 1993).

Table 4.--*Analysis of the Little Rock data base*

[RMSE, root mean square error between observed values and predicted (from unadjusted regional model) values, in log units; O, observed value; P_u, predicted value from unadjusted regional model; rs, Spearmans rho; 0.05, selected level of significance for the test statistic; COD, chemical oxygen demand; LOAD, storm-runoff load; SS, suspended solids; TN, total nitrogen; DP, dissolved phosphorus; TKN, total ammonia plus organic nitrogen as nitrogen; TP, total phosphorus; CU, total recoverable copper; PB, total recoverable lead; ZN, total recoverable zinc; CONC, storm-runoff mean concentration; NA, not applicable; P, positive (model overestimates O)]

Constituent name. model type	RMSE	O and P_u positively correlated		Consistent direction of bias		Direction of bias	Best model
		rs	Significant at 0.05?	p-value	Significant at 0.05?		
COD.LOAD	0.280	0.681	yes	1.168	no	NA	regional
SS.LOAD	.513	.534	yes	.286	no	NA	regional
TN.LOAD	.251	.745	yes	.026	yes	P	adjusted
TKN.LOAD	.434	-.443	no	.664	no	NA	none
TP.LOAD	.310	.513	yes	.664	no	NA	regional
DP.LOAD	.585	-.270	no	.026	yes	P	none
CU.LOAD	3.277	.677	yes	.000	yes	P	adjusted
PB.LOAD	1.158	.803	yes	.000	yes	P	adjusted
ZN.LOAD	.424	.863	yes	.052	no	NA	regional
COD.CONC	.342	-.056	no	1.176	no	NA	none
SS.CONC	.590	-.277	no	.524	no	NA	none
TN.CONC	.323	.133	no	.189	no	NA	none
TKN.CONC	.336	.167	no	.383	no	NA	none
TP.CONC	.376	.522	yes	.078	no	NA	regional
DP.CONC	.409	.403	yes	.814	no	NA	regional
CU.CONC	.720	.540	yes	.000	yes	P	adjusted
PB.CONC	1.210	.261	no	.000	yes	P	none
ZN.CONC	.432	.781	yes	.000	yes	P	adjusted

Data Analysis

Due to the size of the data set, the only model adjustment procedure (termed MAP-R-P) considered is based on linear regression with O against P_u. In this procedure, the log-transformed observed values are regressed against the log-transformed predicted values from the unadjusted regional model (Hoos and Sisolak, 1993). To apply MAP-R-P, O and P_u need to be positively correlated and have a consistent direction of bias. Values for these test statistics are presented in table 4. For all of the load models, except TKN and DP, much of the variation in O is explained by the regional models. Of these models, the direction of bias of P_u relative to O is not consistent for COD, SS, TP, and ZN, thereby validating the unadjusted regional models. For TN, CU, and PB, the direction of bias of P_u relative to O is consistent and positive; that is, the regional models consistently overestimated O, and MAP-R-P can be used to provide a better estimate. Because the regional models do not explain much of the variation in O for TKN and DP, neither the unadjusted regional models nor the MAP-R-P is appropriate. A simple estimator, such as the mean of the observed load values (table 5) may be used, or additional data may be collected to calibrate a local model.

Table 5.--*Simple estimators for selected constituents for the Little Rock data base*

[TKN, total ammonia plus organic nitrogen as nitrogen; DP, dissolved phosphorus; COD, chemical oxygen demand; LOAD, storm-runoff load, in pounds; CONC, storm-runoff mean concentration, in milligrams per liter (except for PB which is in micrograms per liter), SS, suspended solids; TN, total nitrogen; and PB, total recoverable lead]

Constituent name. model type	Simple estimator: mean of observed values (pounds)	Calibration error: standard deviation (pounds)
TKN.LOAD	8.51	7.58
DP.LOAD	.915	.66
COD.CONC	78	47
SS.CONC	208	248
TN.CONC	2.46	1.68
TKN.CONC	1.8	1.5
PB.CONC	20	16

For the concentration models TP, DP, CU, and ZN, much of the variation in O is explained by the regional models. Of these models, the direction of bias of P_u relative to O is not consistent for TP and DP, thereby validating the unadjusted regional models. For CU and ZN, the direction of bias of P_u relative to O is consistent and positive; therefore, MAP-R-P can be used to provide a more accurate estimate. For the remaining five constituents COD, SS, TN, TKN, and PB, the regional models do not explain much of the variation in O, thus neither the unadjusted regional models nor the MAP-R-P is appropriate. A simple estimator such as the mean of the observed concentration values (table 5) may be used, or additional data may be collected to calibrate a local model.

Calibration and Error Analysis

Observations in the Little Rock data base were used to derive coefficients for the MAP-R-P used with the appropriate constituent models (table 6). Calibration error is reported as standard error of the estimate (SE). SE measures how well the estimated values from the MAP-R-P agree with the observed values from the calibration data set. Calibration results may be biased because of the limited data set sizes in the Little Rock data base.

Table 6. --*Calibration coefficients and error statistics for adjusted models for the Little Rock data base*

[β_o', regression coefficient that is the intercept in the regression model; P_{ui}, predicted value of response variable from the unadjusted regional model for unmonitored site and storm i; BCF, bias correction factor; r^2, coefficient of determination, calculated using log-transformed observed and predicted values; SE, standard error of estimate; TN, total nitrogen; LOAD, storm-runoff load, in pounds; CONC, storm-runoff mean concentration, in milligrams per liter; CU, total recoverable copper; PB, total recoverable lead; ZN, total recoverable zinc; equation form is :

$$Y = \beta_o' \times P_{ui}^{\beta_1} \times BCF\ ]$$

Constituent name. model type	Calibration coefficients			Calibration error statistics		
	β_o'	B_1	BCF	r^2	SE, log	SE, percent
TN.LOAD	$10^{-0.118}$	0.958	1.093	0.588	0.197	48
CU.LOAD	$10^{-2.726}$	.700	1.464	.469	.415	122
PB.LOAD	$10^{-1.044}$	1.268	1.627	.641	.432	130
CU.CONC	$10^{.211}$	.408	1.124	.346	.215	53
ZN.CONC	$10^{-.403}$	1.016	1.131	.577	.238	59

Standard error of estimate for the MAP-R-P's ranges from 0.197 log units (48 percent) for the TN load model to 0.432 log units (130 percent) for the PB load model. The relatively large values of SE for some of the adjusted models, although representing significant reduction (at least 50 percent) in prediction error compared to estimation with P_u alone, may be unacceptable for some applications. The user may need to collect additional local data for these constituents and repeat the model adjustment procedure analysis or calibrate an independent local regression model.

Standard error of estimate for the adjusted CU load model (122 percent) is larger than the SE for the adjusted CU concentration model (53 percent). This disparity should not encourage the user to use an estimate from the adjusted CU concentration model, in conjunction with an estimated runoff volume, to estimate CU load. SE values may be larger for load models because the variation in load values is naturally greater, which is caused by the greater variability in values of runoff volume.

Example Application

In an example application, an engineer in Little Rock, Arkansas, needs to estimate a storm-runoff load for CU for an unmonitored site where DA is 0.50 square mile, LUI is 75 percent, LUC is 20 percent, LUN is 5 percent, and storm i where TRN is 1.10 inches. INT for the Little Rock area is 4.1 inches. Using the CU load model for region III (table 2), the engineer calculates the predicted value (P_{ui}) for the unmonitored site and storm i from the unadjusted regional model as follows:

$$P_{ui}(CU) = 4.508 \times (1.10)^{(0.896)} \times (0.50)^{(0.609)} \times (76)^{(0.648)} \times (21)^{(0.253)} \times (7)^{(-0.328)} \times (4.1)^{(-2.071)} \times (2.149)$$

$$P_{ui}\,(CU) = 7.03 \text{ pounds.}$$

Before adjusting the estimate using MAP-R-P, the engineer needs to first consider whether the characteristics of unmonitored site and storm i are within the range of site and storm characteristics in the Little Rock data base (table 3). In this example, values for unmonitored site and storm i are within the range of the data base.

Using the MAP-R-P for the CU load model (table 6), the engineer calculates the adjusted predicted value (P_{ai}) as follows:

$$P_{ai}(CU) = 10^{(-2.726)} \times (7.03)^{(0.700)} \times 1.464$$

$$P_{ai}\,(CU) = 0.011 \text{ pound.}$$

The city engineer can estimate annual and seasonal urban-runoff load at the unmonitored site i by calculating P_{ai} for a recorded series of storms producing a synthetic record of storm loads. The estimated mean annual load can be determined from the synthetic record by dividing the sum of loads from each storm by the number of years in the period of synthetic record. The estimated mean seasonal load can be determined by dividing the sum of loads from storms only in the particular season by the number of years in the period of synthetic record.

Mean seasonal load also can be estimated by calculating P_{ai} for a single storm representing average seasonal conditions for TRN, then multiplying P_{ai} (the average seasonal storm load) by the average number of storms per season (Driver and Tasker, 1990). The mean annual load also can be estimated by summing the mean seasonal loads.

SUMMARY

Storm-runoff has been determined to be a major source of nonpoint-source pollution in metropolitan areas. Urban water-quality managers need data on storm-runoff loads from representative watersheds in their city to design remedial programs. Verification statistics and calibration error statistics for regression models used to estimate storm-runoff loads and mean concentrations for the Little Rock area are presented in this report. Data collected at 5 representative sites during 22 storms from June 1992 through January 1994 compose the Little Rock, Arkansas data base.

Comparison of observed values of storm-runoff load and mean concentrations to the predicted values from the regional regression models shows large prediction errors for almost all constituent models, ranging from 63 percent to over several thousand percent. The root mean square errors for COD, TN, TP load models and COD, TN, and TKN concentration models are less than 100 percent, and can be considered reasonable for water-quality models.

Differences between observed values (O) and predicted values (P_u) are caused by variability in the Little Rock data base or by error in the regional models. For most of the constituents, the prediction error is too large to be explained reasonably by variability in the data alone. Some of the prediction error is probably a result of error in the regional models. Where it was applicable, a model adjustment procedure (MAP-R-P) based upon a regression with O against P_u, was applied to improve predictive accuracy.

For the load models COD, SS, TP, and ZN, much of the variation in O is explained by the regional models and the direction of bias of P_u relative to O is not consistent, thereby validating the unadjusted regional model. For TN, CU, and PB, the direction of bias of P_u relative to O is consistent and positive; that is the regional models consistently overestimate O; therefore, MAP-R-P can be used to provide a better estimate. For the constituents TKN and DP, the regional models do not explain much of the variation in O, thus neither the unadjusted regional models nor the MAP-R-P is appropriate. A simple estimator, such as the mean of the observed load values, may be used.

For the concentration models TP and DP, much of the variation in O is explained by the regional models and the direction of bias of P_u relative to O is not consistent, thereby validating the unadjusted regional models. For CU and ZN, the direction of bias of P_u relative to O is consistent and positive; therefore, MAP-R-P can be used to provide a better estimate. For the remaining five constituents, COD, SS, TN, TKN, and PB, the regional models do not explain much of the variation in O, thus neither the unadjusted regional models nor the MAP-R-P is appropriate. A simple estimator, such as the mean of the observed concentration values, may be used.

Standard error of estimate for the adjusted models ranges from 48 percent to 130 percent. Calibration results may be biased because of the limited data set sizes in the Little Rock data base. The relatively large values of SE for some of the constituent models may be unacceptable for some applications. The user may need to collect additional local data and repeat the model adjustment procedure analysis or calibrate an independent local regression model.

