03-035

Wet-Weather Sampling and Water-Quality Evaluation 2003

Township of Cranbury
Environmental Commission

June 29, 2004

This document was prepared with the aid of a grant from the New Jersey Department of Environmental Protection, Environmental Services Program Matching Grant ES03-035.

Wet-Weather Sampling and Water-Quality Evaluation 2003

Introduction

This report presents the results of surface-water monitoring during wet weather, conducted in December 2003 in the Township of Cranbury, Middlesex County, New Jersey.

The Cranbury Environmental Commission obtained a grant from the New Jersey Department of Environmental Protection (NJDEP), Environmental Services Program. The purpose of the grant is to support the costs associated with the collection, analysis, and evaluation of surface-water samples in the Township of Cranbury during wet-weather flow conditions. The costs of the program were shared equally between NJDEP and the township.

Land use in Cranbury is changing rapidly as more areas of the town are developed, both residentially and commercially. This development affects surface-water bodies, both in the short term due to increased siltation during construction, and in the long term as runoff quantity is increased after impermeable cover replaces open land. Often, runoff quality deteriorates as well, because runoff from paved areas can transport oil and grease associated with parking areas, and runoff from residential areas can transport pesticides and fertilizers to receiving water bodies.

A previous NJDEP grant (ES02-40) supported the establishment of a baseline water-quality assessment of surface waters in the Township during dry-weather flow conditions. The test results were acceptable overall and generally met NJDEP surface-water quality criteria. A report of those results was submitted to the NJDEP in June 2003.

Purpose and Objectives

The purpose of the project is to characterize changes in surface-water quality in Cranbury during wet-weather flow conditions. The ultimate goal is to help protect Cranbury's surface-water bodies, which are ecological resources used as a habitat by wildlife and by Cranbury residents for fishing, canoeing, and other recreational activities.

The objectives of the wet-weather monitoring program are as follows:

- Conduct sampling during a period of substantial precipitation, to monitor any variations in surface-water chemistry resulting from increased runoff.
- Collect samples soon after the start of the storm, about 5 hours later, and 24 hours after the first collection.
- Collect samples from four locations at each time interval, representative of runoff from the warehouse district of the Township, highways, parklands, and residential areas.

- Analyze each sample at an NJDEP-certified analytical laboratory for general water-quality parameters.
- Tabulate and evaluate the results compared to standards and targets for surface-water quality for similar lakes and streams.

Monitoring Locations

The monitoring locations are shown in the map in Figure 1. Four locations were selected as representative of the types of runoff found in Cranbury Township. They are designated as follows:

- Warehouse District: Cranbury Brook from the east side of the Route 130 bridge (samples designated "WD" in the Accutest report).
- Highway Runoff: A culvert emptying from Route 130 into Brainerd Lake at the south end of the bridge ("HW").
- Parklands: A culvert emptying from Village Park into Brainerd Lake ("VP").
- Residential Area: A culvert emptying into Cranbury Brook at Wynnewood Drive ("RA").

Sampling Events

Samples were collected from all four locations three times during the rainfall event:

- Approximately 2 hours after the beginning of precipitation: December 17, 2003, 09:45 to 10:30 EST (samples designated "-1"; for example, "WD-1").
- Five hours later: December 17, 2003, 14:45 to 15:30 EST ("-2").
- Approximately 24 hours after the first collection: December 18, 2003, 10:20 to 10:45 EST ("-3").

On December 18, it was not possible to collect samples at the highway-runoff and residential-area locations because flow had stopped after the end of the precipitation.

Collection Procedures

At each sampling event, samples were collected into bottles pre-filled with preservatives as appropriate, 9 bottles for each location

Sample Analyses

Surface-water samples were analyzed by Accutest Laboratories, Dayton NJ (NJDEP Certification No. 12129). Samples from all six sampling locations were analyzed for the following parameters:

Parameter	Method
Total Suspended Solids	EPA 160.2
Nitrogen as Nitrate[a]	EPA 353.2/ SM184500
Nitrogen, Nitrate + Nitrite	EPA 353.2
Nitrogen as Nitrite	SM19 4500NO2B
Sulfate	EPA 300/ SW846 9056
Total Phosphorus	EPA 365.3
Petroleum Hydrocarbons	EPA 418.1
Fecal Coliforms	SM18 9222D
Total Coliforms	SM18 9222B

a – Calculated as (Nitrogen, Nitrate + Nitrite) – (Nitrogen as Nitrite)

Pesticides[a]	
Aldrin	Endrin
alpha-BHC	Endosulfan sulfate
beta-BHC	Endrin aldehyde
delta-BHC	Endosulfan-I
gamma-BHC (Lindane)	Endosulfan-II
Chlordane	Heptachlor
Dieldrin	Heptachlor epoxide
4,4'-DDD	Methoxychlor
4,4'-DDE	Toxaphene
4,4'-DDT	

a – Method: EPA 608

Metals	Method
Arsenic	EPA 200.7
Barium	EPA 200.7
Cadmium	EPA 200.7
Chromium	EPA 200.7
Lead	EPA 200.7
Mercury	EPA 245.1
Selenium	EPA 200.7
Silver	EPA 200.7

Results

A report of the test results from Accutest Laboratories is appended as Attachment A. Results of analyses with measurable quantities of analyte are summarized in Table 1. Surface-water quality criteria cited are the NJDEP standards for "Fresh-Water 2 Non-Trout" (FW2-NT) surface-water bodies.

Rainfall Amounts

Precipitation amounts (in inches) reported by the National Weather Service at Trenton/ Mercer County Airport and at Somerset Airport for December 17, 2003 were as follows:

Rainfall for the Hour Ending (EST):	Trenton/Mercer County Airport	Somerset Airport, Somerville
06:53	0.03	0.01
07:53	0.11	0.14
08:53	0.15	0.13
09:53	0.13	0.22
10:53	0.01	0.05
11:53	0.02	0.01
12:53	0.00	0.00
13:53	0.01	0.00
14:53	0.04	0.04
15:53	0.02	0.05
16:53	0.02	0.02
17:53	0.01	0.01
18:53	0.02	0.03
19:53	0.00	0.01
Total	**0.57**	**0.72**

Total Suspended Solids

Total suspended solids were elevated in all samples at the 2-hr sampling and at the Warehouse and Highway sites at 7 hr. Total suspended solids were below the standard at the two sites sampled the next day.

Nitrate

Nitrate concentrations in all samples were less than the NJDEP standard of 10 mg/L.

Sulfate

All reported concentrations of sulfate were considerably less than the standard of 250 mg/L.

Total Phosphorus

The NJDEP standard for total phosphorus in lakes is 0.05 mg/L, and the standard for streams is 0.1 mg/L. The levels of total phosphorus exceeded these standards at all of the sites sampled on the day of the storm. Total phosphorus was below the standards at the two sites sampled the next day.

Dry-weather sampling of surface waters in July 2002 showed that total phosphorus levels in Brainerd Lake were slightly elevated. The phosphorus observed at that time and in the wet-weather samples in December 2003 may be the result of fertilizer runoff in the areas sampled. Excess phosphorus can stimulate aquatic plants and cause excessive plant growth. At this time, plant growth in Brainerd Lake does not appear excessive. However, flushing of phosphorus into our lakes and streams is undesirable and should be reduced if possible.

Chromium

Chromium concentrations in all samples were less than the NJDEP standard of 160 mcg/L.

