Volume 4 - Raw Analytical Data

Engineering Report

PENNSYLVANIA COASTAL ZONE MANAGEMENT PROGRAM

WATER QUALITY MONITORING STUDY FOR THE LAKE ERIE WATERSHED

SEPTEMBER 1996
Project: 2758-001

CZM Project No.: CZ1:94.06PE

A REPORT OF THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION TO THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION PURSUANT TO NOAA AWARD NO. - NA47OZ0248

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MALCOLM PIRNIE

ENVIRONMENTAL ENGINEERS, SCIENTISTS & PLANNERS

Printed on Recycled Paper

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Dry Event #1, TWELVE MILE CREEK Lab Log No: 49969

Sample Date/Time: June 14, 1995/8:15AM, 13:50PM, 17:30PM

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003	mg/l	06-20-95	RJI
Arsenic	206.2	<0.001	mg/l	06-15-95	RJI
Beryllium	210.1	<0.005	mg/l	06-16-95	RJI
Cadmium	213.2	<0.0001	mg/l	06-27-95	RJI
Chromium, Total	218.1	<0.05	mg/l	06-19-95	RJI
Chromium, VI	218.4	<0.01	mg/l	06-14-95	NDA
Copper	220.2	<0.001	mg/l	06-22-95	RJI
Lead	239.2	<0.001	mg/l	06-22-95	RJI
Mercury	245.2	<0.0002	mg/l	06-27-95	RJI
Nickel	249.1	<0.01	mg/l	06-16-95	RJI
Selenium	270.2	<0.002	mg/l	06-23-95	RJI
Silver	272.2	<0.0002	mg/l	06-27-95	RJI
Thallium	279.2	<0.001	mg/l	06-27-95	RJI
Zinc	289.1	0.012	mg/l	06-20-95	RJI
Cyanide, Free	DER (White)	<0.005	mg/l	06-15-95	LT
Aluminum	202.1	<0.1	mg/l	06-16-95	RJI
Alkalinity	310.1	81	mg/l	06-19-95	KW
Ammonia Nitrogen	350.1	0.05	mg/l	06-22-95	LT
Fecal Coliform Grab@08:15AM	SM-16, 909C	141	col/100 ml	06-15-95	LT
Hardness	130.1	157	mg/l	06-15-95	KW
Iron	236.1	0.62	mg/l	06-19-95	RJI
Manganese	243.1	<0.01	mg/l	06-16-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	06-20-95	LT
Nitrate Nitrogen	353.2	2.45	mg/l	06-20-95	LT
Chloride	325.2	38	mg;l	06-19-95	LT

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Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Dry Event #1, **TWELVE MILE CREEK** Lab Log No: 49969
Sample Date/Time: June 14, 1995/8:15AM, 13:50PM, 17:30PM
Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Oil & Grease Grab					
@08:05AM	413.1	1.2	mg/l	06-19-95	KW
@14:50PM	413.1	2.0	mg/l	06-19-95	KW
@17:30PM	413.1	<0.4	mg/l	06-19-95	KW
$CBOD_5$	405.1	3	mg/l	06-19-95	KW
Total Suspended Solids	160.2	2	mg/l	06-19-95	KW
Phosphorus	365.4	<0.01	mg/l	06-16-95	LT
COD	410.4	<10	mg/l	06-20-95	NDA
Aldrin	508	<0.4	ug/l	06-23-95	NDA
aphaBHC	508	<0.02	ug/l	06-23-95	NDA
beta-BHC	508	<0.02	ug/l	06-23-95	NDA
gamma-BHC(Lindane)	508	<0.02	ug/l	06-23-95	NDA
delta-BHC	508	<0.02	ug/l	06-23-95	NDA
alpha-Chlordane	508	<0.2	ug/l	06-23-95	NDA
gamma-Chlordane	508	<0.2	ug/l	06-23-95	NDA
4,4'-DDT	508	<0.01	ug/l	06-23-95	NDA
4,4'DDE	508	<0.01	ug/l	06-23-95	NDA
4,4'-DDD	508	<0.01	ug/l	06-23-95	NDA
Dieldrin	508	<0.5	ug/l	06-23-95	NDA
alpha-Endosulfan	508	<0.01	ug/l	06-23-95	NDA
beta-Endosulfan	508	<0.01	ug/l	06-23-95	NDA
endosulfan Sulfate	508	<0.01	ug/l	06-23-95	NDA
Endrin	508	<0.01	ug/l	06-23-95	NDA
Endrin Aldehyde	508	<0.01	ug/l	06-23-95	NDA
Heptachlor	508	<0.04	ug/l	06-23-95	NDA
Heptachlor Epoxide	508	<0.02	ug/l	06-23-95	NDA
Toxaphene	508	<1.0	ug/l	06-23-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: June 28, 1995