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APPENDIX

WATER-QUALITY DATA COLLECTED IN LITTLE ROCK, ARKANSAS

ABBREVIATIONS

AC-FT	Acre-feet
COLS./100 ML	Number of colonies per 100 milliliters
Deg. C	Degrees Celsius
K	Non-ideal count
MG/L	Milligrams per liter
REC	Recoverable
UG/L	Micrograms per liter
UM-MF	Micrometer membrane filter
UNF	Unfiltered
US/CM	Microsiemens per centimeter
WAT	Water
WH	Whole water
<	Less than
--	No data available

07263453 - CAMMACK VILLAGE AREA STORMWATER DRAIN AT LITTLE ROCK
WATER-QUALITY DATA

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)
MAY 1993											
18.	1335	80513	80020	45	6.2	16	150	K73000	220000	11	2.8
OCT											
20.	0519	80513	80020	37	5.8	2.3	96	K30000	260000	9	2.4
NOV											
16.	1215	80513	80020	48	7.5	15	54	32000	41000	12	3.3

DATE	TIME	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY 1993											
18.	1335	0.88	1.9	0.3	23	2.3	6.9	4.0	3.0	38	22
OCT											
20.	0519	0.74	1.4	0.2	21	1.8	11	3.0	3.3	35	21
NOV											
16.	1215	1.0	3.1	0.4	32	1.7	11	4.3	4.6	47	29

DATE	TIME	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)
MAY 1993											
18.	1335	0.05	502	0.020	0.690	0.250	1.3	2.3	0.670	1.6	0.190
OCT											
20.	0519	0.05	520	<0.010	0.340	0.040	1.2	1.5	0.340	1.2	0.580
NOV											
16.	1215	0.06	32	<0.010	0.920	0.030	0.57	1.5	0.920	0.60	0.160

DATE	TIME	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	THALLIUM, TOTAL (UG/L AS TL) (01059)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)
MAY 1993											
18.	1335	0.150	47	7	<10	<1	4	10	57	<5	0.10
OCT											
20.	0519	0.040	26	3	<10	<1	10	11	49	<5	<0.10
NOV											
16.	1215	0.080	16	<1	<10	<1	1	3	6	<5	<0.10

DATE	TIME	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	DIBROMOMETHANE WATER WHOLE RECOVER (UG/L) (30217)	DICHLOROBROMOMETHANE TOTAL (UG/L) (32101)	CARBONTETRACHLORIDE TOTAL (UG/L) (32102)	1,2-DICHLOROETHANE TOTAL (UG/L) (32103)	BROMOFORM TOTAL (UG/L) (32104)
MAY 1993											
18.	1335	9	<2	<1	80	<0.010	<0.2	<0.2	<0.2	<0.2	<0.2
OCT											
20.	0519	13	<1	<1	70	<0.010	<0.2	<0.2	<0.2	<0.2	<0.2
NOV											
16.	1215	3	<1	<1	20	<0.010	<0.2	<0.2	<0.2	<0.2	<0.2

WATER-QUALITY DATA

DATE	TIME	CHLORO-DI-BROMO-METHANE TOTAL (UG/L) (32105)	CHLORO-FORM TOTAL (UG/L) (32106)	PHENOLS TOTAL (UG/L) (32730)	TOLUENE TOTAL (UG/L) (34010)	BENZENE TOTAL (UG/L) (34030)	ACE-NAPHTH-YLENE TOTAL (UG/L) (34200)	ACE-NAPHTH-ENE TOTAL (UG/L) (34205)	ACRO-LEIN TOTAL (UG/L) (34210)	ACRYLO-NITRILE TOTAL (UG/L) (34215)	ANTHRA-CENE TOTAL (UG/L) (34220)
MAY 1993											
18.	1335	<0.2	<0.2	4	<0.2	<0.2	<5.0	<5.0	<20	<20	<5.0
OCT											
20.	0519	<0.2	<0.2	<1	<0.2	<0.2	<5.0	<5.0	<20	<20	<5.0
NOV											
16.	1215	<0.2	<0.2	4	<0.2	<0.2	<5.0	<5.0	<20	<20	<5.0

DATE	TIME	BENZO B FLUOR-AN-THENE TOTAL (UG/L) (34230)	BENZO K FLUOR-AN-THENE TOTAL (UG/L) (34242)	BENZO-A-PYRENE TOTAL (UG/L) (34247)	DELTA BENZENE HEXA-CHLOR-IDE TOTAL (UG/L) (34259)	BIS 2-CHLORO-ETHYL ETHER TOTAL (UG/L) (34273)	BIS (2-CHLORO-ETHOXY) METHANE TOTAL (UG/L) (34278)	BIS (2-CHLORO-ISO-PROPYL) ETHER TOTAL (UG/L) (34283)	N-BUTYL BENZYL PHTHAL-ATE TOTAL (UG/L) (34292)	CHLORO-BENZENE TOTAL (UG/L) (34301)	CHLORO-ETHANE TOTAL (UG/L) (34311)
MAY 1993											
18.	1335	<10.0	<10.0	<10.0	<0.09	<5.0	<5.0	<5.0	<5.0	<0.20	<0.2
OCT											
20.	0519	<10.0	<10.0	<10.0	<0.09	<5.0	<5.0	<5.0	<5.0	<0.20	<0.2
NOV											
16.	1215	<10.0	<10.0	<10.0	<0.09	<5.0	<5.0	<5.0	<5.0	<0.20	<0.2

DATE	TIME	CHRY-SENE TOTAL (UG/L) (34320)	DIETHYL PHTHAL-ATE TOTAL (UG/L) (34336)	DI-METHYL PHTHAL-ATE TOTAL (UG/L) (34341)	ENDO-SULFAN SULFATE TOTAL (UG/L) (34351)	ENDO-SULFAN BETA TOTAL (UG/L) (34356)	ENDO-SULFAN-I WATER WHOLE REC (UG/L) (34361)	ENDRIN ALDE-HYDE TOTAL (UG/L) (34366)	ETHYL-BENZENE TOTAL (UG/L) (34371)	FLUOR-ANTHENE TOTAL (UG/L) (34376)	FLUOR-ENE TOTAL (UG/L) (34381)
MAY 1993											
18.	1335	<10.0	<5.0	<5.0	<0.60	<0.04	<0.10	<0.20	<0.2	<5.0	<5.0
OCT											
20.	0519	<10.0	<5.0	<5.0	<0.60	<0.04	<0.10	<0.20	<0.2	<5.0	<5.0
NOV											
16.	1215	<10.0	<5.0	<5.0	<0.60	<0.04	<0.10	<0.20	<0.2	<5.0	<5.0

DATE	TIME	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)	METHYL-BROMIDE TOTAL (UG/L) (34413)	METHYL-CHLO-RIDE TOTAL (UG/L) (34418)	METHYL-ENE CHLO-RIDE TOTAL (UG/L) (34423)	N-NITRO-SODI-N-PROPYL-AMINE TOTAL (UG/L) (34428)	N-NITRO-SODI-PHENY-LAMINE TOTAL (UG/L) (34433)	N-NITRO-SODI-METHY-LAMINE TOTAL (UG/L) (34438)
MAY 1993											
18.	1335	<5.0	<5.0	<10.0	<5.0	<0.2	<0.2	<0.2	<5.0	<5.0	<5.0
OCT											
20.	0519	<5.0	<5.0	<10.0	<5.0	<0.2	<0.2	<0.2	<5.0	<5.0	<5.0
NOV											
16.	1215	<5.0	<5.0	<10.0	<5.0	<0.2	<0.2	<0.2	<5.0	<5.0	<5.0

DATE	TIME	NITRO-BENZENE TOTAL (UG/L) (34447)	PARA-CHLORO-META CRESOL TOTAL (UG/L) (34452)	PHENAN-THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L) (34475)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L) (34488)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L) (34496)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L) (34501)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L) (34506)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L) (34511)
MAY 1993											
18.	1335	<5.0	<30.0	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
OCT											
20.	0519	<5.0	<30.0	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
NOV											
16.	1215	<5.0	<30.0	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

DATE	TIME	ETHANE, 1,1,2,2 TETRA-CHLORO-WAT UNF REC (UG/L) (34516)	BENZOGH I PERYL ENE1,12 -BENZOP ERYLENE TOTAL (UG/L) (34521)	BENZO A ANTHRAC ENE1,2-BENZANT HRACENE TOTAL (UG/L) (34526)	BENZENE O-CHLORO-WATER UNFLTRD REC (UG/L) (34536)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L) (34541)	1,2-TRANSDI CHLORO-ETHENE TOTAL (UG/L) (34546)	BENZENE 1,2,4-TRI-CHLORO-WAT UNF REC (UG/L) (34551)	1,2,5,6 -DIBENZ -ANTHRA -CENE TOTAL (UG/L) (34556)	BENZENE 1,3-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34566)	BENZENE 1,4-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34571)
MAY 1993											
18.	1335	<0.2	<10.0	<10.0	<5.0	<0.2	<0.2	<5.0	<10.0	<5.0	<5.0
OCT											
20.	0519	<0.2	<10.0	<10.0	<5.0	<0.2	<0.2	<5.0	<10.0	<5.0	<5.0
NOV											
16.	1215	<0.2	<10.0	<10.0	<5.0	<0.2	<0.2	<5.0	<10.0	<5.0	<5.0

DATE	TIME	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L) (34576)	2-CHLORO-NAPH-THALENE TOTAL (UG/L) (34581)	2-CHLORO-PHENOL TOTAL (UG/L) (34586)	2-NITRO-PHENOL TOTAL (UG/L) (34591)	DI-N-OCTYL PHTHAL-ATE TOTAL (UG/L) (34596)	2,4-DI-CHLORO-PHENOL TOTAL (UG/L) (34601)	2,4-DI-METHYL-PHENOL TOTAL (UG/L) (34606)	2,4-DI-NITRO-TOLUENE TOTAL (UG/L) (34611)	2,4,-DI-NITRO-PHENOL TOTAL (UG/L) (34616)	2,4,6-TRI-CHLORO-PHENOL TOTAL (UG/L) (34621)
MAY 1993											
18.	1335	<1.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0
OCT											
20.	0519	<1.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0
NOV											
16.	1215	<1.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0

DATE	TIME	2,6-DI-NITRO-TOLUENE TOTAL (UG/L) (34626)	3,3'-DI-CHLORO-BENZI-DINE TOTAL (UG/L) (34631)	4-BROMO-PHENYL PHENYL ETHER TOTAL (UG/L) (34636)	4-CHLORO-PHENYL PHENYL ETHER TOTAL (UG/L) (34641)	4-NITRO-PHENOL TOTAL (UG/L) (34646)	4,6-DINITRO -ORTHO-CRESOL TOTAL (UG/L) (34657)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L) (34668)	PHENOL (C6H-5OH) TOTAL (UG/L) (34694)	NAPHTH-ALENE TOTAL (UG/L) (34696)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34699)
MAY 1993											
18.	1335	<5.0	<20.0	<5.0	<5.0	<30.0	<30.0	<0.2	<5.0	<5.0	<0.2
OCT											
20.	0519	<5.0	<20.0	<5.0	<5.0	<30.0	<30.0	<0.2	<5.0	<5.0	<0.2
NOV											
16.	1215	<5.0	<20.0	<5.0	<5.0	<30.0	<30.0	<0.2	<5.0	<5.0	<0.2

DATE	TIME	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34704)	PENTA-CHLORO-PHENOL TOTAL (UG/L) (39032)	CHLOR-DANE CIS WATER WHOLE TOTAL (UG/L) (39062)	CHLOR-DANE TRANS WATER WHOLE TOTAL (UG/L) (39065)	BIS(2-ETHYL HEXYL) PHTHAL-ATE TOTAL (UG/L) (39100)	DI-N-BUTYL PHTHAL-ATE TOTAL (UG/L) (39110)	BENZI-DINE TOTAL (UG/L) (39120)	VINYL CHLO-RIDE TOTAL (UG/L) (39175)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L) (39180)	P,P' DDT, TOTAL (UG/L) (39300)
MAY 1993											
18.	1335	<0.2	<30.0	<0.10	<0.10	<5.0	<5.0	<40.0	<0.2	<0.2	<0.10
OCT											
20.	0519	<0.2	<30.0	<0.10	<0.10	<5.0	<5.0	<40.0	<0.2	<0.2	<0.10
NOV											
16.	1215	<0.2	<30.0	<0.10	<0.10	<5.0	<5.0	<40.0	<0.2	<0.2	<0.10

DATE	TIME	P,P' DDD, TOTAL (UG/L) (39310)	P,P' DDE, TOTAL (UG/L) (39320)	ALDRIN, TOTAL (UG/L) (39330)	ALPHA BHC TOTAL (UG/L) (39337)	BETA BENZENE HEXA-CHLOR-IDE TOTAL (UG/L) (39338)	CHLOR-DANE, TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)
MAY 1993											
18.	1335	<0.10	<0.04	<0.040	<0.03	<0.03	0.2	<0.020	<0.060	<0.030	<0.80
OCT											
20.	0519	<0.10	<0.04	<0.040	<0.03	<0.03	0.1	<0.020	<0.060	<0.030	<0.80
NOV											
16.	1215	<0.10	<0.04	<0.040	<0.03	<0.03	<0.1	<0.020	<0.060	<0.030	<0.80

