

**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:

<b>Parameter</b>	<b>Method</b>
Total Suspended Solids	EPA 160.2
Nitrogen as Nitrate <sup>a</sup>	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)

<b>Pesticides<sup>a</sup></b>	
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

<b>Metals</b>	<b>Method</b>
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:

<b>Rainfall for the Hour Ending (EST):</b>	<b>Trenton/Mercer County Airport</b>	<b>Somerset Airport, Somerville</b>
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
<b>Total</b>	<b>0.57</b>	<b>0.72</b>

### 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**

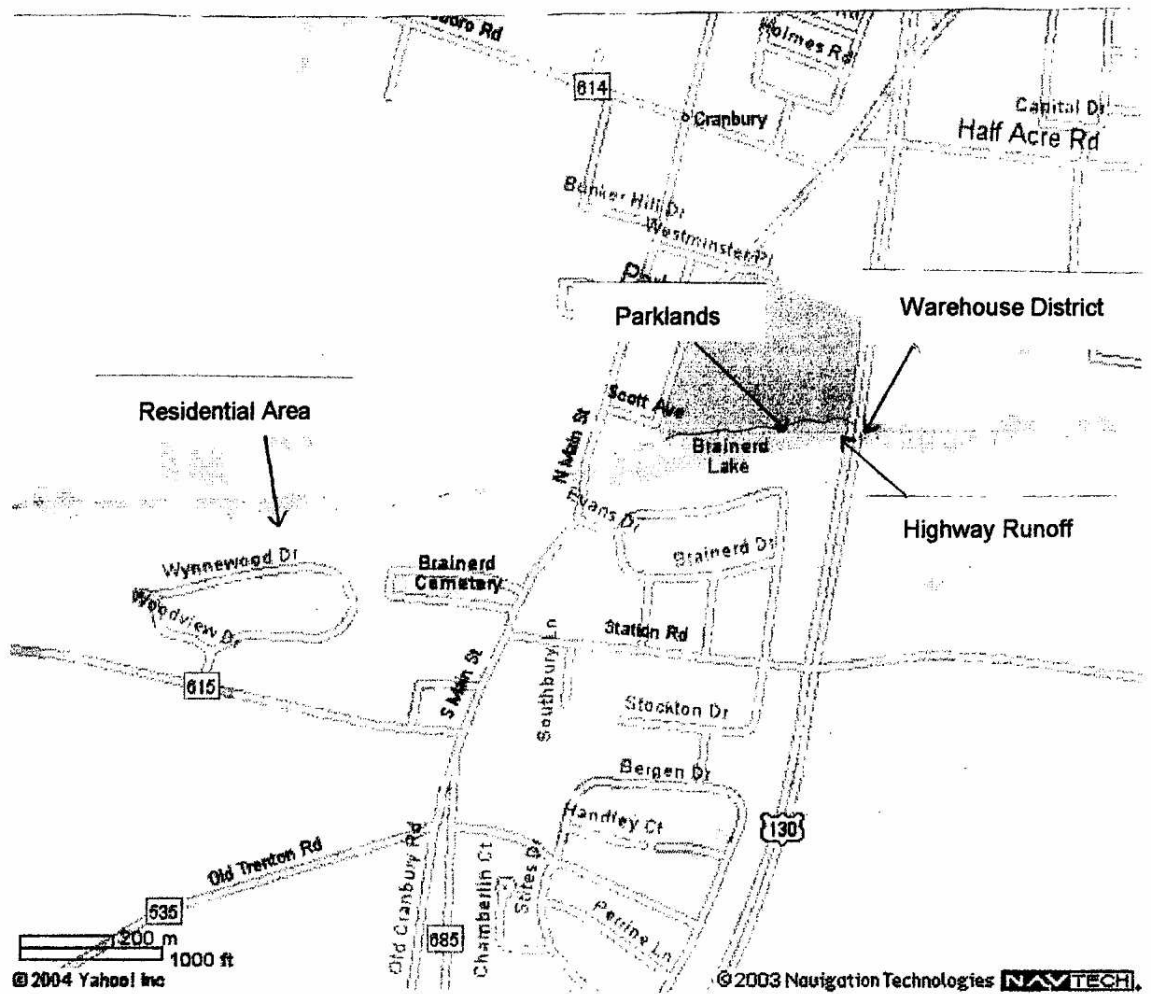
The Cranbury Environmental Commission conducted water-sampling events during wet weather on December 17-18, 2003. Samples were collected from four sites, representing runoff from the warehouse district east of Route 130, and from highways, parklands, and a residential area. The samples were analyzed 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**