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Dry Event #1, **WALNUT CREEK** Lab Log No: 49968

Sample Date/Time: June 14, 1995/10:25AM, 15:00PM, 18:16PM

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003	mg/l	06-20-95	RJI
Arsenic	206.2	<0.001	mg/l	06-15-95	RJI
Beryllium	210.1	<0.005	mg/l	06-16-95	RJI
Cadmium	213.2	<0.0001	mg/l	06-27-95	RJI
Chromium, Total	218.1	<0.05	mg/l	06-19-95	RJI
Chromium, VI	218.4	<0.01	mg/l	06-14-95	NDA
Copper	220.2	<0.001	mg/l	06-22-95	RJI
Lead	239.2	<0.001	mg/l	06-22-95	RJI
Mercury	245.2	<0.0002	mg/l	06-27-95	RJI
Nickel	249.1	<0.01	mg/l	06-16-95	RJI
Selenium	270.2	<0.002	mg/l	06-23-95	RJI
Silver	272.2	<0.0002	mg/l	06-27-95	RJI
Thallium	279.2	<0.001	mg/l	06-27-95	RJI
Zinc	289.1	0.048	mg/l	06-20-95	RJI
Cyanide, Free	DER (White)	<0.005	mg/l	06-15-95	LT
Aluminum	202.1	<0.1	mg/l	06-16-95	RJI
Alkalinity	310.1	140	mg/l	06-19-95	KW
Ammonia Nitrogen	350.1	0.04	mg/l	06-22-95	LT
Fecal Coliform Grab@10:25AM	SM-16, 909C	80	col/100 ml	06-15-95	LT
Hardness	130.1	209	mg/l	06-15-95	KW
Iron	236.1	0.38	mg/l	06-19-95	RJI
Manganese	243.1	0.01	mg/l	06-16-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	06-20-95	LT
Nitrate Nitrogen	353.2	0.41	mg/l	06-20-95	LT
Chloride	325.2	59	mg/l	06-19-95	LT

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Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Dry Event #1, WALNUT CREEK Lab Log No: 49968
Sample Date/Time: June 14, 1995/10:25AM, 15:00PM, 18:16PM
Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Oil & Grease Grab					
@10:25AM	413.1	3.2	mg/l	06-19-95	KW
@15:00PM	413.1	0.4	mg/l	06-19-95	KW
@18:16PM	413.1	<0.4	mg/l	06-19-95	KW
$CBOD_5$	405.1	2	mg/l	06-19-95	KW
Total Suspended Solids	160.2	2	mg/l	06-19-95	KW
Phosphorus	365.4	<0.01	mg/l	06-16-95	LT
COD	410.4	<10	mg/l	06-20-95	NDA
Aldrin	508	<0.4	ug/l	06-23-95	NDA
aphaBHC	508	<0.02	ug/l	06-23-95	NDA
beta-BHC	508	<0.02	ug/l	06-23-95	NDA
gamma-BHC(Lindane)	508	<0.02	ug/l	06-23-95	NDA
delta-BHC	508	<0.02	ug/l	06-23-95	NDA
alpha-Chlordane	508	<0.2	ug/l	06-23-95	NDA
gamma-Chlordane	508	<0.2	ug/l	06-23-95	NDA
4,4'-DDT	508	<0.01	ug/l	06-23-95	NDA
4,4'DDE	508	<0.01	ug/l	06-23-95	NDA
4,4'-DDD	508	<0.01	ug/l	06-23-95	NDA
Dieldrin	508	<0.5	ug/l	06-23-95	NDA
alpha-Endosulfan	508	<0.01	ug/l	06-23-95	NDA
beta-Endosulfan	508	<0.01	ug/l	06-23-95	NDA
endosulfan Sulfate	508	<0.01	ug/l	06-23-95	NDA
Endrin	508	<0.01	ug/l	06-23-95	NDA
Endrin Aldehyde	508	<0.01	ug/l	06-23-95	NDA
Heptachlor	508	<0.04	ug/l	06-23-95	NDA
Heptachlor Epoxide	508	<0.02	ug/l	06-23-95	NDA
Toxaphene	508	<1.0	ug/l	06-23-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: June 28, 1995