WATER-QUALITY DATA

DATE	TIME	LINDANE TOTAL (UG/L) (39340)	TOX-APHENE, TOTAL (UG/L) (39400)	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)	HEXA-CHLORO-BENZENE TOTAL (UG/L) (39700)
MAY 1993											
18.	1335	<0.030	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<5.0
OCT											
20.	0519	<0.030	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<5.0
NOV											
16.	1215	<0.030	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<5.0

DATE	TIME	HEXA-CHLORO-BUT-ADIENE TOTAL (UG/L) (39702)	CIS-1,2-DI-CHLORO-ETHENE WATER TOTAL (UG/L) (77093)	STYRENE TOTAL (UG/L) (77128)	1,1-DI CHLORO-PRO-PENE, WAT, WH TOTAL (UG/L) (77168)	2,2-DI CHLORO-PRO-PANE WAT, WH TOTAL (UG/L) (77170)	1,3-DI-CHLORO-PROPANE WAT. WH TOTAL (UG/L) (77173)	PSEUDO-CUMENE WATER UNFLTRD REC (UG/L) (77222)	ISO-PROPYL-BENZENE WATER WHOLE REC (UG/L) (77223)	BENZENE N-PROPY WATER UNFLTRD REC (UG/L) (77224)	MESIT-YLENE WATER UNFLTRD REC (UG/L) (77226)
MAY 1993											
18.	1335	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20
OCT											
20.	0519	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20
NOV											
16.	1215	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20

DATE	TIME	O-CHLORO-TOLUENE WATER WHOLE TOTAL (UG/L) (77275)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L) (77277)	METHANE BROMO CHLORO-WAT UNFLTRD REC (UG/L) (77297)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L) (77342)	BENZENE SEC BUTYL-WATER UNFLTRD REC (UG/L) (77350)	BENZENE TERT-BUTYL-WATER UNFLTRD REC (UG/L) (77353)	P-ISO-PROPYL-TOLUENE WATER WHOLE REC (UG/L) (77356)	123-TRI CHLORO-PROPANE WATER WHOLE TOTAL (UG/L) (77443)	ETHANE, 1112-TETRA-CHLORO-WAT UNF REC (UG/L) (77562)	1,2,3-TRI-CHLORO BENZENE WAT, WH REC (UG/L) (77613)
MAY 1993											
18.	1335	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20
OCT											
20.	0519	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20
NOV											
16.	1215	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20

DATE	TIME	1,2-DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	FREON-113 WATER UNFLTRD REC (UG/L) (77652)	METHYL ETHER TERT-BUTYL WAT UNF REC (UG/L) (78032)	XYLENE WATER UNFLTRD REC (UG/L) (81551)	BROMO-BENZENE WATER, WHOLE, TOTAL (UG/L) (81555)	DIBROMO CHLORO-PROPANE WATER WHOLE TOT.REC (UG/L) (82625)	1,2-DI-PHENYL-HYDRA-ZINE WATER TOT.REC (UG/L) (82626)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
MAY 1993									
18.	1335	<0.2	<0.5	<1.0	<0.20	<0.2	<1.0	<5.0	<1
OCT									
20.	0519	<0.2	<0.5	<1.0	<0.20	<0.2	<1.0	<5.0	<1
NOV									
16.	1215	<0.2	<0.5	<1.0	<0.20	<0.2	<1.0	<5.0	<1

07263559 - PARKWAY PLACE AREA STORMWATER DRAIN AT LITTLE ROCK
WATER-QUALITY DATA

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)
JULY 1992											
15.	1655	80513	80020	53	6.8	14	40	>60000	>100000	10	2.6
AUG											
05.	0612	80513	80020	42	6.3	11	39	510000	800000	10	3.0
NOV											
12.	0330	80513	80020	39	7.2	3.9	140	K90000	490000	8	2.1
APR 1993											
25.	0810	80513	80020	43	5.9	27	110	>60000	>100000	10	2.8
MAY											
18.	1342	80513	80020	56	6.1	16	48	K95000	K260000	13	3.5

DATE	TIME	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
JULY 1992											
15.	1655	0.80	1.2	0.2	14	5.2	2.9	2.7	2.7	35	17
AUG											
05.	0612	0.71	1.4	0.2	18	2.7	7.9	2.9	1.2	30	17
NOV											
12.	0330	0.63	1.2	0.2	17	3.9	7.9	2.5	1.9	25	17
APR 1993											
25.	0810	0.75	2.5	0.3	28	2.9	20	2.5	1.9	39	33
MAY											
18.	1342	1.0	1.2	0.1	12	4.3	2.6	6.1	2.9	42	27

DATE	TIME	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
JULY 1992											
15.	1655	0.05	85	0.030	--	1.40	--	0.730	--	0.94	1.3
AUG											
05.	0612	0.04	69	0.040	--	0.850	--	0.320	--	0.41	1.1
NOV											
12.	0330	0.03	100	0.030	--	0.750	--	0.150	--	0.19	0.95
APR 1993											
25.	0810	0.05	950	--	0.020	--	1.70	--	0.460	--	1.7
MAY											
18.	1342	0.06	69	--	0.020	--	1.30	--	0.900	--	1.7

DATE	TIME	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)
JULY 1992											
15.	1655	3.4	15	1.37	2.0	0.670	0.690	14	10	<10	<1
AUG											
05.	0612	2.3	10	0.810	1.4	0.530	0.370	12	7	<10	<1
NOV											
12.	0330	1.8	8.2	0.720	1.1	0.520	0.350	15	7	<10	<1
APR 1993											
25.	0810	3.9	--	1.68	2.2	0.460	0.400	34	8	<10	<1
MAY											
18.	1342	3.9	--	1.28	2.6	0.590	0.480	23	6	<10	<1

WATER-QUALITY DATA

DATE	TIME	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	THALLIUM, TOTAL (UG/L AS TL) (01059)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)
JULY 1992											
15.	1655	<1	3	2	<5	<0.10	3	<2	<1	20	<0.010
AUG											
05.	0612	1	3	3	<5	<0.10	3	1	<1	10	<0.010
NOV											
12.	0330	2	3	3	<5	0.10	4	<2	<1	30	<0.010
APR 1993											
25.	0810	20	6	7	<5	0.10	7	<2	<1	50	<0.010
MAY											
18.	1342	2	2	2	<5	0.10	2	<2	<1	30	<0.010

DATE	TIME	DIBROMOMETHANE WATER WHOLE RECOVER (UG/L) (30217)	DICHLOROBROMOMETHANE TOTAL (UG/L) (32101)	CARBONTETRACHLORIDE TOTAL (UG/L) (32102)	1,2-DICHLOROETHANE TOTAL (UG/L) (32103)	BROMOFORM TOTAL (UG/L) (32104)	CHLORODIBROMOMETHANE TOTAL (UG/L) (32105)	CHLOROFORM TOTAL (UG/L) (32106)	PHENOLS TOTAL (UG/L) (32730)	TOLUENE TOTAL (UG/L) (34010)	BENZENE TOTAL (UG/L) (34030)
JULY 1992											
15.	1655	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	3	0.4	<0.2
AUG											
05.	0612	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5	<0.2	<0.2
NOV											
12.	0330	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	4	<0.2	<0.2
APR 1993											
25.	0810	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1	<0.2	<0.2
MAY											
18.	1342	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2	<0.2	<0.2

DATE	TIME	ACENAPHTHYLENE TOTAL (UG/L) (34200)	ACENAPHTHENE TOTAL (UG/L) (34205)	ACROLEIN TOTAL (UG/L) (34210)	ACRYLONITRILE TOTAL (UG/L) (34215)	ANTHRACENE TOTAL (UG/L) (34220)	BENZO B FLUORANTHENE TOTAL (UG/L) (34230)	BENZO K FLUORANTHENE TOTAL (UG/L) (34242)	BENZO-A-PYRENE TOTAL (UG/L) (34247)	DELTA BENZENE HEXACHLORIDE TOTAL (UG/L) (34259)	BIS 2-CHLOROETHYL ETHER TOTAL (UG/L) (34273)
JULY 1992											
15.	1655	<5.0	<5.0	<20	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0
AUG											
05.	0612	<5.0	<5.0	<20	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0
NOV											
12.	0330	<5.0	<5.0	<20	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0
APR 1993											
25.	0810	<5.0	<5.0	<20	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0
MAY											
18.	1342	<5.0	<5.0	<20	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0

DATE	TIME	BIS (2-CHLOROETHOXY) METHANE TOTAL (UG/L) (34278)	BIS (2-CHLOROISOPROPYL) ETHER TOTAL (UG/L) (34283)	N-BUTYL BENZYL PHTHALATE TOTAL (UG/L) (34292)	CHLOROBENZENE TOTAL (UG/L) (34301)	CHLOROETHANE TOTAL (UG/L) (34311)	CHRYSENE TOTAL (UG/L) (34320)	DIETHYL PHTHALATE TOTAL (UG/L) (34336)	DIMETHYL PHTHALATE TOTAL (UG/L) (34341)	ENDOSULFAN SULFATE TOTAL (UG/L) (34351)	ENDOSULFAN BETA TOTAL (UG/L) (34356)
JULY 1992											
15.	1655	<5.0	<5.0	<5.0	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04
AUG											
05.	0612	<5.0	<5.0	<5.0	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04
NOV											
12.	0330	<5.0	<5.0	<5.0	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04
APR 1993											
25.	0810	<5.0	<5.0	<5.0	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04
MAY											
18.	1342	<5.0	<5.0	<5.0	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04

WATER-QUALITY DATA

DATE	TIME	ENDOSULFAN-I WATER WHOLE REC (UG/L) (34361)	ENDRIN ALDEHYDE TOTAL (UG/L) (34366)	ETHYLBENZENE TOTAL (UG/L) (34371)	FLUORANTHENE TOTAL (UG/L) (34376)	FLUORENE TOTAL (UG/L) (34381)	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)	METHYLBROMIDE TOTAL (UG/L) (34413)
JULY 1992											
15.	1655	<0.10	<0.20	<0.2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2
AUG											
05.	0612	<0.10	<0.20	<0.2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2
NOV											
12.	0330	<0.10	<0.20	<0.2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2
APR 1993											
25.	0810	<0.10	<0.20	<0.2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2
MAY											
18.	1342	<0.10	<0.20	<0.2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2

DATE	TIME	METHYLCHLORIDE TOTAL (UG/L) (34418)	METHYLENE CHLORIDE TOTAL (UG/L) (34423)	N-NITROSODI-N-PROPYLAMINE TOTAL (UG/L) (34428)	N-NITROSODIPHENYLAMINE TOTAL (UG/L) (34433)	N-NITROSODIMETHYLAMINE TOTAL (UG/L) (34438)	NITROBENZENE TOTAL (UG/L) (34447)	PARACHLOROMETA CRESOL TOTAL (UG/L) (34452)	PHENANTHRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	TETRACHLOROETHYLENE TOTAL (UG/L) (34475)
JULY 1992											
15.	1655	<0.2	<0.2	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2
AUG											
05.	0612	<0.2	<0.2	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2
NOV											
12.	0330	<0.2	<0.2	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2
APR 1993											
25.	0810	<0.2	<0.2	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2
MAY											
18.	1342	<0.2	<0.2	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2

DATE	TIME	TRICHLOROFLUOROMETHANE TOTAL (UG/L) (34488)	1,1-DICHLOROETHANE TOTAL (UG/L) (34496)	1,1-DICHLOROETHYLENE TOTAL (UG/L) (34501)	1,1,1-TRICHLOROETHANE TOTAL (UG/L) (34506)	1,1,2-TRICHLOROETHANE TOTAL (UG/L) (34511)	ETHANE, 1,1,2,2 TETRACHLOROWAT UNF REC (UG/L) (34516)	BENZOGH I PERYLENE1,12-BENZOPERYLENE TOTAL (UG/L) (34521)	BENZO A ANTHRACENE1,2-BENZANTHRACENE TOTAL (UG/L) (34526)	BENZENE O-CHLOROWATER UNFLTRD REC (UG/L) (34536)	1,2-DICHLOROPROPANE TOTAL (UG/L) (34541)
JULY 1992											
15.	1655	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2
AUG											
05.	0612	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2
NOV											
12.	0330	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2
APR 1993											
25.	0810	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2
MAY											
18.	1342	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2