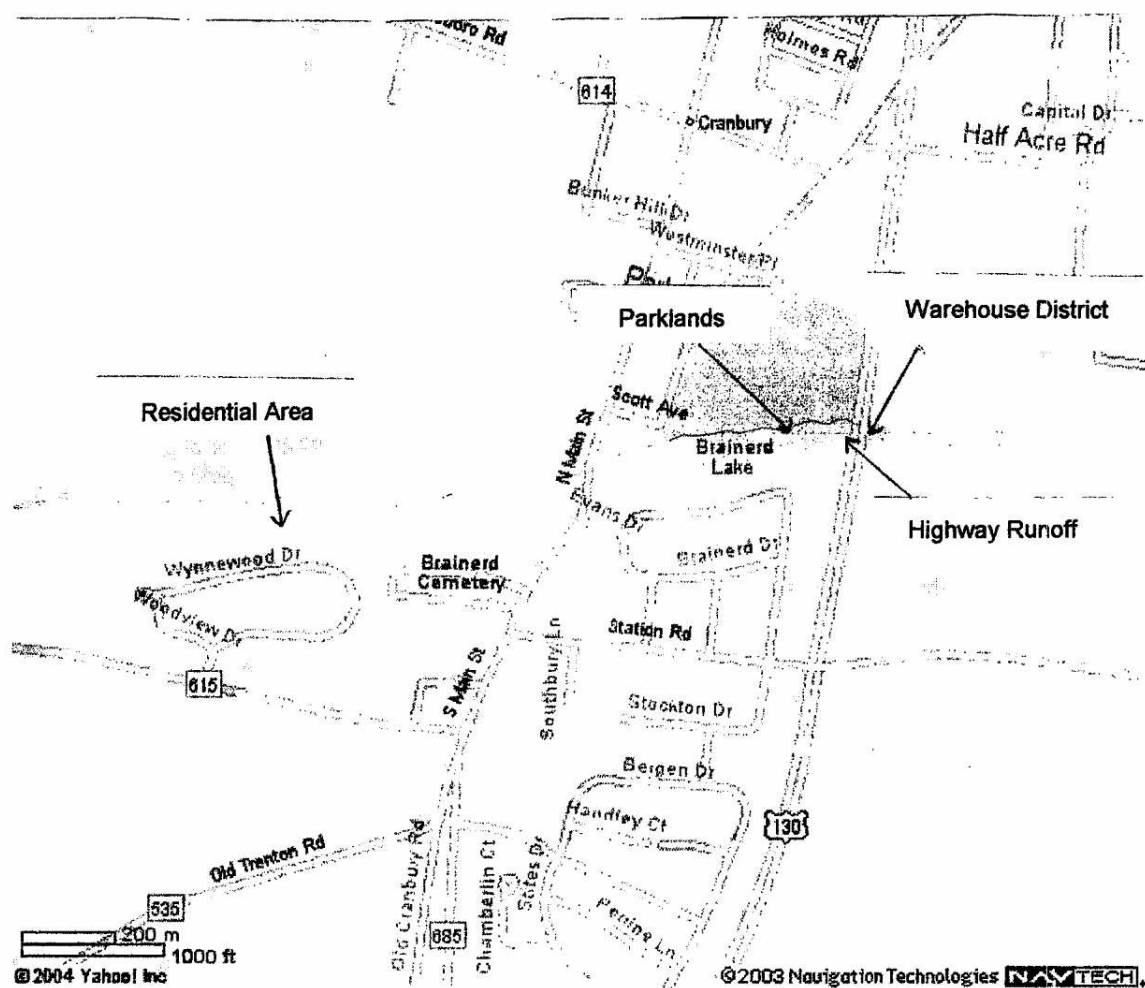
Peter Sibley  
William Mikula

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

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



New Jersey

**ACCUTEST**

Laboratories

01/22/04

## 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



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

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.