Lead

The concentration of lead in the 2-hr sample from Village Park exceeded the NJDEP standard of 38 mcg/L for acute (short-term) conditions. Lead concentrations in all other samples met the standard.

Petroleum Hydrocarbons

Surface water should not contain petroleum hydrocarbons, and the NJDEP standard is "None". Significant concentrations of petroleum hydrocarbons were present in the Highway Runoff and Village Park samples at 2 and 7 hr. Petroleum hydrocarbons were below the limit of detection in Village Park at 27 hr and in all the samples from the Warehouse District and the Residential Area.

It seems likely that the petroleum hydrocarbons found at two sites during wet weather represent runoff of pollutants from roads and highways.

Coliforms

Fecal coliforms should not exceed a geometric average of 200 col/100 mL, nor should more than 10% of the samples taken during any 30-day period exceed 400 col/100mL. Elevated levels of fecal coliforms were found in all samples at 2 and 7 hr, except for the samples from the Warehouse District.

Fecal coliforms in wet-weather runoff probably represent excrement from pets and wild animals (for example, geese in Village Park).

Parameters with Very Low Concentrations

Analytes with results uniformly below the reporting limits are listed in Table 2. These included all of the pesticides that were analyzed, and six additional metals.

Summary

The Cranbury Environmental Commission conducted water-sampling events during wet weather on December 17-18, 2003. Samples were collected from four sites, representing runoff from the warehouse district east of Route 130, and from highways, parklands, and a residential area. The samples were analyzed at an NJDEP-certified testing laboratory for general water-quality parameters.

The results of the analyses of the wet-weather water samples indicate the following:

- Runoff of water from township roads, highways, and open spaces during wet weather resulted in the flushing of certain pollutants into Brainerd Lake and the Cranbury Brook.

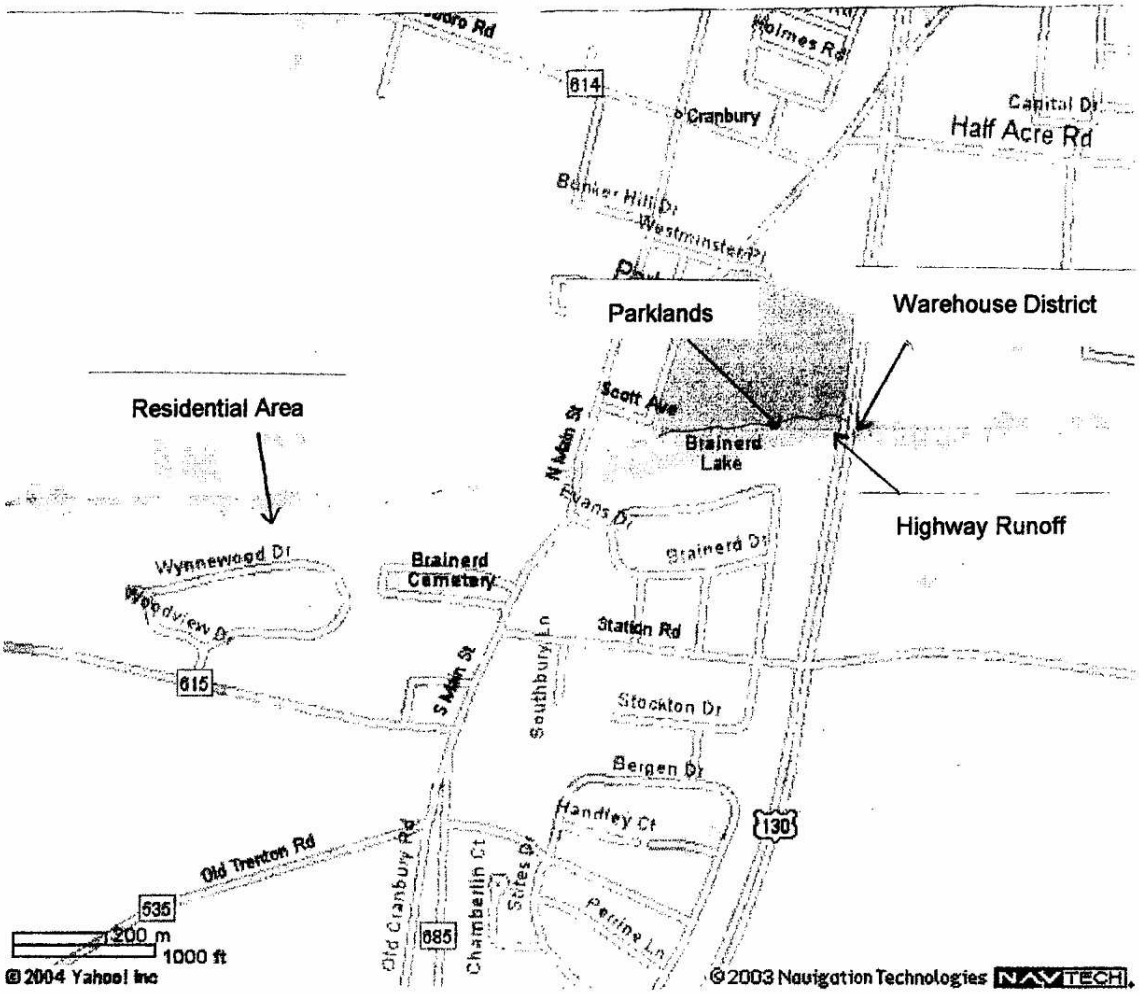
- Parameters with concentrations exceeding NJDEP standards included total suspended solids, total phosphorus, petroleum hydrocarbons, fecal coliforms, and (in one sample) lead.

- Elevated levels of phosphorus may have resulted from fertilizer runoff from adjacent areas, while petroleum hydrocarbons probably represent runoff of pollutants from roads and highways. Fecal coliforms in wet-weather runoff probably represent excrement from pets and other animals such as wild geese.

- Parameters for which all test results were acceptable included nitrogen, sulfate, 19 pesticides, and seven metals.

The results of this testing program document changes in the quality of surface waters in the Township of Cranbury during wet-weather flow conditions.

Figure 1: Monitoring Locations



Wet-Weather Sampling and Water-Quality Evaluation 2003

Report Preparation

Peter Sibley

Sample Collection

Peter Sibley
William Mikula

Township of Cranbury
Environmental Commission

John Persico, Chairman
Linda Scott, Secretary
James Applegate
Anna Drago
James Golubieski
Edwin Liu
William Mikula
Thomas Patterson
Peter Sibley
David Stout