DATE	TIME	1,2-TRANSDICHLOROETHENE TOTAL (UG/L) (34546)	BENZENE 1,2,4-TRICHLOROWAT UNF REC (UG/L) (34551)	1,2,5,6-DIBENZ-ANTHRACENE TOTAL (UG/L) (34556)	BENZENE 1,3-DICHLOROWATER UNFLTRD REC (UG/L) (34566)	BENZENE 1,4-DICHLOROWATER UNFLTRD REC (UG/L) (34571)	2-CHLOROETHYLVINYLETHER TOTAL (UG/L) (34576)	2-CHLORONAPHTHALENE TOTAL (UG/L) (34581)	2-CHLOROPHENOL TOTAL (UG/L) (34586)	2-NITROPHENOL TOTAL (UG/L) (34591)	DI-N-OCTYL PHTHALATE TOTAL (UG/L) (34596)
JULY 1992											
15.	1655	<0.2	<5.0	<10.0	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0
AUG											
05.	0612	<0.2	<5.0	<10.0	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0
NOV											
12.	0330	<0.2	<5.0	<10.0	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0
APR 1993											
25.	0810	<0.2	<5.0	<10.0	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0
MAY											
18.	1342	<0.2	<5.0	<10.0	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0

WATER-QUALITY DATA

DATE	TIME	2,4-DI-CHLORO-PHENOL TOTAL (UG/L) (34601)	2,4-DI-METHYL-PHENOL TOTAL (UG/L) (34606)	2,4-DI-NITRO-TOLUENE TOTAL (UG/L) (34611)	2,4,-DI-NITRO-PHENOL TOTAL (UG/L) (34616)	2,4,6-TRI-CHLORO-PHENOL TOTAL (UG/L) (34621)	2,6-DI-NITRO-TOLUENE TOTAL (UG/L) (34626)	3,3'-DI-CHLORO-BENZI-DINE TOTAL (UG/L) (34631)	4-BROMO-PHENYL PHENYL ETHER TOTAL (UG/L) (34636)	4-CHLORO-PHENYL PHENYL ETHER TOTAL (UG/L) (34641)	4-NITRO-PHENOL TOTAL (UG/L) (34646)
JULY 1992											
15.	1655	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0
AUG											
05.	0612	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0
NOV											
12.	0330	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0
APR 1993											
25.	0810	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0
MAY											
18.	1342	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0

DATE	TIME	4,6-DINITRO-ORTHO-CRESOL TOTAL (UG/L) (34657)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L) (34668)	PHENOL (C6H-5OH) TOTAL (UG/L) (34694)	NAPHTH-ALENE TOTAL (UG/L) (34696)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34699)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34704)	PENTA-CHLORO-PHENOL TOTAL (UG/L) (39032)	CHLOR-DANE CIS WATER WHOLE TOTAL (UG/L) (39062)	CHLOR-DANE TRANS WATER WHOLE TOTAL (UG/L) (39065)	BIS (2-ETHYL HEXYL) PHTHAL-ATE TOTAL (UG/L) (39100)
JULY 1992											
15.	1655	<30.0	<0.2	<5.0	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0
AUG											
05.	0612	<30.0	<0.2	<5.0	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0
NOV											
12.	0330	<30.0	<0.2	<5.0	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0
APR 1993											
25.	0810	<30.0	<0.2	<5.0	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0
MAY											
18.	1342	<30.0	<0.2	<5.0	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0

DATE	TIME	DI-N-BUTYL PHTHAL-ATE TOTAL (UG/L) (39110)	BENZI-DINE TOTAL (UG/L) (39120)	VINYL CHLO-RIDE TOTAL (UG/L) (39175)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L) (39180)	P,P' DDT, TOTAL (UG/L) (39300)	P,P' DDD, TOTAL (UG/L) (39310)	P,P' DDE, TOTAL (UG/L) (39320)	ALDRIN, TOTAL (UG/L) (39330)	ALPHA BHC TOTAL (UG/L) (39337)	BETA BENZENE HEXA-CHLOR-IDE TOTAL (UG/L) (39338)
JULY 1992											
15.	1655	<5.0	<40.0	<0.2	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03
AUG											
05.	0612	<5.0	<40.0	<0.2	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03
NOV											
12.	0330	<5.0	<40.0	<0.2	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03
APR 1993											
25.	0810	<5.0	<40.0	<0.2	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03
MAY											
18.	1342	<5.0	<40.0	<0.2	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03

DATE	TIME	CHLOR-DANE, TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	TOX-APHENE, TOTAL (UG/L) (39400)	AROCLOR 1016 PCB TOTAL (UG/L) (34671)	AROCLOR 1221 PCB TOTAL (UG/L) (39488)	AROCLOR 1232 PCB TOTAL (UG/L) (39492)
JULY 1992											
15.	1655	<0.1	<0.020	<0.060	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1
AUG											
05.	0612	<0.1	<0.020	<0.060	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1
NOV											
12.	0330	<0.1	<0.020	<0.060	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1
APR 1993											
25.	0810	0.1	<0.020	<0.060	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1
MAY											
18.	1342	<0.1	<0.020	<0.060	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1

WATER-QUALITY DATA

DATE	TIME	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)	HEXA-CHLORO-BENZENE TOTAL (UG/L) (39700)	HEXA-CHLORO-BUT-ADIENE TOTAL (UG/L) (39702)	CIS-1,2-DI-CHLORO-ETHENE WATER TOTAL (UG/L) (77093)	STYRENE TOTAL (UG/L) (77128)	1,1-DI CHLORO-PRO-PENE, WAT,WH TOTAL (UG/L) (77168)
JULY 1992										
15.	1655	<0.1	<0.1	<0.1	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2
AUG										
05.	0612	<0.1	<0.1	<0.1	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2
NOV										
12.	0330	<0.1	<0.1	<0.1	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2
APR 1993										
25.	0810	<0.1	<0.1	<0.1	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2
MAY										
18.	1342	<0.1	<0.1	<0.1	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2

DATE	TIME	2,2-DI CHLORO-PRO-PANE WAT, WH TOTAL (UG/L) (77170)	1,3-DI-CHLORO-PROPANE WAT. WH TOTAL (UG/L) (77173)	PSEUDO-CUMENE WATER UNFLTRD REC (UG/L) (77222)	ISO-PROPYL-BENZENE WATER WHOLE REC (UG/L) (77223)	BENZENE N-PROPY WATER UNFLTRD REC (UG/L) (77224)	MESIT-YLENE WATER UNFLTRD REC (UG/L) (77226)	O-CHLORO-TOLUENE WATER WHOLE TOTAL (UG/L) (77275)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L) (77277)	METHANE BROMO CHLORO-WAT UNFLTRD REC (UG/L) (77297)
JULY 1992										
15.	1655	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20
AUG										
05.	0612	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20
NOV										
12.	0330	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20
APR 1993										
25.	0810	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20
MAY										
18.	1342	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20

DATE	TIME	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L) (77342)	BENZENE SEC BUTYL-WATER UNFLTRD REC (UG/L) (77350)	BENZENE TERT-BUTYL-WATER UNFLTRD REC (UG/L) (77353)	P-ISO-PROPYL-TOLUENE WATER WHOLE REC (UG/L) (77356)	123-TRI CHLORO-PROPANE WATER WHOLE TOTAL (UG/L) (77443)	ETHANE, 1112-TETRA-CHLORO-WAT UNF REC (UG/L) (77562)	1,2,3-TRI-CHLORO BENZENE WAT, WH REC (UG/L) (77613)	1,2-DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	FREON-113 WATER UNFLTRD REC (UG/L) (77652)
JULY 1992										
15.	1655	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20	<0.2	<0.5
AUG										
05.	0612	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20	<0.2	<0.5
NOV										
12.	0330	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20	<0.2	<0.5
APR 1993										
25.	0810	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20	<0.2	<0.5
MAY										
18.	1342	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20	<0.2	<0.5

DATE	TIME	METHYL ETHER TERT-BUTYL WAT UNF REC (UG/L) (78032)	XYLENE WATER UNFLTRD REC (UG/L) (81551)	BROMO-BENZENE WATER, WHOLE, TOTAL (UG/L) (81555)	DIBROMO CHLORO-PROPANE WATER WHOLE TOT.REC (UG/L) (82625)	1,2-DI-PHENYL-HYDRA-ZINE WATER TOT.REC (UG/L) (82626)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
JULY 1992							
15.	1655	<1.0	<0.20	<0.2	<1.0	<5.0	<1
AUG							
05.	0612	<1.0	<0.20	<0.2	<1.0	<5.0	<1
NOV							
12.	0330	<1.0	<0.20	<0.2	<1.0	<5.0	<1
APR 1993							
25.	0810	<1.0	<0.20	<0.2	<1.0	<5.0	<1
MAY							
18.	1342	<1.0	<0.20	<0.2	<1.0	<5.0	<1

07263578 - ROSEDALE AREA STORMWATER DRAIN AT LITTLE ROCK
WATER-QUALITY DATA

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)
JUNE 1992											
11.	1900	80513	80020	38	6.7	12	86	>60000	>100000	9	2.6
29.	1508	80513	80020	44	6.6	11	67	250000	480000	11	3.0
AUG											
05.	0714	80513	80020	35	6.7	9.2	48	270000	440000	9	2.6
NOV											
12.	0355	80513	80020	36	7.4	5.2	79	K60000	580000	9	2.3
DEC											
09.	0830	80513	80020	40	6.8	4.5	27	K7800	300000	10	2.6

DATE	TIME	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
JUNE 1992											
11.	1900	0.71	3.1	0.4	40	0.50	9.0	2.9	1.8	27	17
29.	1508	0.76	3.2	0.4	37	1.1	8.4	3.4	1.6	40	18
AUG											
05.	0714	0.65	2.3	0.3	31	1.7	11	2.3	0.80	33	17
NOV											
12.	0355	0.67	1.9	0.3	25	3.2	8.8	2.6	1.7	39	18
DEC											
09.	0830	0.83	1.8	0.2	24	2.0	9.8	3.7	2.4	58	19

DATE	TIME	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)
JUNE 1992											
11.	1900	0.04	646	0.030	0.400	0.220	0.28	1.7	2.3	10	0.370
29.	1508	0.05	476	0.100	0.760	0.380	0.49	1.8	3.0	13	0.660
AUG											
05.	0714	0.05	167	0.020	0.430	0.110	0.14	1.7	2.2	9.9	0.410
NOV											
12.	0355	0.05	227	--	--	--	--	--	--	--	--
DEC											
09.	0830	0.08	44	0.050	0.240	0.110	0.14	0.49	0.84	3.7	0.190

DATE	TIME	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)
JUNE 1992											
11.	1900	1.9	0.440	0.120	23	1	<10	<1	8	14	36
29.	1508	2.2	0.580	0.080	20	2	<10	<1	6	7	25
AUG											
05.	0714	1.8	0.470	0.100	21	2	<10	<1	6	5	20
NOV											
12.	0355	--	--	--	21	1	<10	<1	3	5	15
DEC											
09.	0830	0.60	0.180	0.090	11	<1	<10	<1	<1	4	8

WATER-QUALITY DATA

DATE	TIME	THALLIUM, TOTAL (UG/L AS TL) (01059)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	DIBROMOMETHANE WATER WHOLE RECOVER (UG/L) (30217)	DICHLOROBROMOMETHANE TOTAL (UG/L) (32101)	CARBONTETRACHLORIDE TOTAL (UG/L) (32102)
JUNE 1992											
11.	1900	<10	<0.10	9	<2	<1	80	<0.010	<0.2	<0.2	<0.2
29.	1508	<5	<0.10	5	<2	<1	70	<0.010	<0.2	<0.2	<0.2
AUG											
05.	0714	<5	<0.10	5	<1	<1	70	<0.010	<0.2	<0.2	<0.2
NOV											
12.	0355	<5	<0.10	4	<2	<1	50	<0.010	<0.2	<0.2	<0.2
DEC											
09.	0830	<10	0.20	3	<2	<1	30	<0.010	<0.2	<0.2	<0.2