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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	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

## Report of Analysis

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

Run #	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							

Run #	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

## Report of Analysis

Client Sample ID:	WD-1	Date Sampled:	12/17/03
Lab Sample ID:	N55719-1	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 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Barium	< 200	200	ug/l	1	01/07/04	01/10/04 ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04 ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Chromium	< 10	10	ug/l	1	01/07/04	01/10/04 ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Lead	7.8	3.0	ug/l	1	01/07/04	01/10/04 ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04 HY	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>5</sup>
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04 ND	EPA 200.7 <sup>3</sup>	EPA 200.7 <sup>4</sup>
Silver	< 10	10	ug/l	1	01/07/04	01/10/04 ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>

(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



## Report of Analysis

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

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal <sup>a</sup>	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 <sup>b</sup>	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

## Report of Analysis

Client Sample ID:	HW-1	Date Sampled:	12/17/03
Lab Sample ID:	N55719-2	Date Received:	12/17/03
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	EPA 608 EPA 608		
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

## Report of Analysis

Client Sample ID:	HW-1	Date Sampled:	12/17/03
Lab Sample ID:	N55719-2	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	01/11/04	ND	EPA 200.7 <sup>3</sup>
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Chromium	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Lead	20.2	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 <sup>1</sup>
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 <sup>3</sup>
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>

(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

## Report of Analysis

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

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal <sup>a</sup>	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 <sup>b</sup>	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

## 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
Method:	EPA 608 EPA 608		
Project:	Fall Wet-Weather Event, Cranbury, NJ		

Run #	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							

Run #	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

## 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 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Barium	< 200	200	ug/l	1	01/07/04	01/10/04 ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04 ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Chromium	14.8	10	ug/l	1	01/07/04	01/10/04 ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Lead	69.2	3.0	ug/l	1	01/07/04	01/10/04 ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04 HY	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>5</sup>
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04 ND	EPA 200.7 <sup>3</sup>	EPA 200.7 <sup>4</sup>
Silver	< 10	10	ug/l	1	01/07/04	01/10/04 ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>

- (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

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RL = Reporting Limit

## 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		

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal <sup>a</sup>	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 <sup>b</sup>	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

## Report of Analysis

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

Run #	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							

Run #	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



## Report of Analysis

Client Sample ID:	RA-1	Date Sampled:	12/17/03
Lab Sample ID:	N55719-4	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 <sup>2</sup>
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Chromium	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Lead	13.3	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 <sup>1</sup>
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 <sup>3</sup>
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>

(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

## Report of Analysis

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

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Coliform, Fecal <sup>a</sup>	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 <sup>b</sup>	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

## Report of Analysis

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

Run #	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							

Run #	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

## Report of Analysis

Client Sample ID:	WA-2	Date Sampled:	12/17/03
Lab Sample ID:	N55719-5	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	01/11/04	ND	EPA 200.7 <sup>3</sup>	EPA 200.7 <sup>4</sup>
Barium	< 200	200	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Chromium	< 10	10	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Lead	4.3	3.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>5</sup>
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Silver	< 10	10	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>

(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

## Report of Analysis

Client Sample ID:	WA-2	Date Sampled:	12/17/03
Lab Sample ID:	N55719-5	Date Received:	12/17/03
Matrix:	AQ - Surface Water	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 <sup>a</sup>	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)

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RL = Reporting Limit

## Report of Analysis

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

Run #	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							

Run #	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

## Report of Analysis

Client Sample ID:	HW-2	Date Sampled:	12/17/03
Lab Sample ID:	N55719-6	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 <sup>2</sup>
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Chromium	11.9	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Lead	19.1	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 <sup>1</sup>
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 <sup>3</sup>
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>