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Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Dry Event #1, ELK CREEK Lab Log No: 49970

Sample Date/Time: June 14, 1995/11:18 AM, 15:30PM, 18:40PM

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003	mg/l	06-20-95	RJI
Arsenic	206.2	<0.001	mg/l	06-15-95	RJI
Beryllium	210.1	<0.005	mg/l	06-16-95	RJI
Cadmium	213.2	<0.0001	mg/l	06-27-95	RJI
Chromium, Total	218.1	<0.05	mg/l	06-19-95	RJI
Chromium, VI	218.4	<0.01	mg/l	06-14-95	NDA
Copper	220.2	<0.001	mg/l	06-22-95	RJI
Lead	239.2	<0.001	mg/l	06-22-95	RJI
Mercury	245.2	<0.0002	mg/l	06-27-95	RJI
Nickel	249.1	<0.01	mg/l	06-16-95	RJI
Selenium	270.2	<0.002	mg/l	06-23-95	RJI
Silver	272.2	<0.0002	mg/l	06-27-95	RJI
Thallium	279.2	<0.001	mg/l	06-27-95	RJI
Zinc	289.1	0.011	mg/l	06-20-95	RJI
Cyanide, Free	DER (White)	<0.005	mg/l	06-15-95	LT
Aluminum	202.1	<0.1	mg/l	06-16-95	RJI
Alkalinity	310.1	100	mg/l	06-19-95	KW
Ammonia Nitrogen	350.1	0.09	mg/l	06-22-95	LT
Fecal Coliform Grab@11:18AM	SM-16, 909C	28	col/100 ml	06-15-95	LT
Hardness	130.1	154	mg/l	06-15-95	KW
Iron	236.1	0.47	mg/l	06-19-95	RJI
Manganese	243.1	<0.01	mg/l	06-16-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	06-20-95	LT
Nitrate Nitrogen	353.2	0.97	mg/l	06-20-95	LT
Chloride	325.2	35	mg;l	06-19-95	LT

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Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Dry Event #1, **ELK CREEK** Lab Log No: 49970
Sample Date/Time: June 14, 1995/11:18M, 15:30PM, 18:40PM
Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Oil & Grease Grab					
@11:18AM	413.1	1.2	mg/l	06-19-95	KW
@15:30PM	413.1	2.4	mg/l	06-19-95	KW
@18:40PM	413.1	1.2	mg/l	06-19-95	KW
CBOD,	405.1	2	mg/l	06-19-95	KW
Total Suspended Solids	160.2	2	mg/l	06-19-95	KW
Phosphorus	365.4	0.01	mg/l	06-16-95	LT
COD	410.4	10	mg/l	06-20-95	NDA
Aldrin	508	<0.4	ug/l	06-23-95	NDA
aphaBHC	508	<0.02	ug/l	06-23-95	NDA
beta-BHC	508	<0.02	ug/l	06-23-95	NDA
gamma-BHC(Lindane)	508	<0.02	ug/l	06-23-95	NDA
delta-BHC	508	<0.02	ug/l	06-23-95	NDA
alpha-Chlordane	508	<0.2	ug/l	06-23-95	NDA
gamma-Chlordane	508	<0.2	ug/l	06-23-95	NDA
4,4'-DDT	508	<0.01	ug/l	06-23-95	NDA
4,4'DDE	508	<0.01	ug/l	06-23-95	NDA
4,4'-DDD	508	<0.01	ug/l	06-23-95	NDA
Dieldrin	508	<0.5	ug/l	06-23-95	NDA
alpha-Endosulfan	508	<0.01	ug/l	06-23-95	NDA
beta-Endosulfan	508	<0.01	ug/l	06-23-95	NDA
endosulfan Sulfate	508	<0.01	ug/l	06-23-95	NDA
Endrin	508	<0.01	ug/l	06-23-95	NDA
Endrin Aldehyde	508	<0.01	ug/l	06-23-95	NDA
Heptachlor	508	<0.04	ug/l	06-23-95	NDA
Heptachlor Epoxide	508	<0.02	ug/l	06-23-95	NDA
Toxaphene	508	<1.0	ug/l	06-23-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: June 28, 1995