DATE	TIME	1,2-DICHLOROETHANE TOTAL (UG/L) (32103)	BROMOFORM TOTAL (UG/L) (32104)	CHLORODIBROMOMETHANE TOTAL (UG/L) (32105)	CHLOROFORM TOTAL (UG/L) (32106)	PHENOLS TOTAL (UG/L) (32730)	TOLUENE TOTAL (UG/L) (34010)	BENZENE TOTAL (UG/L) (34030)	ACENAPHTHYLENE TOTAL (UG/L) (34200)	ACENAPHTHENE TOTAL (UG/L) (34205)	ACROLEIN TOTAL (UG/L) (34210)
JUNE 1992											
11.	1900	<0.2	<0.2	<0.2	<0.2	3	0.2	<0.2	<5.0	<5.0	<20
29.	1508	<0.2	<0.2	<0.2	<0.2	2	<0.2	<0.2	<5.0	<5.0	<20
AUG											
05.	0714	<0.2	<0.2	<0.2	<0.2	6	<0.2	<0.2	<5.0	<5.0	<20
NOV											
12.	0355	<0.2	<0.2	<0.2	<0.2	5	<0.2	<0.2	<5.0	<5.0	<20
DEC											
09.	0830	<0.2	<0.2	<0.2	<0.2	6	<0.2	<0.2	<5.0	<5.0	<20

DATE	TIME	ACRYLONITRILE TOTAL (UG/L) (34215)	ANTHRACENE TOTAL (UG/L) (34220)	BENZO B FLUORANTHENE TOTAL (UG/L) (34230)	BENZO K FLUORANTHENE TOTAL (UG/L) (34242)	BENZO-A-PYRENE TOTAL (UG/L) (34247)	DELTA BENZENE HEXACHLORIDE TOTAL (UG/L) (34259)	BIS 2-CHLOROETHYL ETHER TOTAL (UG/L) (34273)	BIS (2-CHLOROETHOXY) METHANE TOTAL (UG/L) (34278)	BIS (2-CHLOROISOPROPYL) ETHER TOTAL (UG/L) (34283)	N-BUTYL BENZYL PHTHALATE TOTAL (UG/L) (34292)
JUNE 1992											
11.	1900	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0	<5.0	<5.0	<5.0
29.	1508	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0	<5.0	<5.0	<5.0
AUG											
05.	0714	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0	<5.0	<5.0	<5.0
NOV											
12.	0355	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0	<5.0	<5.0	<5.0
DEC											
09.	0830	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0	<5.0	<5.0	<5.0

DATE	TIME	CHLOROBENZENE TOTAL (UG/L) (34301)	CHLOROETHANE TOTAL (UG/L) (34311)	CHRYSENE TOTAL (UG/L) (34320)	DIETHYL PHTHALATE TOTAL (UG/L) (34336)	DIMETHYL PHTHALATE TOTAL (UG/L) (34341)	ENDOSULFAN SULFATE TOTAL (UG/L) (34351)	ENDOSULFAN BETA TOTAL (UG/L) (34356)	ENDOSULFAN-I WATER WHOLE REC (UG/L) (34361)	ENDRIN ALDEHYDE TOTAL (UG/L) (34366)	ETHYLBENZENE TOTAL (UG/L) (34371)
JUNE 1992											
11.	1900	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04	<0.10	<0.20	<0.2
29.	1508	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04	<0.10	<0.20	<0.2
AUG											
05.	0714	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04	<0.10	<0.20	<0.2
NOV											
12.	0355	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04	<0.10	<0.20	<0.2
DEC											
09.	0830	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04	<0.10	<0.20	<0.2

DATE	TIME	FLUORANTHENE TOTAL (UG/L) (34376)	FLUORENE TOTAL (UG/L) (34381)	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)	METHYLBROMIDE TOTAL (UG/L) (34413)	METHYLCHLORIDE TOTAL (UG/L) (34418)	METHYLENE CHLORIDE TOTAL (UG/L) (34423)	N-NITROSODI-N-PROPYLAMINE TOTAL (UG/L) (34428)
JUNE 1992											
11.	1900	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2	<0.2	<0.2	<5.0
29.	1508	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2	<0.2	<0.2	<5.0
AUG											
05.	0714	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2	<0.2	<0.2	<5.0
NOV											
12.	0355	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2	<0.2	<0.2	<5.0
DEC											
09.	0830	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2	<0.2	<0.2	<5.0

DATE	TIME	N-NITROSODIPHENYLAMINE TOTAL (UG/L) (34433)	N-NITROSODIMETHYLAMINE TOTAL (UG/L) (34438)	NITROBENZENE TOTAL (UG/L) (34447)	PARACHLOROMETA CRESOL TOTAL (UG/L) (34452)	PHENANTHRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	TETRACHLOROETHYLENE TOTAL (UG/L) (34475)	TRICHLOROFLUOROMETHANE TOTAL (UG/L) (34488)	1,1-DICHLOROETHANE TOTAL (UG/L) (34496)	1,1-DICHLOROETHYLENE TOTAL (UG/L) (34501)
JUNE 1992											
11.	1900	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2
29.	1508	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2
AUG											
05.	0714	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2
NOV											
12.	0355	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2
DEC											
09.	0830	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2

DATE	TIME	1,1,1-TRICHLOROETHANE TOTAL (UG/L) (34506)	1,1,2-TRICHLOROETHANE TOTAL (UG/L) (34511)	ETHANE, 1,1,2,2 TETRACHLOROWAT UNF REC (UG/L) (34516)	BENZOGH I PERYLENE1,12-BENZOPERYLENE TOTAL (UG/L) (34521)	BENZO A ANTHRACENE1,2-BENZANTHRACENE TOTAL (UG/L) (34526)	BENZENE O-CHLOROWATER UNFLTRD REC (UG/L) (34536)	1,2-DICHLOROPROPANE TOTAL (UG/L) (34541)	1,2-TRANSDICHLOROETHENE TOTAL (UG/L) (34546)	BENZENE 1,2,4-TRICHLOROWAT UNF REC (UG/L) (34551)	1,2,5,6-DIBENZ-ANTHRACENE TOTAL (UG/L) (34556)
JUNE 1992											
11.	1900	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2	<0.2	<5.0	<10.0
29.	1508	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2	<0.2	<5.0	<10.0
AUG											
05.	0714	<0.4	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2	<0.2	<5.0	<10.0
NOV											
12.	0355	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2	<0.2	<5.0	<10.0
DEC											
09.	0830	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2	<0.2	<5.0	<10.0

DATE	TIME	BENZENE 1,3-DICHLOROWATER UNFLTRD REC (UG/L) (34566)	BENZENE 1,4-DICHLOROWATER UNFLTRD REC (UG/L) (34571)	2-CHLOROETHYLVINYLETHER TOTAL (UG/L) (34576)	2-CHLORONAPHTHALENE TOTAL (UG/L) (34581)	2-CHLOROPHENOL TOTAL (UG/L) (34586)	2-NITROPHENOL TOTAL (UG/L) (34591)	DI-N-OCTYL PHTHALATE TOTAL (UG/L) (34596)	2,4-DICHLOROPHENOL TOTAL (UG/L) (34601)	2,4-DIMETHYLPHENOL TOTAL (UG/L) (34606)	2,4-DINITROTOLUENE TOTAL (UG/L) (34611)
JUNE 1992											
11.	1900	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
29.	1508	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
AUG											
05.	0714	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
NOV											
12.	0355	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0
DEC											
09.	0830	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0

WATER-QUALITY DATA

DATE	TIME	2,4,-DI-NITRO-PHENOL TOTAL (UG/L) (34616)	2,4,6-TRI-CHLORO-PHENOL TOTAL (UG/L) (34621)	2,6-DI-NITRO-TOLUENE TOTAL (UG/L) (34626)	3,3'-DI-CHLORO-BENZI-DINE TOTAL (UG/L) (34631)	4-BROMO-PHENYL PHENYL ETHER TOTAL (UG/L) (34636)	4-CHLORO-PHENYL PHENYL ETHER TOTAL (UG/L) (34641)	4-NITRO-PHENOL TOTAL (UG/L) (34646)	4,6-DINITRO-ORTHO-CRESOL TOTAL (UG/L) (34657)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L) (34668)	PHENOL (C6H-5OH) TOTAL (UG/L) (34694)
JUNE 1992											
11.	1900	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0	<30.0	<0.2	<5.0
29.	1508	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0	<30.0	<0.2	<5.0
AUG											
05.	0714	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0	<30.0	<0.2	<5.0
NOV											
12.	0355	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0	<30.0	<0.2	<5.0
DEC											
09.	0830	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0	<30.0	<0.2	<5.0

DATE	TIME	NAPHTH-ALENE TOTAL (UG/L) (34696)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34699)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34704)	PENTA-CHLORO-PHENOL TOTAL (UG/L) (39032)	CHLOR-DANE CIS WATER WHOLE TOTAL (UG/L) (39062)	CHLOR-DANE TRANS WATER WHOLE TOTAL (UG/L) (39065)	BIS(2-ETHYL HEXYL) PHTHAL-ATE TOTAL (UG/L) (39100)	DI-N-BUTYL PHTHAL-ATE TOTAL (UG/L) (39110)	BENZI-DINE TOTAL (UG/L) (39120)	VINYL CHLO-RIDE TOTAL (UG/L) (39175)
JUNE 1992											
11.	1900	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0	<5.0	<40.0	<0.2
29.	1508	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0	<5.0	<40.0	<0.2
AUG											
05.	0714	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0	<5.0	<40.0	<0.2
NOV											
12.	0355	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0	<5.0	<40.0	<0.2
DEC											
09.	0830	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0	<5.0	<40.0	<0.2

DATE	TIME	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L) (39180)	P,P' DDT, TOTAL (UG/L) (39300)	P,P' DDD, TOTAL (UG/L) (39310)	P,P' DDE, TOTAL (UG/L) (39320)	ALDRIN, TOTAL (UG/L) (39330)	ALPHA BHC TOTAL (UG/L) (39337)	BETA BENZENE HEXA-CHLOR-IDE TOTAL (UG/L) (39338)	CHLOR-DANE, TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)
JUNE 1992											
11.	1900	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03	0.1	<0.020	<0.060
29.	1508	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03	<0.1	<0.020	<0.060
AUG											
05.	0714	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03	<0.1	<0.020	<0.060
NOV											
12.	0355	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03	0.1	<0.020	<0.060
DEC											
09.	0830	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03	<0.1	<0.020	<0.060

DATE	TIME	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	TOX-APHENE, TOTAL (UG/L) (39400)	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)
JUNE 1992											
11.	1900	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1
29.	1508	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1
AUG											
05.	0714	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1
NOV											
12.	0355	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1
DEC											
09.	0830	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1

WATER-QUALITY DATA

DATE	TIME	AROCLOR 1260 PCB TOTAL (UG/L) (39508)	HEXA-CHLORO-BENZENE TOTAL (UG/L) (39700)	HEXA-CHLORO-BUT-ADIENE TOTAL (UG/L) (39702)	CIS-1,2-DI-CHLORO-ETHENE WATER TOTAL (UG/L) (77093)	STYRENE TOTAL (UG/L) (77128)	1,1-DI CHLORO-PRO-PENE, WAT, WH TOTAL (UG/L) (77168)	2,2-DI CHLORO-PRO-PANE WAT, WH TOTAL (UG/L) (77170)	1,3-DI-CHLORO-PROPANE WAT. WH TOTAL (UG/L) (77173)	PSEUDO-CUMENE WATER UNFLTRD REC (UG/L) (77222)	ISO-PROPYL-BENZENE WATER WHOLE REC (UG/L) (77223)
JUNE 1992											
11.	1900	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20
29.	1508	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20
AUG											
05.	0714	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20
NOV											
12.	0355	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20
DEC											
09.	0830	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20

DATE	TIME	BENZENE N-PROPY WATER UNFLTRD REC (UG/L) (77224)	MESIT-YLENE WATER UNFLTRD REC (UG/L) (77226)	O-CHLORO-TOLUENE WATER WHOLE TOTAL (UG/L) (77275)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L) (77277)	METHANE BROMO CHLORO-WAT UNFLTRD REC (UG/L) (77297)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L) (77342)	BENZENE SEC BUTYL-WATER UNFLTRD REC (UG/L) (77350)	BENZENE TERT-BUTYL-WATER UNFLTRD REC (UG/L) (77353)	P-ISO-PROPYL-TOLUENE WATER WHOLE REC (UG/L) (77356)	123-TRI CHLORO-PROPANE WATER WHOLE TOTAL (UG/L) (77443)
JUNE 1992											
11.	1900	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2
29.	1508	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2
AUG											
05.	0714	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2
NOV											
12.	0355	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2
DEC											
09.	0830	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2