June 29, 2004

Figure 1: Monitoring Locations

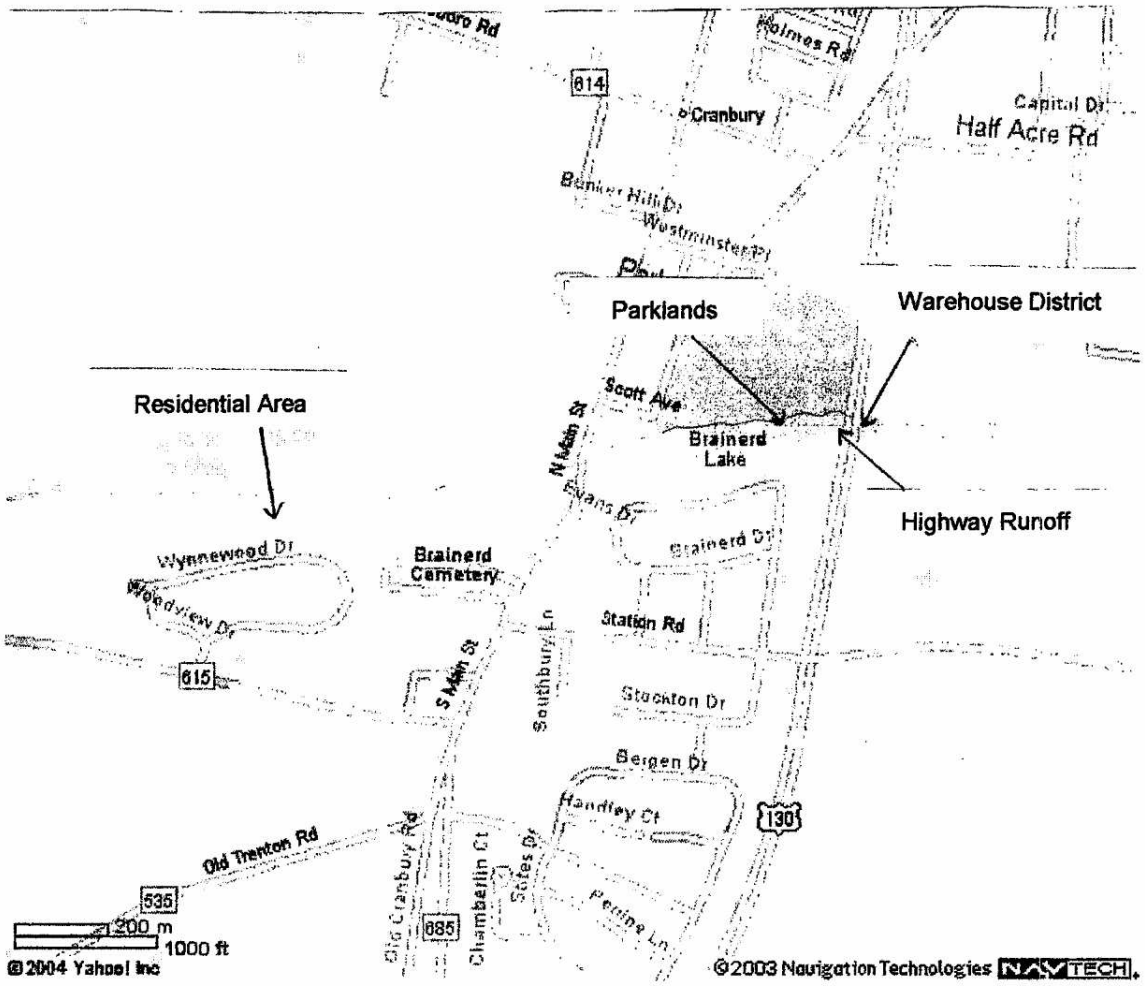


Table 1: Results of Wet-Weather Water Testing

	NJDEP Quality Criteria	Sampling Date	Time* (Hours)	Warehouse District	Highway Runoff	Village Park	Residential Area
Total Suspended Solids (mg/L)	<40	17-Dec-03	2	113	73	182	149
		17-Dec-03	7	47	50	24	34
		18-Dec-03	26	16	-	21	-
Nitrogen as Nitrate (mg/L)	10	17-Dec-03	2	0.82	0.18	0.39	0.18
		17-Dec-03	7	0.60	0.59	0.93	0.43
		18-Dec-03	26	0.84	-	2.10	-
Sulfate (mg/L)	250	17-Dec-03	2	<20	<20	<20	<20
		17-Dec-03	7	<20	<20	22.3	<20
		18-Dec-03	26	<20	-	46.8	-
Total Phosphorus (mg/L)	Lakes: 0.05 Streams: 0.1	17-Dec-03	2	0.190	0.110	0.180	0.280
		17-Dec-03	7	0.100	0.097	0.081	0.110
		18-Dec-03	26	<0.050	-	<0.050	-
Chromium (mcg/L)	160	17-Dec-03	2	<10	<10	14.8	<10
		17-Dec-03	7	<10	11.9	<10	<10
		18-Dec-03	26	<10	-	<10	-
Lead (mcg/L)	Acute: 38 Chronic: 5.4	17-Dec-03	2	7.8	20.2	69.2	13.3
		17-Dec-03	7	4.3	19.1	9.9	3.8
		18-Dec-03	26	<3.0	-	<3.0	-
Petroleum HCs (mg/L)	None	17-Dec-03	2	<0.59	3.00	2.10	<0.57
		17-Dec-03	7	<0.57	3.90	0.62	<0.53
		18-Dec-03	26	<0.63	-	<0.60	-
Fecal Coliforms (col/100mL)	< 400	17-Dec-03	2	16	220	600	900
		17-Dec-03	7	64	900	2300	460
		18-Dec-03	26	28	-	4	-
Total Coliforms (col/100mL)		17-Dec-03	2	36	220	680	1100
		17-Dec-03	7	80	960	2400	600
		18-Dec-03	26	1800	-	360	-

* - Approximate number of hours after the beginning of precipitation.

03-035

01/22/04

New Jersey ACCUTEST Laboratories

Attachment A

Technical Report for

Cranbury Township

Fall Wet-Weather Event, Cranbury, NJ

Accutest Job Number: N55719

Report to:

sibleyp@comcast.net

Total number of pages in report: 29

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Vincent J. Pugliese
President

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, MA, MD, NC, PA, RI, SC, VA

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Sample Summary

Cranbury Township

Fall Wet-Weather Event, Cranbury, NJ

Job No: N55719

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
N55719-1	12/17/03	10:30		12/17/03	AQ	Surface Water	WD-1
N55719-2	12/17/03	10:15		12/17/03	AQ	Surface Water	HW-1
N55719-3	12/17/03	10:00		12/17/03	AQ	Surface Water	VP-1
N55719-4	12/17/03	09:45		12/17/03	AQ	Surface Water	RA-1
N55719-5	12/17/03	15:30		12/17/03	AQ	Surface Water	WA-2
N55719-6	12/17/03	15:15		12/17/03	AQ	Surface Water	HW-2
N55719-7	12/17/03	15:00		12/17/03	AQ	Surface Water	VP-2
N55719-8	12/17/03	14:45		12/17/03	AQ	Surface Water	RA-2

Accutest Laboratories

Report of Analysis

Client Sample ID:	WD-1		
Lab Sample ID:	N55719-1	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
Method:	EPA 608 EPA 608	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX40054.D	1	01/08/04	KLS	12/18/03	OP15691	GXX1078
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.022	0.0045	ug/l	
319-84-6	alpha-BHC	ND	0.022	0.0032	ug/l	
319-85-7	beta-BHC	ND	0.022	0.0062	ug/l	
319-86-8	delta-BHC	ND	0.022	0.0055	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.022	0.0049	ug/l	
12789-03-6	Chlordane	ND	0.56	0.061	ug/l	
60-57-1	Dieldrin	ND	0.022	0.0061	ug/l	
72-54-8	4,4'-DDD	ND	0.022	0.0075	ug/l	
72-55-9	4,4'-DDE	ND	0.022	0.0052	ug/l	
50-29-3	4,4'-DDT	ND	0.022	0.0061	ug/l	
72-20-8	Endrin	ND	0.022	0.0042	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.022	0.022	ug/l	
7421-93-4	Endrin aldehyde	ND	0.022	0.0085	ug/l	
959-98-8	Endosulfan-I	ND	0.022	0.0054	ug/l	
33213-65-9	Endosulfan-II	ND	0.022	0.0046	ug/l	
76-44-8	Heptachlor	ND	0.022	0.0045	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.022	0.0041	ug/l	
72-43-5	Methoxychlor	ND	0.056	0.0060	ug/l	
8001-35-2	Toxaphene	ND	0.28	0.18	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	81%		23-138%
877-09-8	Tetrachloro-m-xylene	90%		23-138%
2051-24-3	Decachlorobiphenyl	60%		19-149%
2051-24-3	Decachlorobiphenyl	63%		19-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	WD-1		
Lab Sample ID:	N55719-1	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 5.0	5.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Chromium	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead	7.8	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 [1]	EPA 245.1 [5]
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [3]	EPA 200.7 [4]
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA13223
(2) Instrument QC Batch: MA13235
(3) Instrument QC Batch: MA13239
(4) Prep QC Batch: MP24529
(5) Prep QC Batch: MP24548