(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

## Report of Analysis

Client Sample ID:	HW-2	Date Sampled:	12/17/03
Lab Sample ID:	N55719-6	Date Received:	12/17/03
Matrix:	AQ - Surface Water	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 <sup>a</sup>	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



## Report of Analysis

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

Run #	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							

Run #	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

## Report of Analysis

Client Sample ID:	VP-2	Date Sampled:	12/17/03
Lab Sample ID:	N55719-7	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 <sup>2</sup>
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Chromium	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Lead	9.9	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 <sup>1</sup>
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 <sup>3</sup>
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>

(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

## Report of Analysis

Client Sample ID:	VP-2	Date Sampled:	12/17/03
Lab Sample ID:	N55719-7	Date Received:	12/17/03
Matrix:	AQ - Surface Water	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 <sup>a</sup>	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

## Report of Analysis

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

Run #	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							

Run #	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

## Report of Analysis

Client Sample ID:	RA-2	Date Sampled:	12/17/03
Lab Sample ID:	N55719-8	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 <sup>2</sup>
Barium	< 200	200	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Cadmium	< 4.0	4.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Chromium	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Lead	3.8	3.0	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 <sup>1</sup>
Selenium	< 5.0	5.0	ug/l	1	01/07/04	01/11/04	ND	EPA 200.7 <sup>3</sup>
Silver	< 10	10	ug/l	1	01/07/04	01/10/04	ND	EPA 200.7 <sup>2</sup>

(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

## Report of Analysis

Client Sample ID: RA-2  
Lab Sample ID: N55719-8  
Matrix: AQ - Surface Water  
Project: Fall Wet-Weather Event, Cranbury, NJ

Date Sampled: 12/17/03  
Date Received: 12/17/03  
Percent Solids: n/a

## 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 <sup>a</sup>	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	SJC	EPA 300/SW846 9056

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

RL = Reporting Limit

**Misc. Forms**

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**Custody Documents and Other Forms**

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**Includes the following where applicable:**

- Chain of Custody



# CHAIN OF CUSTODY

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

FED-EX Tracking #	Boiler Order Control #
Accutest Quote #	Accutest Job #
	MV-10/22/2003-10
	N55719

Client / Reporting Information				Project Information				Requested Analysis												Matrix Codes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Company Name Cranbury Township				Project Name Fall Wet-Weather Event																DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil UQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Sampler's Name P. Sibley and W. Nikola																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Account Sample #	Field ID / Point of Collection	SUMMA #	MECH Val #	Date	Time	Sampled By	Matrix	# of bottles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396





01/22/04

## Technical Report for

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**Cranbury Township**

**Fall Wet-Weather Event, Cranbury, NJ**

**Accutest Job Number: N55791**

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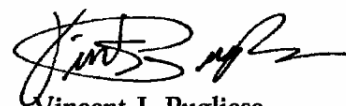
### Report to:

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**Total number of pages in report: 11**



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**

**Job No: N55791**

**Fall Wet-Weather Event, Cranbury, NJ**

Sample Number	Collected		Time By	Received	Matrix		Client Sample ID
	Date				Code	Type	
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

## 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
Method:	EPA 608 EPA 608		
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 value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## 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 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Barium	< 200	200	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Cadmium	< 4.0	4.0	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Chromium	< 10	10	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Lead	< 3.0	3.0	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04	HY	EPA 245.1 <sup>2</sup>	EPA 245.1 <sup>4</sup>
Selenium	< 5.0	5.0	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Silver	< 10	10	ug/l	1	01/08/04	01/08/04	ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>

(1) Instrument QC Batch: MA13221

(2) Instrument QC Batch: MA13223

(3) Prep QC Batch: MP24543

(4) Prep QC Batch: MP24548

RL = Reporting Limit

## 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	

## 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 <sup>a</sup>	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