DATE	TIME	ETHANE, 1112-TETRA-CHLORO-WAT UNF REC (UG/L) (77562)	1,2,3-TRI-CHLORO BENZENE WAT, WH REC (UG/L) (77613)	1,2-DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	FREON-113 WATER UNFLTRD REC (UG/L) (77652)	METHYL ETHER TERT-BUTYL WAT UNF REC (UG/L) (78032)	XYLENE WATER UNFLTRD REC (UG/L) (81551)	BROMO-BENZENE WATER, WHOLE, TOTAL (UG/L) (81555)	DIBROMO CHLORO-PROPANE WATER WHOLE TOT.REC (UG/L) (82625)	1,2-DI-PHENYL-HYDRA-ZINE WATER TOT.REC (UG/L) (82626)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
JUNE 1992											
11.	1900	<0.2	<0.20	<0.2	<0.5	<1.0	<0.20	<0.2	<1.0	<5.0	4
29.	1508	<0.2	<0.20	<0.2	<0.5	<1.0	<0.20	<0.2	<1.0	<5.0	<1
AUG											
05.	0714	<0.2	<0.20	<0.2	<0.5	<1.0	<0.20	<0.2	<1.0	<5.0	1
NOV											
12.	0355	<0.2	<0.20	<0.2	<0.5	<1.0	<0.20	<0.2	<1.0	<5.0	3
DEC											
09.	0830	<0.2	<0.20	<0.2	<0.5	<1.0	<0.20	<0.2	<1.0	<5.0	<1

07263592 - UNIVERSITY SHOPPING MALL AREA STORMWATER DRAIN AT LITTLE ROCK
WATER-QUALITY DATA

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)
JULY 1992											
03.	0250	80513	80020	42	6.8	9.2	180	29000	62000	11	3.6
21.	1745	80513	80020	30	6.4	18	31	4800	7500	8	2.5
MAY 1993											
01.	1635	80513	80020	29	6.3	5.3	39	>60000	59000	8	2.5
18.	1308	80513	80020	30	6.2	12	53	24000	47000	8	2.8
OCT											
18.	0430	80513	80020	27	7.9	5.4	25	K6400	38000	7	2.3
20.	0420	80513	80020	21	7.6	2.8	31	42000	44000	6	1.9

DATE	TIME	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
JULY 1992											
03.	0250	0.43	1.9	0.3	26	0.90	10	4.0	1.8	27	19
21.	1745	0.33	1.1	0.2	21	1.1	7.2	2.8	1.2	26	13
MAY 1993											
01.	1635	0.35	1.1	0.2	21	0.90	8.0	2.8	1.0	14	15
18.	1308	0.32	1.0	0.2	18	1.3	6.7	2.7	1.3	23	15
OCT											
18.	0430	0.29	1.2	0.2	24	0.90	8.0	2.1	1.4	17	15
20.	0420	0.21	0.40	0.1	12	0.70	5.9	1.9	1.4	18	11

DATE	TIME	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
JULY 1992											
03.	0250	0.04	69	0.060	--	0.440	--	0.260	--	0.33	0.64
21.	1745	0.03	76	0.030	--	0.330	--	0.200	--	0.26	0.30
MAY 1993											
01.	1635	0.02	78	--	<0.010	--	0.300	--	0.270	--	0.33
18.	1308	0.03	55	--	0.010	--	0.360	--	0.260	--	0.34
OCT											
18.	0430	0.02	18	--	<0.010	--	0.280	--	0.220	--	0.18
20.	0420	0.02	66	--	<0.010	--	0.200	--	0.150	--	0.45

DATE	TIME	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)
JULY 1992											
03.	0250	1.3	5.9	0.380	0.90	0.170	0.060	11	11	<10	<1
21.	1745	0.83	3.7	0.300	0.50	0.130	0.130	12	4	<10	<1
MAY 1993											
01.	1635	0.90	--	0.300	0.60	0.110	0.090	12	2	<10	<1
18.	1308	0.96	--	0.350	0.60	0.100	0.100	13	2	<10	<1
OCT											
18.	0430	0.68	--	0.280	0.40	0.080	0.070	7.3	2	<10	<1
20.	0420	0.80	--	0.200	0.60	0.120	0.020	7.8	3	<10	<1

DATE	TIME	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	THALLIUM, TOTAL (UG/L AS TL) (01059)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)
JULY 1992											
03.	0250	5	11	27	<5	<0.10	4	<2	<1	110	<0.010
21.	1745	3	9	20	<5	<0.10	3	<2	<1	80	<0.010
MAY 1993											
01.	1635	1	8	21	<5	0.10	3	<2	<1	100	<0.010
18.	1308	4	9	15	<5	0.10	3	<2	<1	90	<0.010
OCT											
18.	0430	1	6	9	<5	0.90	2	1	<1	90	<0.010
20.	0420	<1	5	18	<5	<0.10	2	<1	<1	80	<0.010

DATE	TIME	DIBROMOMETHANE WATER WHOLE RECOVER (UG/L) (30217)	DICHLOROBROMOMETHANE TOTAL (UG/L) (32101)	CARBONTETRACHLORIDE TOTAL (UG/L) (32102)	1,2-DICHLOROETHANE TOTAL (UG/L) (32103)	BROMOFORM TOTAL (UG/L) (32104)	CHLORODIBROMOMETHANE TOTAL (UG/L) (32105)	CHLOROFORM TOTAL (UG/L) (32106)	PHENOLS TOTAL (UG/L) (32730)	TOLUENE TOTAL (UG/L) (34010)	BENZENE TOTAL (UG/L) (34030)
JULY 1992											
03.	0250	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2	<0.2	<0.2
21.	1745	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	7	0.2	<0.2
MAY 1993											
01.	1635	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	4	<0.2	<0.2
18.	1308	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	3	<0.2	<0.2
OCT											
18.	0430	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2	<0.2	<0.2
20.	0420	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1	<0.2	<0.2

DATE	TIME	ACENAPHTHYLENE TOTAL (UG/L) (34200)	ACENAPHTHENE TOTAL (UG/L) (34205)	ACROLEIN TOTAL (UG/L) (34210)	ACRYLONITRILE TOTAL (UG/L) (34215)	ANTHRACENE TOTAL (UG/L) (34220)	BENZO B FLUORANTHENE TOTAL (UG/L) (34230)	BENZO K FLUORANTHENE TOTAL (UG/L) (34242)	BENZO-A-PYRENE TOTAL (UG/L) (34247)	DELTA BENZENE HEXACHLORIDE TOTAL (UG/L) (34259)	BIS 2-CHLOROETHYL ETHER TOTAL (UG/L) (34273)
JULY 1992											
03.	0250	<5.0	<5.0	<20	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0
21.	1745	<5.0	<5.0	<20	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0
MAY 1993											
01.	1635	<5.0	<5.0	<20	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0
18.	1308	<5.0	<5.0	<20	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0
OCT											
18.	0430	<5.0	<5.0	<20	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0
20.	0420	<5.0	<5.0	<20	<20	<5.0	<10.0	<10.0	<10.0	<0.09	<5.0

DATE	TIME	BIS (2-CHLOROETHOXY) METHANE TOTAL (UG/L) (34278)	BIS (2-CHLOROISOPROPYL) ETHER TOTAL (UG/L) (34283)	N-BUTYL BENZYL PHTHALATE TOTAL (UG/L) (34292)	CHLOROBENZENE TOTAL (UG/L) (34301)	CHLOROETHANE TOTAL (UG/L) (34311)	CHRYSENE TOTAL (UG/L) (34320)	DIETHYL PHTHALATE TOTAL (UG/L) (34336)	DIMETHYL PHTHALATE TOTAL (UG/L) (34341)	ENDOSULFAN SULFATE TOTAL (UG/L) (34351)	ENDOSULFAN BETA TOTAL (UG/L) (34356)
JULY 1992											
03.	0250	<5.0	<5.0	<5.0	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04
21.	1745	<5.0	<5.0	<5.0	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04
MAY 1993											
01.	1635	<5.0	<5.0	<5.0	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04
18.	1308	<5.0	<5.0	<5.0	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04
OCT											
18.	0430	<5.0	<5.0	<5.0	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04
20.	0420	<5.0	<5.0	<5.0	<0.20	<0.2	<10.0	<5.0	<5.0	<0.60	<0.04

WATER-QUALITY DATA

DATE	TIME	ENDOSULFAN-I WATER WHOLE REC (UG/L) (34361)	ENDRIN ALDEHYDE TOTAL (UG/L) (34366)	ETHYLBENZENE TOTAL (UG/L) (34371)	FLUORANTHENE TOTAL (UG/L) (34376)	FLUORENE TOTAL (UG/L) (34381)	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)	METHYLBROMIDE TOTAL (UG/L) (34413)
JULY 1992											
03.	0250	<0.10	<0.20	<0.2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2
21.	1745	<0.10	<0.20	<0.2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2
MAY 1993											
01.	1635	<0.10	<0.20	<0.2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2
18.	1308	<0.10	<0.20	<0.2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2
OCT											
18.	0430	<0.10	<0.20	<0.2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2
20.	0420	<0.10	<0.20	<0.2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.2

DATE	TIME	METHYLCHLORIDE TOTAL (UG/L) (34418)	METHYLENE CHLORIDE TOTAL (UG/L) (34423)	N-NITROSODI-N-PROPYLAMINE TOTAL (UG/L) (34428)	N-NITROSODIPHENYLAMINE TOTAL (UG/L) (34433)	N-NITROSODIMETHYLAMINE TOTAL (UG/L) (34438)	NITROBENZENE TOTAL (UG/L) (34447)	PARACHLORO-META CRESOL TOTAL (UG/L) (34452)	PHENANTHRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	TETRACHLOROETHYLENE TOTAL (UG/L) (34475)
JULY 1992											
03.	0250	<0.2	<0.2	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2
21.	1745	<0.2	<0.2	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2
MAY 1993											
01.	1635	<0.2	<0.2	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2
18.	1308	<0.2	<0.2	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2
OCT											
18.	0430	<0.2	<0.2	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2
20.	0420	<0.2	<0.2	<5.0	<5.0	<5.0	<5.0	<30.0	<5.0	<5.0	<0.2

DATE	TIME	TRICHLOROFLUOROMETHANE TOTAL (UG/L) (34488)	1,1-DICHLOROETHANE TOTAL (UG/L) (34496)	1,1-DICHLOROETHYLENE TOTAL (UG/L) (34501)	1,1,1-TRICHLOROETHANE TOTAL (UG/L) (34506)	1,1,2-TRICHLOROETHANE TOTAL (UG/L) (34511)	ETHANE, 1,1,2,2 TETRACHLORO-WAT UNF REC (UG/L) (34516)	BENZOGH I PERYLENE1,12-BENZOPERYLENE TOTAL (UG/L) (34521)	BENZO A ANTHRACENE1,2-BENZANTHRACENE TOTAL (UG/L) (34526)	BENZENE O-CHLORO-WATER UNFLTRD REC (UG/L) (34536)	1,2-DICHLOROPROPANE TOTAL (UG/L) (34541)
JULY 1992											
03.	0250	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2
21.	1745	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2
MAY 1993											
01.	1635	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10.0	<10.0	<0.20	<0.2
18.	1308	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2
OCT											
18.	0430	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2
20.	0420	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10.0	<10.0	<5.0	<0.2

DATE	TIME	1,2-TRANSDICHLOROETHENE TOTAL (UG/L) (34546)	BENZENE 1,2,4-TRICHLORO-WAT UNF REC (UG/L) (34551)	1,2,5,6-DIBENZ-ANTHRACENE TOTAL (UG/L) (34556)	BENZENE 1,3-DICHLORO-WATER UNFLTRD REC (UG/L) (34566)	BENZENE 1,4-DICHLORO-WATER UNFLTRD REC (UG/L) (34571)	2-CHLOROETHYLVINYLETHER TOTAL (UG/L) (34576)	2-CHLORONAPHTHALENE TOTAL (UG/L) (34581)	2-CHLOROPHENOL TOTAL (UG/L) (34586)	2-NITROPHENOL TOTAL (UG/L) (34591)	DI-N-OCTYL PHTHALATE TOTAL (UG/L) (34596)
JULY 1992											
03.	0250	<0.2	<5.0	<10.0	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0
21.	1745	<0.2	<5.0	<10.0	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0
MAY 1993											
01.	1635	<0.2	<0.20	<10.0	<0.20	<0.20	<1.0	<5.0	<5.0	<5.0	<10.0
18.	1308	<0.2	<5.0	<10.0	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0
OCT											
18.	0430	<0.2	<5.0	<10.0	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0
20.	0420	<0.2	<5.0	<10.0	<5.0	<5.0	<1.0	<5.0	<5.0	<5.0	<10.0