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	WD-1		
Lab Sample ID:	N55719-1	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal [a]	16	4	col/100ml	4	12/17/03 17:30	MJC	SM18 9222D
Coliform, Total	36	4	col/100ml	4	12/17/03 17:30	MJC	SM18 9222B
Nitrogen, Nitrate [b]	0.82	0.11	mg/l	1	01/07/04 16:50	VLP	EPA353.2/SM184500
Nitrogen, Nitrate + Nitrite	0.82	0.10	mg/l	1	01/07/04 16:50	VLP	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	12/17/03 00:05	DHS	SM19 4500NO2B
Petroleum Hydrocarbons	< 0.59	0.59	mg/l	1	12/24/03	JH	EPA 418.1
Phosphorus, Total	0.19	0.050	mg/l	1	12/22/03	JN	EPA 365.3
Solids, Total Suspended	113	4.0	mg/l	1	12/23/03	NR	EPA 160.2
Sulfate	< 20	20	mg/l	1	01/07/04 15:46	SJG	EPA 300/SW846 9056

(a) Received and analyzed out of holding time.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	HW-1		
Lab Sample ID:	N55719-2	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
Method:	EPA 608 EPA 608	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX40055.D	1	01/08/04	KLS	12/18/03	OP15691	GXX1078
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.022	0.0045	ug/l	
319-84-6	alpha-BHC	ND	0.022	0.0032	ug/l	
319-85-7	beta-BHC	ND	0.022	0.0062	ug/l	
319-86-8	delta-BHC	ND	0.022	0.0055	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.022	0.0049	ug/l	
12789-03-6	Chlordane	ND	0.56	0.061	ug/l	
60-57-1	Dieldrin	ND	0.022	0.0061	ug/l	
72-54-8	4,4'-DDD	ND	0.022	0.0075	ug/l	
72-55-9	4,4'-DDE	ND	0.022	0.0052	ug/l	
50-29-3	4,4'-DDT	ND	0.022	0.0061	ug/l	
72-20-8	Endrin	ND	0.022	0.0042	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.022	0.022	ug/l	
7421-93-4	Endrin aldehyde	ND	0.022	0.0085	ug/l	
959-98-8	Endosulfan-I	ND	0.022	0.0054	ug/l	
33213-65-9	Endosulfan-II	ND	0.022	0.0046	ug/l	
76-44-8	Heptachlor	ND	0.022	0.0045	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.022	0.0041	ug/l	
72-43-5	Methoxychlor	ND	0.056	0.0060	ug/l	
8001-35-2	Toxaphene	ND	0.28	0.18	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	68%		23-138%
877-09-8	Tetrachloro-m-xylene	75%		23-138%
2051-24-3	Decachlorobiphenyl	39%		19-149%
2051-24-3	Decachlorobiphenyl	56%		19-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	HW-1		
Lab Sample ID:	N55719-2	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [3]	EPA 200.7 [4]
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Chromium	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead	20.2	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 [1]	EPA 245.1 [5]
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [3]	EPA 200.7 [4]
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA13223
(2) Instrument QC Batch: MA13235
(3) Instrument QC Batch: MA13239
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(5) Prep QC Batch: MP24548

RL = Reporting Limit

Accutest Laboratories

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		Percent Solids:	n/a
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General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal [a]	220	4	col/100ml	4	12/17/03 17:30	MJC	SM18 9222D
Coliform, Total	220	20	col/100ml	20	12/17/03 17:30	MJC	SM18 9222B
Nitrogen, Nitrate [b]	0.18	0.11	mg/l	1	01/07/04 16:51	VLP	EPA353.2/SM184500
Nitrogen, Nitrate + Nitrite	0.20	0.10	mg/l	1	01/07/04 16:51	VLP	EPA 353.2
Nitrogen, Nitrite	0.022	0.010	mg/l	1	12/17/03 00:05	DHS	SM19 4500NO2B
Petroleum Hydrocarbons	3.0	0.57	mg/l	1	12/24/03	JH	EPA 418.1
Phosphorus, Total	0.11	0.050	mg/l	1	12/22/03	JN	EPA 365.3
Solids, Total Suspended	73.0	4.0	mg/l	1	12/23/03	NR	EPA 160.2
Sulfate	< 20	20	mg/l	1	01/07/04 16:01	SJG	EPA 300/SW846 9056

(a) Received and analyzed out of holding time.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	VP-1		
Lab Sample ID:	N55719-3	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
Method:	EPA 608 EPA 608	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX40056.D	1	01/08/04	KLS	12/18/03	OP15691	GXX1078
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.022	0.0045	ug/l	
319-84-6	alpha-BHC	ND	0.022	0.0032	ug/l	
319-85-7	beta-BHC	ND	0.022	0.0062	ug/l	
319-86-8	delta-BHC	ND	0.022	0.0055	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.022	0.0049	ug/l	
12789-03-6	Chlordane	ND	0.56	0.061	ug/l	
60-57-1	Dieldrin	ND	0.022	0.0061	ug/l	
72-54-8	4,4'-DDD	ND	0.022	0.0075	ug/l	
72-55-9	4,4'-DDE	ND	0.022	0.0052	ug/l	
50-29-3	4,4'-DDT	ND	0.022	0.0061	ug/l	
72-20-8	Endrin	ND	0.022	0.0042	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.022	0.022	ug/l	
7421-93-4	Endrin aldehyde	ND	0.022	0.0085	ug/l	
959-98-8	Endosulfan-I	ND	0.022	0.0054	ug/l	
33213-65-9	Endosulfan-II	ND	0.022	0.0046	ug/l	
76-44-8	Heptachlor	ND	0.022	0.0045	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.022	0.0041	ug/l	
72-43-5	Methoxychlor	ND	0.056	0.0060	ug/l	
8001-35-2	Toxaphene	ND	0.28	0.18	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	52%		23-138%
877-09-8	Tetrachloro-m-xylene	56%		23-138%
2051-24-3	Decachlorobiphenyl	45%		19-149%
2051-24-3	Decachlorobiphenyl	60%		19-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	VP-1	Date Sampled:	12/17/03
Lab Sample ID:	N55719-3	Date Received:	12/17/03
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 5.0	5.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Chromium	14.8	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead	69.2	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 [1]	EPA 245.1 [5]
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [3]	EPA 200.7 [4]
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA13223
(2) Instrument QC Batch: MA13235
(3) Instrument QC Batch: MA13239
(4) Prep QC Batch: MP24529
(5) Prep QC Batch: MP24548