## Report of Analysis

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

Run #	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							

Run #	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

## Report of Analysis

Client Sample ID: VP-3	Date Sampled: 12/18/03
Lab Sample ID: N55791-2	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 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Barium	< 200	200	ug/l	1	01/08/04	01/08/04 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Cadmium	< 4.0	4.0	ug/l	1	01/08/04	01/08/04 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Chromium	< 10	10	ug/l	1	01/08/04	01/08/04 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Lead	< 3.0	3.0	ug/l	1	01/08/04	01/08/04 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Mercury	< 0.20	0.20	ug/l	1	01/08/04	01/09/04 HY	EPA 245.1 <sup>2</sup>	EPA 245.1 <sup>4</sup>
Selenium	< 5.0	5.0	ug/l	1	01/08/04	01/08/04 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Silver	< 10	10	ug/l	1	01/08/04	01/08/04 ND	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>

(1) Instrument QC Batch: MA13221

(2) Instrument QC Batch: MA13223

(3) Prep QC Batch: MP24543

(4) Prep QC Batch: MP24548

RL = Reporting Limit



## Report of Analysis

Client Sample ID:	VP-3	Date Sampled:	12/18/03
Lab Sample ID:	N55791-2	Date Received:	12/18/03
Matrix:	AQ - Water	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 <sup>a</sup>	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)

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RL = Reporting Limit

## **Misc. Forms**

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## **Custody Documents and Other Forms**

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**Includes the following where applicable:**

- Chain of Custody

# CHAIN OF CUSTODY

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

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job #
	NV-10/22/03-10 N55790, N55791

Client / Reporting Information		Project Information		Requested Analysis												Matrix Codes	
Company Name Cranbury Township		Project Name Fall Wet-Weather Sampling														DW - Drinking Water	
Address Main Street		Street														GW - Ground Water	
City Cranbury		City Cranbury														WW - Wastewater	
State NJ		State NJ														SW - Surface Water	
Zip 08512		Zip														SO - Soil	
Project Contact Peter Sibley		Project #														SL - Sediment	
E-mail sibley.p@comcast.net		Fax #														OI - Oil	
Phone # 609-655-1248		Client Purchase Order #														LLO - Other Liquid	
Sampler's Name P. Sibley and W. M. Kula																AR - Air	
																SOL - Other Solid	
																WP - Wipe	
																LAB USE ONLY	
Turnaround Time (Business Days)		Data Deliverable Information		Comments / Remarks													
<input checked="" type="checkbox"/> Std. 15 Business Days <input type="checkbox"/> 10 Day RUSH <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY <input type="checkbox"/> Other		Approved By / Date: _____ _____ _____ _____ _____ _____		<input type="checkbox"/> Commercial "A" <input type="checkbox"/> Commercial "B" <input checked="" type="checkbox"/> NJ Reduced <input type="checkbox"/> NJ Full <input type="checkbox"/> Other _____ <input type="checkbox"/> FULL CLP <input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format _____ Commercial "A" = Results Only													
Emergency & Rush T/A data available VIA LabLink																	
Sample Custody must be documented below each time samples change possession, including courier delivery																	
Relinquished by: <i>P. Sibley</i>		Date Time: 12/18/03		Received by: <i>Neil O'Connor</i>		Date Time: _____		Relinquished by: _____		Date Time: _____		Received by: _____		Date Time: _____		Received by: _____	
Relinquished by: _____		Date Time: _____		Received by: _____		Date Time: _____		Relinquished by: _____		Date Time: _____		Received by: _____		Date Time: _____		Received by: _____	
Relinquished by: _____		Date Time: _____		Received by: _____		Date Time: _____		Relinquished by: _____		Date Time: _____		Received by: _____		Date Time: _____		Received by: _____	
Relinquished by: _____		Date Time: _____		Received by: _____		Date Time: _____		Relinquished by: _____		Date Time: _____		Received by: _____		Date Time: _____		Received by: _____	
Relinquished by: _____		Date Time: _____		Received by: _____		Date Time: _____		Relinquished by: _____		Date Time: _____		Received by: _____		Date Time: _____		Received by: _____	
Cooling Temp: 5.2, 5.8°C																	

N55791: Chain of Custody

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