WATER-QUALITY DATA

DATE	TIME	2,4-DI-CHLORO-PHENOL TOTAL (UG/L) (34601)	2,4-DI-METHYL-PHENOL TOTAL (UG/L) (34606)	2,4-DI-NITRO-TOLUENE TOTAL (UG/L) (34611)	2,4,-DI-NITRO-PHENOL TOTAL (UG/L) (34616)	2,4,6-TRI-CHLORO-PHENOL TOTAL (UG/L) (34621)	2,6-DI-NITRO-TOLUENE TOTAL (UG/L) (34626)	3,3'-DI-CHLORO-BENZI-DINE TOTAL (UG/L) (34631)	4-BROMO-PHENYL PHENYL ETHER TOTAL (UG/L) (34636)	4-CHLORO-PHENYL PHENYL ETHER TOTAL (UG/L) (34641)	4-NITRO-PHENOL TOTAL (UG/L) (34646)
JULY 1992											
03.	0250	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0
21.	1745	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0
MAY 1993											
01.	1635	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0
18.	1308	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0
OCT											
18.	0430	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0
20.	0420	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0	<5.0	<5.0	<30.0

DATE	TIME	4,6-DINITRO-ORTHO-CRESOL TOTAL (UG/L) (34657)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L) (34668)	PHENOL (C6H-5OH) TOTAL (UG/L) (34694)	NAPHTH-ALENE TOTAL (UG/L) (34696)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34699)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34704)	PENTA-CHLORO-PHENOL TOTAL (UG/L) (39032)	CHLOR-DANE CIS WATER WHOLE TOTAL (UG/L) (39062)	CHLOR-DANE TRANS WATER WHOLE TOTAL (UG/L) (39065)	BIS(2-ETHYL HEXYL PHTHAL-ATE TOTAL (UG/L) (39100)
JULY 1992											
03.	0250	<30.0	<0.2	<5.0	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0
21.	1745	<30.0	<0.2	<5.0	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0
MAY 1993											
01.	1635	<30.0	<0.2	<5.0	<0.2	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0
18.	1308	<30.0	<0.2	<5.0	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0
OCT											
18.	0430	<30.0	<0.2	<5.0	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0
20.	0420	<30.0	<0.2	<5.0	<5.0	<0.2	<0.2	<30.0	<0.10	<0.10	<5.0

DATE	TIME	DI-N-BUTYL PHTHAL-ATE TOTAL (UG/L) (39110)	BENZI-DINE TOTAL (UG/L) (39120)	VINYL CHLO-RIDE TOTAL (UG/L) (39175)	TRI-CHLOR-ETHYL-ENE TOTAL (UG/L) (39180)	P,P' DDT, TOTAL (UG/L) (39300)	P,P' DDD, TOTAL (UG/L) (39310)	P,P DDE, TOTAL (UG/L) (39320)	ALDRIN TOTAL (UG/L) (39330	ALPHA BHC TOTAL (UG/L) (39337)	BETA BENDENE HEXA-CHLOR-IDE TOTAL (UG/L) (39338)
JULY 1992											
03.	0250	<5.0	<40.0	<0.2	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03
21.	1745	<5.0	<40.0	<0.2	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03
MAY 1993											
01.	1635	<5.0	<40.0	<0.2	<0.2	<0.10	<0.10	<0.04	<0.040	<0.030	<0.03
18.	1308	<5.0	<40.0	<0.2	<0.2	<0.10	<0.10	<0.04	<0.040	<0.030	<0.03
OCT											
18.	0430	<5.0	<40.0	<0.2	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03
20.	0420	<5.0	<40.0	<0.2	<0.2	<0.10	<0.10	<0.04	<0.040	<0.03	<0.03

DATE	TIME	CHLOR-DANE, TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	TOX-APHENE, TOTAL (UG/L) (39400)	AROCLOR 1016 PCB TOTAL (UG/L) (34671)	AROCLOR 1221 PCB TOTAL (UG/L) (39488)	AROCLOR 1232 PCB TOTAL (UG/L) (39492)
JULY 1992											
03.	0250	<0.1	<0.020	<0.060	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1
21.	1745	<0.1	<0.020	<0.060	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1
MAY 1993											
01.	1635	<0.1	<0.020	<0.060	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1
18.	1308	<0.1	<0.020	<0.060	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1
OCT											
18.	0430	<0.1	<0.020	<0.060	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1
20.	0420	<0.1	<0.020	<0.060	<0.030	<0.80	<0.030	<2	<0.1	<1.0	<0.1

DATE	TIME	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)	HEXA-CHLORO-BENZENE TOTAL (UG/L) (39700)	HEXA-CHLORO-BUT-ADIENE TOTAL (UG/L) (39702)	CIS-1,2 -DI-CHLORO-ETHENE WATER TOTAL (UG/L) (77093)	STYRENE TOTAL (UG/L) (77128)	1,1-DI CHLORO-PRO-PENE, WAT, WH TOTAL (UG/L) (77168)
JULY 1992										
03.	0250	<0.1	<0.1	<0.1	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2
21.	1745	<0.1	<0.1	<0.1	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2
MAY 1993										
01.	1635	<0.1	<0.1	<0.1	<0.1	<5.0	<0.2	<0.2	<0.2	<0.2
18.	1308	<0.1	<0.1	<0.1	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2
OCT										
18.	0430	<0.1	<0.1	<0.1	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2
20.	0420	<0.1	<0.1	<0.1	<0.1	<5.0	<5.0	<0.2	<0.2	<0.2

DATE	TIME	2,2-DI CHLORO-PRO-PANE WAT, WH TOTAL (UG/L) (77170)	1,3-DI-CHLORO-PROPANE WAT. WH TOTAL (UG/L) (77173)	PSEUDO-CUMENE WATER UNFLTRD REC (UG/L) (77222)	ISO-PROPYL-BENZENE WATER WHOLE REC (UG/L) (77223)	BENZENE N-PROPY WATER UNFLTRD REC (UG/L) (77224)	MESIT-YLENE WATER UNFLTR REC (UG/L) (7722	O-CHLORO-TOLUENE WATER WHOLE TOTAL (UG/L) (77275)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L) (77277)	METHANE BROMO CHLORO-WAT UNFLTRD REC (UG/L) (77297)
JULY 1992										
03.	0250	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20
21.	1745	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20
MAY 1993										
01.	1635	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20
18.	1308	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20
OCT										
18.	0430	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20
20.	0420	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20

DATE	TIME	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L) (77342)	BENZENE SEC BUTYL-WATER UNFLTRD REC (UG/L) (77350)	BENZENE TERT-BUTYL-WATER UNFLTRD REC (UG/L) (77353)	P-ISO-PROPYL-TOLUENE WATER WHOLE REC (UG/L) (77356)	123-TRI CHLORO-PROPANE WATER WHOLE TOTAL (UG/L) (77443)	ETHANE, 1112-TETRA-CHLORO-WAT UNF REC (UG/L) (77562)	1,2,3-TRI-CHLORO BENZENE WAT, WH REC (UG/L) (77613)	1,2-DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	FREON-113 WATER UNFLTRD REC (UG/L) (77652)
JULY 1992										
03.	0250	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20	<0.2	<0.5
21.	1745	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20	<0.2	<0.5
MAY 1993										
01.	1635	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20	<0.2	<0.5
18.	1308	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20	<0.2	<0.5
OCT										
18.	0430	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20	<0.2	<0.5
20.	0420	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20	<0.2	<0.5

DATE	TIME	METHYL ETHER TERT-BUTYL WAT UNF REC (UG/L) (78032)	XYLENE WATER UNFLTRD REC (UG/L) (81551)	BROMO-BENZENE WATER, WHOLE, TOTAL (UG/L) (81555)	DIBROMO CHLORO-PROPANE WATER WHOLE TOT.REC (UG/L) (82625)	1,2-DI-PHENYL-HYDRA-ZINE WATER TOT.REC (UG/L) (82626)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
JULY 1992							
03.	0250	<1.0	<0.20	<0.2	<1.0	<5.0	<1
21.	1745	<1.0	<0.20	<0.2	<1.0	<5.0	<1
MAY 1993							
01.	1635	<1.0	<0.20	<0.2	<1.0	<5.0	1
18.	1308	<1.0	<0.20	<0.2	<1.0	<5.0	1
OCT							
18.	0430	<1.0	<0.20	<0.2	<1.0	<5.0	<1
20.	0420	<1.0	<0.20	<0.2	<1.0	<5.0	<1

07263602 - EAST INDUSTRIAL AREA STORMWATER DRAIN AT LITTLE ROCK
WATER-QUALITY DATA

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)
NOV 1993											
16.	1255	80513	80020	68	6.7	>32	160	>2300	E1300	18	5.8
DEC											
02.	1000	80513	80020	83	6.4	36	110	K6100	620000	20	6.5
JAN 1994											
11.	0700	80513	80020	69	6.2	14	94	K2000	K29000	15	4.7

DATE	TIME	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
NOV 1993											
16.	1255	0.88	1.6	0.2	12	6.0	32	3.8	1.2	56	41
DEC											
02.	1000	1.0	2.1	0.2	13	7.1	32	7.5	2.5	72	51
JAN 1994											
11.	0700	0.79	1.6	0.2	13	6.4	37	5.7	1.6	51	48

DATE	TIME	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)
NOV 1993											
16.	1255	0.08	120	0.050	0.480	0.610	5.0	6.1	0.430	5.6	2.00
DEC											
02.	1000	0.10	56	0.100	0.870	0.920	4.1	5.9	0.770	5.0	0.980
JAN 1994											
11.	0700	0.07	59	0.100	0.840	0.990	3.3	5.1	0.740	4.3	0.750

DATE	TIME	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	THALLIUM, TOTAL (UG/L AS TL) (01059)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)
NOV 1993											
16.	1255	0.290	46	1	<10	<1	4	15	48	<5	<0.10
DEC											
02.	1000	0.430	38	1	<10	<1	4	14	20	<5	<0.10
JAN 1994											
11.	0700	0.440	34	2	<10	<1	3	12	20	<5	0.20

DATE	TIME	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	CYANIDE TOTAL (MG/L AS CN) (00720)	DIBROMOMETHANE WATER WHOLE RECOVER (UG/L) (30217)	DICHLOROBROMOMETHANE TOTAL (UG/L) (32101)	CARBONTETRACHLORIDE TOTAL (UG/L) (32102)	1,2-DICHLOROETHANE TOTAL (UG/L) (32103)	BROMOFORM TOTAL (UG/L) (32104)
NOV 1993											
16.	1255	5	<1	<1	250	<0.010	<0.2	<0.2	<0.2	<0.2	<0.2
DEC											
02.	1000	6	1	<1	240	<0.010	<0.2	<0.2	<0.2	<0.2	<0.2
JAN 1994											
11.	0700	5	1	<1	230	<0.010	<0.2	<0.2	<0.2	<0.2	<0.2

WATER-QUALITY DATA

DATE	TIME	CHLORO-DI-BROMO-METHANE TOTAL (UG/L) (32105)	CHLORO-FORM TOTAL (UG/L) (32106)	PHENOLS TOTAL (UG/L) (32730)	TOLUENE TOTAL (UG/L) (34010)	BENZENE TOTAL (UG/L) (34030)	ACE-NAPHTH-YLENE TOTAL (UG/L) (34200)	ACE-NAPHTH-ENE TOTAL (UG/L) (34205)	ACRO-LEIN TOTAL (UG/L) (34210)	ACRYLO-NITRILE TOTAL (UG/L) (34215)	ANTHRA-CENE TOTAL (UG/L) (34220)
NOV 1993											
16.	1255	<0.2	<0.2	6	0.3	<0.2	<5.0	<5.0	<20	<20	<5.0
DEC											
02.	1000	<0.2	0.5	10	1.5	<0.2	<5.0	<5.0	<20	<20	<5.0
JAN 1994											
11.	0700	<0.2	<0.2	6	1.5	<0.2	<5.0	<5.0	<20	<20	<5.0