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	VP-1		
Lab Sample ID:	N55719-3	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal [a]	600	20	col/100ml	20	12/17/03 17:30	MJC	SM18 9222D
Coliform, Total	680	20	col/100ml	20	12/17/03 17:30	MJC	SM18 9222B
Nitrogen, Nitrate [b]	0.39	0.11	mg/l	1	01/07/04 16:52	VLP	EPA353.2/SM184500
Nitrogen, Nitrate + Nitrite	0.40	0.10	mg/l	1	01/07/04 16:52	VLP	EPA 353.2
Nitrogen, Nitrite	0.010	0.010	mg/l	1	12/17/03 00:05	DHS	SM19 4500NO2B
Petroleum Hydrocarbons	2.1	0.60	mg/l	1	12/24/03	JH	EPA 418.1
Phosphorus, Total	0.18	0.050	mg/l	1	12/22/03	JN	EPA 365.3
Solids, Total Suspended	182	4.0	mg/l	1	12/23/03	NR	EPA 160.2
Sulfate	< 20	20	mg/l	1	01/07/04 16:44	SJG	EPA 300/SW846 9056

(a) Received and analyzed out of holding time.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	RA-1		
Lab Sample ID:	N55719-4	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
Method:	EPA 608 EPA 608	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX40057.D	1	01/08/04	KLS	12/18/03	OP15691	GXX1078
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.022	0.0045	ug/l	
319-84-6	alpha-BHC	ND	0.022	0.0032	ug/l	
319-85-7	beta-BHC	ND	0.022	0.0062	ug/l	
319-86-8	delta-BHC	ND	0.022	0.0055	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.022	0.0049	ug/l	
12789-03-6	Chlordane	ND	0.56	0.061	ug/l	
60-57-1	Dieldrin	ND	0.022	0.0061	ug/l	
72-54-8	4,4'-DDD	ND	0.022	0.0075	ug/l	
72-55-9	4,4'-DDE	ND	0.022	0.0052	ug/l	
50-29-3	4,4'-DDT	ND	0.022	0.0061	ug/l	
72-20-8	Endrin	ND	0.022	0.0042	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.022	0.022	ug/l	
7421-93-4	Endrin aldehyde	ND	0.022	0.0085	ug/l	
959-98-8	Endosulfan-I	ND	0.022	0.0054	ug/l	
33213-65-9	Endosulfan-II	ND	0.022	0.0046	ug/l	
76-44-8	Heptachlor	ND	0.022	0.0045	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.022	0.0041	ug/l	
72-43-5	Methoxychlor	ND	0.056	0.0060	ug/l	
8001-35-2	Toxaphene	ND	0.28	0.18	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		23-138%
877-09-8	Tetrachloro-m-xylene	88%		23-138%
2051-24-3	Decachlorobiphenyl	38%		19-149%
2051-24-3	Decachlorobiphenyl	49%		19-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	RA-1		
Lab Sample ID:	N55719-4	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 5.0	5.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Chromium	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead	13.3	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 [1]	EPA 245.1 [5]
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [3]	EPA 200.7 [4]
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA13223
(2) Instrument QC Batch: MA13235
(3) Instrument QC Batch: MA13239
(4) Prep QC Batch: MP24529
(5) Prep QC Batch: MP24548

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	RA-1		
Lab Sample ID:	N55719-4	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal [a]	900	20	col/100ml	20	12/17/03 17:30	MJC	SM18 9222D
Coliform, Total	1100	20	col/100ml	20	12/17/03 17:30	MJC	SM18 9222B
Nitrogen, Nitrate [b]	0.18	0.11	mg/l	1	01/07/04 16:53	VLP	EPA353.2/SM184500
Nitrogen, Nitrate + Nitrite	0.18	0.10	mg/l	1	01/07/04 16:53	VLP	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	12/17/03 00:05	DHS	SM19 4500NO2B
Petroleum Hydrocarbons	< 0.57	0.57	mg/l	1	12/24/03	JH	EPA 418.1
Phosphorus, Total	0.28	0.050	mg/l	1	12/22/03	JN	EPA 365.3
Solids, Total Suspended	149	4.0	mg/l	1	12/23/03	NR	EPA 160.2
Sulfate	< 20	20	mg/l	1	01/07/04 16:58	SJG	EPA 300/SW846 9056

(a) Received and analyzed out of holding time.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	WA-2		
Lab Sample ID:	N55719-5	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
Method:	EPA 608 EPA 608	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX40058.D	1	01/08/04	KLS	12/18/03	OP15691	GXX1078
Run #2							

	Initial Volume	Final Volume
Run #1	850 ml	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.024	0.0048	ug/l	
319-84-6	alpha-BHC	ND	0.024	0.0034	ug/l	
319-85-7	beta-BHC	ND	0.024	0.0066	ug/l	
319-86-8	delta-BHC	ND	0.024	0.0058	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.024	0.0052	ug/l	
12789-03-6	Chlordane	ND	0.59	0.065	ug/l	
60-57-1	Dieldrin	ND	0.024	0.0065	ug/l	
72-54-8	4,4'-DDD	ND	0.024	0.0080	ug/l	
72-55-9	4,4'-DDE	ND	0.024	0.0055	ug/l	
50-29-3	4,4'-DDT	ND	0.024	0.0064	ug/l	
72-20-8	Endrin	ND	0.024	0.0045	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.024	0.023	ug/l	
7421-93-4	Endrin aldehyde	ND	0.024	0.0090	ug/l	
959-98-8	Endosulfan-I	ND	0.024	0.0057	ug/l	
33213-65-9	Endosulfan-II	ND	0.024	0.0049	ug/l	
76-44-8	Heptachlor	ND	0.024	0.0047	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.024	0.0044	ug/l	
72-43-5	Methoxychlor	ND	0.059	0.0063	ug/l	
8001-35-2	Toxaphene	ND	0.29	0.19	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	66%		23-138%
877-09-8	Tetrachloro-m-xylene	74%		23-138%
2051-24-3	Decachlorobiphenyl	56%		19-149%
2051-24-3	Decachlorobiphenyl	64%		19-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	WA-2		
Lab Sample ID:	N55719-5	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [3]	EPA 200.7 [4]
Barium	< 200	200	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Chromium	< 10	10	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead	4.3	3.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 [1]	EPA 245.1 [5]
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Silver	< 10	10	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA13223
(2) Instrument QC Batch: MA13235
(3) Instrument QC Batch: MA13239
(4) Prep QC Batch: MP24529
(5) Prep QC Batch: MP24548