DATE	TIME	BENZO B FLUOR-AN-THENE TOTAL (UG/L) (34230)	BENZO K FLUOR-AN-THENE TOTAL (UG/L) (34242)	BENZO-A-PYRENE TOTAL (UG/L) (34247)	DELTA BENZENE HEXA-CHLOR-IDE TOTAL (UG/L) (34259)	BIS 2-CHLORO-ETHYL ETHER TOTAL (UG/L) (34273)	BIS (2-CHLORO-ETHOXY) METHANE TOTAL (UG/L) (34278)	BIS (2-CHLORO-ISO-PROPYL) ETHER TOTAL (UG/L) (34283)	N-BUTYL BENZYL PHTHAL-ATE TOTAL (UG/L) (34292)	CHLORO-BENZENE TOTAL (UG/L) (34301)	CHLORO-ETHANE TOTAL (UG/L) (34311)
NOV 1993											
16.	1255	<10.0	<10.0	<10.0	<0.09	<5.0	<5.0	<5.0	<5.0	<0.20	<0.2
DEC											
02.	1000	<10.0	<10.0	<10.0	<0.09	<5.0	<5.0	<5.0	<5.0	<0.20	<0.2
JAN 1994											
11.	0700	<10.0	<10.0	<10.0	<0.09	<5.0	<5.0	<5.0	<5.0	<0.20	<0.2

DATE	TIME	CHRY-SENE TOTAL (UG/L) (34320)	DIETHYL PHTHAL-ATE TOTAL (UG/L) (34336)	DI-METHYL PHTHAL-ATE TOTAL (UG/L) (34341)	ENDO-SULFAN SULFATE TOTAL (UG/L) (34351)	ENDO-SULFAN BETA TOTAL (UG/L) (34356)	ENDO-SULFAN-I WATER WHOLE REC (UG/L) (34361)	ENDRIN ALDE-HYDE TOTAL (UG/L) (34366)	ETHYL-BENZENE TOTAL (UG/L) (34371)	FLUOR-ANTHENE TOTAL (UG/L) (34376)	FLUOR-ENE TOTAL (UG/L) (34381)
NOV 1993											
16.	1255	<10.0	<5.0	<5.0	<0.60	<0.04	<0.10	<0.20	<0.2	<5.0	<5.0
DEC											
02.	1000	<10.0	<5.0	<5.0	<0.60	<0.04	<0.10	<0.20	<0.2	<5.0	<5.0
JAN 1994											
11.	0700	<10.0	<5.0	<5.0	<0.60	<0.04	<0.10	<0.20	<0.2	<5.0	<5.0

DATE	TIME	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)	METHYL-BROMIDE TOTAL (UG/L) (34413)	METHYL-CHLO-RIDE TOTAL (UG/L) (34418)	METHYL-ENE CHLO-RIDE TOTAL (UG/L) (34423)	N-NITRO-SODI-N-PROPYL-AMINE TOTAL (UG/L) (34428)	N-NITRO-SODI-PHENY-LAMINE TOTAL (UG/L) (34433)	N-NITRO-SODI-METHY-LAMINE TOTAL (UG/L) (34438)
NOV 1993											
16.	1255	<5.0	<5.0	<10.0	<5.0	<0.2	<0.2	<0.2	<5.0	<5.0	<5.0
DEC											
02.	1000	<5.0	<5.0	<10.0	<5.0	<0.2	<0.2	<0.2	<5.0	<5.0	<5.0
JAN 1994											
11.	0700	<5.0	<5.0	<10.0	<5.0	<0.2	<0.2	<0.2	<5.0	<5.0	<5.0

DATE	TIME	NITRO-BENZENE TOTAL (UG/L) (34447)	PARA-CHLORO-META CRESOL TOTAL (UG/L) (34452)	PHENAN-THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L) (34475)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L) (34488)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L) (34496)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L) (34501)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L) (34506)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L) (34511)
NOV 1993											
16.	1255	<5.0	<30.0	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DEC											
02.	1000	<5.0	<30.0	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
JAN 1994											
11.	0700	<5.0	<30.0	<5.0	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

WATER-QUALITY DATA

DATE	TIME	ETHANE, 1,1,2,2 TETRA-CHLORO-WAT UNF REC (UG/L) (34516)	BENZOGH I PERYL ENE1,12 -BENZOP ERYLENE TOTAL (UG/L) (34521)	BENZO A ANTHRAC ENE1,2-BENZANT HRACENE TOTAL (UG/L) (34526)	BENZENE O-CHLORO-WATER UNFLTRD REC (UG/L) (34536)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L) (34541)	1,2-TRANSDI CHLORO-ETHENE TOTAL (UG/L) (34546)	BENZENE 1,2,4-TRI-CHLORO-WAT UNF REC (UG/L) (34551)	1,2,5,6 -DIBENZ -ANTHRA -CENE TOTAL (UG/L) (34556)	BENZENE 1,3-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34566)	BENZENE 1,4-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34571)
NOV 1993											
16.	1255	<0.2	<10.0	<10.0	<5.0	<0.2	<0.2	<5.0	<10.0	<5.0	<5.0
DEC											
02.	1000	<0.2	<10.0	<10.0	<5.0	<0.2	<0.2	<5.0	<10.0	<5.0	<5.0
JAN 1994											
11.	0700	<0.2	<10.0	<10.0	<5.0	<0.2	<0.2	<5.0	<10.0	<5.0	<5.0

DATE	TIME	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L) (34576)	2-CHLORO-NAPH-THALENE TOTAL (UG/L) (34581)	2-CHLORO-PHENOL TOTAL (UG/L) (34586)	2-NITRO-PHENOL TOTAL (UG/L) (34591)	DI-N-OCTYL PHTHAL-ATE TOTAL (UG/L) (34596)	2,4-DI-CHLORO-PHENOL TOTAL (UG/L) (34601)	2,4-DI-METHYL-PHENOL TOTAL (UG/L) (34606)	2,4-DI-NITRO-TOLUENE TOTAL (UG/L) (34611)	2,4,-DI-NITRO-PHENOL TOTAL (UG/L) (34616)	2,4,6-TRI-CHLORO-PHENOL TOTAL (UG/L) (34621)
NOV 1993											
16.	1255	<1.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0
DEC											
02.	1000	<1.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0
JAN 1994											
11.	0700	<1.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0

DATE	TIME	2,6-DI-NITRO-TOLUENE TOTAL (UG/L) (34626)	3,3'-DI-CHLORO-BENZI-DINE TOTAL (UG/L) (34631)	4-BROMO-PHENYL PHENYL ETHER TOTAL (UG/L) (34636)	4-CHLORO-PHENYL PHENYL ETHER TOTAL (UG/L) (34641)	4-NITRO-PHENOL TOTAL (UG/L) (34646)	4,6-DINITRO-ORTHO-CRESOL TOTAL (UG/L) (34657)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L) (34668)	PHENOL (C6H-5OH) TOTAL (UG/L) (34694)	NAPHTH-ALENE TOTAL (UG/L) (34696)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34699)
NOV 1993											
16.	1255	<5.0	<20.0	<5.0	<5.0	<30.0	<30.0	<0.2	<5.0	<5.0	<0.2
DEC											
02.	1000	<5.0	<20.0	<5.0	<5.0	<30.0	<30.0	<0.2	<5.0	<5.0	<0.2
JAN 1994											
11.	0700	<5.0	<20.0	<5.0	<5.0	<30.0	<30.0	<0.2	<5.0	<5.0	<0.2

DATE	TIME	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34704)	PENTA-CHLORO-PHENOL TOTAL (UG/L) (39032)	CHLOR-DANE CIS WATER WHOLE TOTAL (UG/L) (39062)	CHLOR-DANE TRANS WATER WHOLE TOTAL (UG/L) (39065)	BIS(2-ETHYL HEXYL) PHTHAL-ATE TOTAL (UG/L) (39100)	DI-N-BUTYL PHTHAL-ATE TOTAL (UG/L) (39110)	BENZI-DINE TOTAL (UG/L) (39120)	VINYL CHLO-RIDE TOTAL (UG/L) (39175)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L) (39180)	P,P' DDT, TOTAL (UG/L) (39300)
NOV 1993											
16.	1255	<0.2	<30.0	<0.10	<0.10	<5.0	<5.0	<40.0	<0.2	<0.2	<0.10
DEC											
02.	1000	<0.2	<30.0	<0.10	<0.10	<5.0	<5.0	<40.0	<0.2	<0.2	<0.10
JAN 1994											
11.	0700	<0.2	<30.0	<0.10	<0.10	<5.0	<5.0	<40.0	<0.2	<0.2	<0.10

DATE	TIME	P,P' DDD, TOTAL (UG/L) (39310)	P,P' DDE, TOTAL (UG/L) (39320)	ALDRIN, TOTAL (UG/L) (39330)	ALPHA BHC TOTAL (UG/L) (39337)	BETA BENZENE HEXA-CHLOR-IDE TOTAL (UG/L) (39338)	CHLOR-DANE, TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)
NOV 1993											
16.	1255	<0.10	<0.04	<0.040	<0.03	<0.03	<0.1	<0.020	<0.060	<0.030	<0.80
DEC											
02.	1000	<0.10	<0.04	<0.040	<0.03	<0.03	<0.1	<0.020	<0.060	<0.030	<0.80
JAN 1994											
11.	0700	<0.10	<0.04	<0.040	<0.03	<0.03	<0.1	<0.020	<0.060	<0.030	<0.80

WATER-QUALITY DATA

DATE	TIME	LINDANE TOTAL (UG/L) (39340)	TOX-APHENE, TOTAL (UG/L) (39400)	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)	HEXA-CHLORO-BENZENE TOTAL (UG/L) (39700)
NOV 1993											
16.	1255	<0.030	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<5.0
DEC											
02.	1000	<0.030	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<5.0
JAN 1994											
11.	0700	<0.030	<2	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<5.0

DATE	TIME	HEXA-CHLORO-BUT-ADIENE TOTAL (UG/L) (39702)	CIS-1,2-DI-CHLORO-ETHENE WATER TOTAL (UG/L) (77093)	STYRENE TOTAL (UG/L) (77128)	1,1-DI CHLORO-PRO-PENE, WAT, WH TOTAL (UG/L) (77168)	2,2-DI CHLORO-PRO-PANE WAT, WH TOTAL (UG/L) (77170)	1,3-DI-CHLORO-PROPANE WAT. WH TOTAL (UG/L) (77173)	PSEUDO-CUMENE WATER UNFLTRD REC (UG/L) (77222)	ISO-PROPYL-BENZENE WATER WHOLE REC (UG/L) (77223)	BENZENE N-PROPY WATER UNFLTRD REC (UG/L) (77224)	MESIT-YLENE WATER UNFLTRD REC (UG/L) (77226)
NOV 1993											
16.	1255	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20
DEC											
02.	1000	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20
JAN 1994											
11.	0700	<5.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20

DATE	TIME	O-CHLORO-TOLUENE WATER WHOLE TOTAL (UG/L) (77275)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L) (77277)	METHANE BROMO CHLORO-WAT UNFLTRD REC (UG/L) (77297)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L) (77342)	BENZENE SEC BUTYL-WATER UNFLTRD REC (UG/L) (77350)	BENZENE TERT-BUTYL-WATER UNFLTRD REC (UG/L) (77353)	P-ISO-PROPYL-TOLUENE WATER WHOLE REC (UG/L) (77356)	123-TRI CHLORO-PROPANE WATER WHOLE TOTAL (UG/L) (77443)	ETHANE, 1112-TETRA-CHLORO-WAT UNF REC (UG/L) (77562)	1,2,3-TRI-CHLORO BENZENE WAT, WH REC (UG/L) (77613)
NOV 1993											
16.	1255	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20
DEC											
02.	1000	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20
JAN 1994											
11.	0700	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.20

DATE	TIME	1,2-DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	FREON-113 WATER UNFLTRD REC (UG/L) (77652)	METHYL ETHER TERT-BUTYL WAT UNF REC (UG/L) (78032)	XYLENE WATER UNFLTRD REC (UG/L) (81551)	BROMO-BENZENE WATER, WHOLE, TOTAL (UG/L) (81555)	DIBROMO CHLORO-PROPANE WATER WHOLE TOT.REC (UG/L) (82625)	1,2-DI-PHENYL-HYDRA-ZINE WATER TOT.REC (UG/L) (82626)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
NOV 1993									
16.	1255	<0.2	<0.5	<1.0	<0.20	<0.2	<1.0	<5.0	2
DEC									
02.	1000	<0.2	<0.5	<1.0	<0.20	<0.2	<1.0	<5.0	2
JAN 1994									
11.	0700	<0.2	<0.5	<1.0	<0.20	<0.2	<1.0	<5.0	2

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