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	WA-2		
Lab Sample ID:	N55719-5	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal	64	4	col/100ml	4	12/17/03 17:30	MJC	SM18 9222D
Coliform, Total	80	4	col/100ml	4	12/17/03 17:30	MJC	SM18 9222B
Nitrogen, Nitrate [a]	0.60	0.11	mg/l	1	01/07/04 16:55	VLP	EPA353.2/SM184500
Nitrogen, Nitrate + Nitrite	0.60	0.10	mg/l	1	01/07/04 16:55	VLP	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	12/17/03 00:05	DHS	SM19 4500NO2B
Petroleum Hydrocarbons	< 0.57	0.57	mg/l	1	12/24/03	JH	EPA 418.1
Phosphorus, Total	0.10	0.050	mg/l	1	12/22/03	JN	EPA 365.3
Solids, Total Suspended	47.0	4.0	mg/l	1	12/23/03	NR	EPA 160.2
Sulfate	< 20	20	mg/l	1	01/07/04 15:32	SJG	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	HW-2		
Lab Sample ID:	N55719-6	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
Method:	EPA 608 EPA 608	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX40102.D	1	01/09/04	KLS	12/18/03	OP15691	GXX1081
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.022	0.0045	ug/l	
319-84-6	alpha-BHC	ND	0.022	0.0032	ug/l	
319-85-7	beta-BHC	ND	0.022	0.0062	ug/l	
319-86-8	delta-BHC	ND	0.022	0.0055	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.022	0.0049	ug/l	
12789-03-6	Chlordane	ND	0.56	0.061	ug/l	
60-57-1	Dieldrin	ND	0.022	0.0061	ug/l	
72-54-8	4,4'-DDD	ND	0.022	0.0075	ug/l	
72-55-9	4,4'-DDE	ND	0.022	0.0052	ug/l	
50-29-3	4,4'-DDT	ND	0.022	0.0061	ug/l	
72-20-8	Endrin	ND	0.022	0.0042	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.022	0.022	ug/l	
7421-93-4	Endrin aldehyde	ND	0.022	0.0085	ug/l	
959-98-8	Endosulfan-I	ND	0.022	0.0054	ug/l	
33213-65-9	Endosulfan-II	ND	0.022	0.0046	ug/l	
76-44-8	Heptachlor	ND	0.022	0.0045	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.022	0.0041	ug/l	
72-43-5	Methoxychlor	ND	0.056	0.0060	ug/l	
8001-35-2	Toxaphene	ND	0.28	0.18	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	89%		23-138%
877-09-8	Tetrachloro-m-xylene	89%		23-138%
2051-24-3	Decachlorobiphenyl	50%		19-149%
2051-24-3	Decachlorobiphenyl	62%		19-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	HW-2		
Lab Sample ID:	N55719-6	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 5.0	5.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Chromium	11.9	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead	19.1	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 [1]	EPA 245.1 [5]
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [3]	EPA 200.7 [4]
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA13223
(2) Instrument QC Batch: MA13235
(3) Instrument QC Batch: MA13239
(4) Prep QC Batch: MP24529
(5) Prep QC Batch: MP24548

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	HW-2		
Lab Sample ID:	N55719-6	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal	900	20	col/100ml	20	12/17/03 17:30	MJC	SM18 9222D
Coliform, Total	960	20	col/100ml	20	12/17/03 17:30	MJC	SM18 9222B
Nitrogen, Nitrate [a]	0.59	0.11	mg/l	1	01/07/04 16:56	VLP	EPA353.2/SM184500
Nitrogen, Nitrate + Nitrite	0.64	0.10	mg/l	1	01/07/04 16:56	VLP	EPA 353.2
Nitrogen, Nitrite	0.055	0.010	mg/l	1	12/17/03 00:05	DHS	SM19 4500NO2B
Petroleum Hydrocarbons	3.9	0.57	mg/l	1	12/24/03	JH	EPA 418.1
Phosphorus, Total	0.097	0.050	mg/l	1	12/22/03	JN	EPA 365.3
Solids, Total Suspended	50.0	4.0	mg/l	1	12/23/03	NR	EPA 160.2
Sulfate	< 20	20	mg/l	1	01/07/04 17:12	SJG	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	VP-2		
Lab Sample ID:	N55719-7	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
Method:	EPA 608 EPA 608	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX40103.D	1	01/09/04	KLS	12/18/03	OP15691	GXX1081
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.021	0.0043	ug/l	
319-84-6	alpha-BHC	ND	0.021	0.0030	ug/l	
319-85-7	beta-BHC	ND	0.021	0.0059	ug/l	
319-86-8	delta-BHC	ND	0.021	0.0052	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.021	0.0046	ug/l	
12789-03-6	Chlordane	ND	0.53	0.058	ug/l	
60-57-1	Dieldrin	ND	0.021	0.0058	ug/l	
72-54-8	4,4'-DDD	ND	0.021	0.0071	ug/l	
72-55-9	4,4'-DDE	ND	0.021	0.0049	ug/l	
50-29-3	4,4'-DDT	ND	0.021	0.0057	ug/l	
72-20-8	Endrin	ND	0.021	0.0040	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.021	0.021	ug/l	
7421-93-4	Endrin aldehyde	ND	0.021	0.0081	ug/l	
959-98-8	Endosulfan-I	ND	0.021	0.0051	ug/l	
33213-65-9	Endosulfan-II	ND	0.021	0.0044	ug/l	
76-44-8	Heptachlor	ND	0.021	0.0042	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.021	0.0039	ug/l	
72-43-5	Methoxychlor	ND	0.053	0.0057	ug/l	
8001-35-2	Toxaphene	ND	0.26	0.17	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	53%		23-138%
877-09-8	Tetrachloro-m-xylene	59%		23-138%
2051-24-3	Decachlorobiphenyl	46%		19-149%
2051-24-3	Decachlorobiphenyl	48%		19-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	VP-2		
Lab Sample ID:	N55719-7	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 5.0	5.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Chromium	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead	9.9	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 [1]	EPA 245.1 [5]
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [3]	EPA 200.7 [4]
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA13223
(2) Instrument QC Batch: MA13235
(3) Instrument QC Batch: MA13239
(4) Prep QC Batch: MP24529
(5) Prep QC Batch: MP24548

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	VP-2		
Lab Sample ID:	N55719-7	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal	2300	20	col/100ml	20	12/17/03 17:30	MJC	SM18 9222D
Coliform, Total	2400	20	col/100ml	20	12/17/03 17:30	MJC	SM18 9222B
Nitrogen, Nitrate [a]	0.93	0.11	mg/l	1	01/07/04 16:57	VLP	EPA353.2/SM184500
Nitrogen, Nitrate + Nitrite	0.96	0.10	mg/l	1	01/07/04 16:57	VLP	EPA 353.2
Nitrogen, Nitrite	0.026	0.010	mg/l	1	12/17/03 00:20	DHS	SM19 4500NO2B
Petroleum Hydrocarbons	0.62	0.57	mg/l	1	12/24/03	JH	EPA 418.1
Phosphorus, Total	0.081	0.050	mg/l	1	12/22/03	JN	EPA 365.3
Solids, Total Suspended	24.0	4.0	mg/l	1	12/23/03	NR	EPA 160.2
Sulfate	22.3	20	mg/l	1	01/07/04 17:27	SJG	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	RA-2		
Lab Sample ID:	N55719-8	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
Method:	EPA 608 EPA 608	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX40104.D	1	01/09/04	KLS	12/18/03	OP15691	GXX1081
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.022	0.0045	ug/l	
319-84-6	alpha-BHC	ND	0.022	0.0032	ug/l	
319-85-7	beta-BHC	ND	0.022	0.0062	ug/l	
319-86-8	delta-BHC	ND	0.022	0.0055	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.022	0.0049	ug/l	
12789-03-6	Chlordane	ND	0.56	0.061	ug/l	
60-57-1	Dieldrin	ND	0.022	0.0061	ug/l	
72-54-8	4,4'-DDD	ND	0.022	0.0075	ug/l	
72-55-9	4,4'-DDE	ND	0.022	0.0052	ug/l	
50-29-3	4,4'-DDT	ND	0.022	0.0061	ug/l	
72-20-8	Endrin	ND	0.022	0.0042	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.022	0.022	ug/l	
7421-93-4	Endrin aldehyde	ND	0.022	0.0085	ug/l	
959-98-8	Endosulfan-I	ND	0.022	0.0054	ug/l	
33213-65-9	Endosulfan-II	ND	0.022	0.0046	ug/l	
76-44-8	Heptachlor	ND	0.022	0.0045	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.022	0.0041	ug/l	
72-43-5	Methoxychlor	ND	0.056	0.0060	ug/l	
8001-35-2	Toxaphene	ND	0.28	0.18	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		23-138%
877-09-8	Tetrachloro-m-xylene	75%		23-138%
2051-24-3	Decachlorobiphenyl	41%		19-149%
2051-24-3	Decachlorobiphenyl	45%		19-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	RA-2		
Lab Sample ID:	N55719-8	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 5.0	5.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Chromium	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead	3.8	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 [1]	EPA 245.1 [5]
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 [3]	EPA 200.7 [4]
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA13223
(2) Instrument QC Batch: MA13235
(3) Instrument QC Batch: MA13239
(4) Prep QC Batch: MP24529
(5) Prep QC Batch: MP24548

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	RA-2		
Lab Sample ID:	N55719-8	Date Sampled:	12/17/03
Matrix:	AQ - Surface Water	Date Received:	12/17/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal	460	20	col/100ml	20	12/17/03 17:30	MJC	SM18 9222D
Coliform, Total	600	20	col/100ml	20	12/17/03 17:30	MJC	SM18 9222B
Nitrogen, Nitrate [a]	0.43	0.11	mg/l	1	01/07/04 17:00	VLP	EPA353.2/SM184500
Nitrogen, Nitrate + Nitrite	0.43	0.10	mg/l	1	01/07/04 17:00	VLP	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	12/17/03 00:20	DHS	SM19 4500NO2B
Petroleum Hydrocarbons	< 0.53	0.53	mg/l	1	12/24/03	JH	EPA 418.1
Phosphorus, Total	0.11	0.050	mg/l	1	12/22/03	JN	EPA 365.3
Solids, Total Suspended	34.0	4.0	mg/l	1	12/23/03	NR	EPA 160.2
Sulfate	< 20	20	mg/l	1	01/07/04 17:41	SJG	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

2235 Route 130, Dayton NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #

Bottle Order Control # MV-10/22/2003-10

Accutest Quote #

Accutest Job # N55719

Client / Reporting Information

Company Name: Cranbury Township
Address: Main Street (23-A North)
City: Cranbury State: NJ Zip: 08512
Project Contact: Peter Sibley E-mail:
Phone #: 609-655-1248
Sampler's Name: P. Sibley and W. Mikula

Project Information

Project Name: Fall Wet-Weather Event
Street:
City: Cranbury State: NJ
Project #:
Fax #:
Client Purchase Order #:

Requested Analysis

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	HNO3	H2SO4	NONE	NaHSO4	MEOH	DI/OTHER	8260 BTEX	8260 TCL	8270 ABN	PHC	TP04	TSS	SO4	P608 PEST	METALS	TCF	FCF	LAB USE ONLY
- 1	WQ-1		12/17/03	1030	PS and WM	Surface Water	9	2		1	1	3	2				✓	✓	✓	✓	✓	✓	✓	✓	✓	EX79, HC11
- 2	HW-1			1015			9	2		1	1	3	2				✓	✓	✓	✓	✓	✓	✓	✓	✓	ME26, WC33, WC24
- 3	VP-1			1000			9	2		1	1	3	2				✓	✓	✓	✓	✓	✓	✓	✓	✓	
- 4	RA-1			0945			9	2		1	1	3	2				✓	✓	✓	✓	✓	✓	✓	✓	✓	
- 5	WQ-2			1530			9	2		1	1	3	2				✓	✓	✓	✓	✓	✓	✓	✓	✓	
- 6	HW-2			1515			9	2		1	1	3	2				✓	✓	✓	✓	✓	✓	✓	✓	✓	
- 7	VP-2			1500			9	2		1	1	3	2				✓	✓	✓	✓	✓	✓	✓	✓	✓	
- 8	RA-2			0945			9	2		1	1	3	2				✓	✓	✓	✓	✓	✓	✓	✓	✓	

Turnaround Time (Business Days)

- [x] Std. 10 Business Days — Approved By: / Date:
- [ ] 10 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] Other

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [x] NJ Reduced
- [ ] NJ Full
- [ ] Other
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format

Commercial "A" = Results Only

Comments / Remarks

@ FCF out of hold w/client
*RUN REGARDLESS ASP-MSV. NJB 12-18-03
HMS; pastpl pmv

Sample Custody must be documented below each time samples change possession, including courier delivery

Relinquished by Sampler:	Date Time:	Received by:	Relinquished by Sampler:	Date Time:	Received by:
1 Peter Sibley	1609 12/17/03	1 Todd R. Shoemaker	2		2
Relinquished by:	Date Time:	Received by:	Relinquished by:	Date Time:	Received by:
3		3	4		4
Relinquished by:	Date Time:	Received by:	Custody Seal #	Preserved where applicable	On Ice	Cooler Temp
5		6				3B 4.1, 3.5, 6.4

HDE

N55719: Chain of Custody
Page 1 of 1

New Jersey
ACCUTEST
laboratories

01/22/04

Technical Report for

Cranbury Township

Fall Wet-Weather Event, Cranbury, NJ

Accutest Job Number: N55791

Report to:

sibleyp@comcast.net

Total number of pages in report: 11

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Vincent J. Pugliese
President

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, MA, MD, NC, PA, RI, SC, VA

Sections: 1 2

Table of Contents

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Sample Summary

Cranbury Township

Job No: N55791

Fall Wet-Weather Event, Cranbury, NJ

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
N55791-1	12/18/03	10:45		12/18/03	AQ	Water	WD-3
N55791-2	12/18/03	10:20		12/18/03	AQ	Water	VP-3

Accutest Laboratories

Report of Analysis

Client Sample ID:	WD-3		
Lab Sample ID:	N55791-1	Date Sampled:	12/18/03
Matrix:	AQ - Water	Date Received:	12/18/03
Method:	EPA 608 EPA 608	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX40100.D	1	01/09/04	KLS	12/18/03	OP15691	GXX1081
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.022	0.0045	ug/l	
319-84-6	alpha-BHC	ND	0.022	0.0032	ug/l	
319-85-7	beta-BHC	ND	0.022	0.0062	ug/l	
319-86-8	delta-BHC	ND	0.022	0.0055	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.022	0.0049	ug/l	
12789-03-6	Chlordane	ND	0.56	0.061	ug/l	
60-57-1	Dieldrin	ND	0.022	0.0061	ug/l	
72-54-8	4,4'-DDD	ND	0.022	0.0075	ug/l	
72-55-9	4,4'-DDE	ND	0.022	0.0052	ug/l	
50-29-3	4,4'-DDT	ND	0.022	0.0061	ug/l	
72-20-8	Endrin	ND	0.022	0.0042	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.022	0.022	ug/l	
7421-93-4	Endrin aldehyde	ND	0.022	0.0085	ug/l	
959-98-8	Endosulfan-I	ND	0.022	0.0054	ug/l	
33213-65-9	Endosulfan-II	ND	0.022	0.0046	ug/l	
76-44-8	Heptachlor	ND	0.022	0.0045	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.022	0.0041	ug/l	
72-43-5	Methoxychlor	ND	0.056	0.0060	ug/l	
8001-35-2	Toxaphene	ND	0.28	0.18	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	71%		23-138%
877-09-8	Tetrachloro-m-xylene	120%		23-138%
2051-24-3	Decachlorobiphenyl	100%		19-149%
2051-24-3	Decachlorobiphenyl	98%		19-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated valne
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	WD-3	Date Sampled:	12/18/03
Lab Sample ID:	N55791-1	Date Received:	12/18/03
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 5.0	5.0	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Barium	< 200	200	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Cadmium	< 4.0	4.0	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Chromium	< 10	10	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Lead	< 3.0	3.0	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 [2]	EPA 245.1 [4]
Selenium	< 5.0	5.0	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Silver	< 10	10	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]

(1) Instrument QC Batch: MA13221
(2) Instrument QC Batch: MA13223
(3) Prep QC Batch: MP24543
(4) Prep QC Batch: MP24548

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	WD-3		
Lab Sample ID:	N55791-1	Date Sampled:	12/18/03
Matrix:	AQ - Water	Date Received:	12/18/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal	28	4	col/100ml	4	12/18/03 15:30	MJC	SM18 9222D
Coliform, Total	1800	20	col/100ml	20	12/18/03 15:30	MJC	SM18 9222B
Nitrogen, Nitrate [a]	0.84	0.11	mg/l	1	01/07/04 17:01	VLP	EPA353.2/SM184500
Nitrogen, Nitrate + Nitrite	0.84	0.10	mg/l	1	01/07/04 17:01	VLP	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	12/18/03 18:10	MD	SM19 4500NO2B
Petroleum Hydrocarbons	< 0.63	0.63	mg/l	1	12/24/03	JH	EPA 418.1
Phosphorus, Total	< 0.050	0.050	mg/l	1	12/22/03	JN	EPA 365.3
Solids, Total Suspended	16.0	4.0	mg/l	1	12/24/03	NR	EPA 160.2
Sulfate	< 20	20	mg/l	1	01/07/04 17:55	SJG	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	VP-3		
Lab Sample ID:	N55791-2	Date Sampled:	12/18/03
Matrix:	AQ - Water	Date Received:	12/18/03
Method:	EPA 608 EPA 608	Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX40101.D	1	01/09/04	KLS	12/18/03	OP15691	GXX1081
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.022	0.0045	ug/l	
319-84-6	alpha-BHC	ND	0.022	0.0031	ug/l	
319-85-7	beta-BHC	ND	0.022	0.0061	ug/l	
319-86-8	delta-BHC	ND	0.022	0.0054	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.022	0.0048	ug/l	
12789-03-6	Chlordane	ND	0.55	0.060	ug/l	
60-57-1	Dieldrin	ND	0.022	0.0061	ug/l	
72-54-8	4,4'-DDD	ND	0.022	0.0075	ug/l	
72-55-9	4,4'-DDE	ND	0.022	0.0051	ug/l	
50-29-3	4,4'-DDT	ND	0.022	0.0060	ng/l	
72-20-8	Endrin	ND	0.022	0.0042	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.022	0.022	ug/l	
7421-93-4	Endrin aldehyde	ND	0.022	0.0084	ug/l	
959-98-8	Endosulfan-I	ND	0.022	0.0053	ug/l	
33213-65-9	Endosulfan-II	ND	0.022	0.0046	ug/l	
76-44-8	Heptachlor	ND	0.022	0.0044	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.022	0.0041	ug/l	
72-43-5	Methoxychlor	ND	0.055	0.0059	ug/l	
8001-35-2	Toxaphene	ND	0.27	0.18	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		23-138%
877-09-8	Tetrachloro-m-xylene	83%		23-138%
2051-24-3	Decachlorobiphenyl	63%		19-149%
2051-24-3	Decachlorobiphenyl	74%		19-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	VP-3		
Lab Sample ID:	N55791-2	Date Sampled:	12/18/03
Matrix:	AQ - Water	Date Received:	12/18/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 5.0	5.0	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Barium	< 200	200	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Cadmium	< 4.0	4.0	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Chromium	< 10	10	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Lead	< 3.0	3.0	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 [2]	EPA 245.1 [4]
Selenium	< 5.0	5.0	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]
Silver	< 10	10	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 [1]	EPA 200.7 [3]

(1) Instrument QC Batch: MA13221
(2) Instrument QC Batch: MA13223
(3) Prep QC Batch: MP24543
(4) Prep QC Batch: MP24548

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	VP-3		
Lab Sample ID:	N55791-2	Date Sampled:	12/18/03
Matrix:	AQ - Water	Date Received:	12/18/03
		Percent Solids:	n/a
Project:	Fall Wet-Weather Event, Cranbury, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal	4	4	col/100ml	4	12/18/03 15:30	MJC	SM18 9222D
Coliform, Total	360	4	col/100ml	4	12/18/03 15:30	MJC	SM18 9222B
Nitrogen, Nitrate [a]	2.1	0.11	mg/l	1	01/07/04 17:02	VLP	EPA353.2/SM184500
Nitrogen, Nitrate + Nitrite	2.1	0.10	mg/l	1	01/07/04 17:02	VLP	EPA 353.2
Nitrogen, Nitrite	0.020	0.010	mg/l	1	12/18/03 18:10	MD	SM19 4500NO2B
Petroleum Hydrocarbons	<0.60	0.60	mg/l	1	12/24/03	JH	EPA 418.1
Phosphorus, Total	<0.050	0.050	mg/l	1	12/22/03	JN	EPA 365.3
Solids, Total Suspended	21.0	4.0	mg/l	1	12/24/03	NR	EPA 160.2
Sulfate	46.8	20	mg/l	1	01/07/04 18:10	SJG	EPA 300/SW846 9056

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

2235 Route 130, Dayton NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #:
Bottle Order Control #: MV-10/22/03-10
Accutest Quote #:
Accutest Job #: A55790, N55791

Client / Reporting Information

Company Name: Cranbury Township
Address: Main Street
City: Cranbury State: NJ Zip: 08512
Project Contact: Peter Sibley E-mail: sibleyp@comcast.net
Phone #: 609-655-1248
Sampler's Name: P. Sibley and W. Mikula
Client Purchase Order #:

Project Information

Project Name: Fall Wet-Weather Sampling
Street:
City: Cranbury State: NJ
Project #:
Fax #:

Requested Analysis

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: VOA	NaOH	HNO3	H2SO4	NONE	Na2S2O3	MEOH	BrOH	PHC	TPO4	TSS	SO4	P603 PEST	METALS	TCF	FCF
-1	WQ-3		12/18/03	1045	SD	SW	9	2		1	—	3	2			✓	✓	✓	✓	✓	✓	✓	✓	✓
-2	VP-3		12/18/03	1020	SD	SW	9	2		1	1	3	2			✓	✓	✓	✓	✓	✓	✓	✓	✓

Metric Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe

LAB USE ONLY: EX2, 11C5, AMER3, UC13, WC33

Turnaround Time (Business Days)

- [X] Std. 15 Business Days — Approved By / Date:
- [ ] 10 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] Other

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [X] NJ Reduced
- [ ] NJ Full
- [ ] Other ___
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format ___

Commercial "A" = Results Only

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery

Relinquished by Sampler	Date Time:	Received by:	Relinquished by Sampler	Date Time:	Received by:
1 P. Sibley	12/18/03 1720	1 Jesse Duncan	2		2
Relinquished by:	Date Time:	Received by:	Relinquished by:	Date Time:	Received by:
3		3	4		4
Relinquished by:	Date Time:	Received by	Custody Seal #	Preserved where applicable	On Ice	Cooler Temp
5		5				5.2, 5.8°C

N55791: Chain of Custody
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