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Dry Event #1, **TRIP BLANK** Lab Log No: 49984

Sample Date/Time: June 14, 1995

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003	mg/l	06-20-95	RJI
Arsenic	206.2	<0.001	mg/l	06-15-95	RJI
Beryllium	210.1	<0.005	mg/l	06-16-95	RJI
Cadmium	213.2	<0.0001	mg/l	06-27-95	RJI
Chromium, Total	218.1	<0.05	mg/l	06-19-95	RJI
Chromium, VI	218.4	<0.01	mg/l	06-14-95	NDA
Copper	220.2	<0.001	mg/l	06-22-95	RJI
Lead	239.2	<0.001	mg/l	06-22-95	RJI
Mercury	245.2	<0.0002	mg/l	06-27-95	RJI
Nickel	249.1	<0.01	mg/l	06-16-95	RJI
Selenium	270.2	<0.002	mg/l	06-23-95	RJI
Silver	272.2	<0.0002	mg/l	06-27-95	RJI
Thallium	279.2	<0.001	mg/l	06-27-95	RJI
Zinc	289.1	0.012	mg/l	06-20-95	RJI
Cyanide, Free	DER (White)	<0.005	mg/l	06-15-95	LT
Aluminum	202.1	<0.1	mg/l	06-16-95	RJI
Alkalinity	310.1	0.2	mg/l	06-19-95	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	06-22-95	LT
Fecal Coliform	SM-16, 909C	0	col/100 ml	06-15-95	LT
Hardness	130.1	2	mg/l	06-15-95	KW
Iron	236.1	0.87	mg/l	06-19-95	RJI
Manganese	243.1	<0.01	mg/l	06-16-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	06-20-95	LT
Nitrate Nitrogen	353.2	<0.01	mg/l	06-20-95	LT
Chloride	325.2	<2	mg/l	06-19-95	LT

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Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Dry Event #1, TRIP BLANK
Lab Log No: 49984
Sample Date/Time: June 14, 1995
Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Oil & Grease	413.1	<0.4	mg/l	06-22-95	KW
$CBOD_5$	405.1	2	mg/l	06-19-95	KW
Total Suspended Solids	160.2	2	mg/l	06-19-95	KW
Phosphorus	365.4	<0.01	mg/l	06-16-95	LT
COD	410.4	<10	mg/l	06-20-95	NDA
Aldrin	508	<0.4	ug/l	06-23-95	NDA
aphaBHC	508	<0.02	ug/l	06-23-95	NDA
beta-BHC	508	<0.02	ug/l	06-23-95	NDA
gamma-BHC(Lindane)	508	<0.02	ug/l	06-23-95	NDA
delta-BHC	508	<0.02	ug/l	06-23-95	NDA
alpha-Chlordane	508	<0.2	ug/l	06-23-95	NDA
gamma-Chlordane	508	<0.2	ug/l	06-23-95	NDA
4,4'-DDT	508	<0.01	ug/l	06-23-95	NDA
4,4'DDE	508	<0.01	ug/l	06-23-95	NDA
4,4'-DDD	508	<0.01	ug/l	06-23-95	NDA
Dieldrin	508	<0.5	ug/l	06-23-95	NDA
alpha-Endosulfan	508	<0.01	ug/l	06-23-95	NDA
beta-Endosulfan	508	<0.01	ug/l	06-23-95	NDA
endosulfan Sulfate	508	<0.01	ug/l	06-23-95	NDA
Endrin	508	<0.01	ug/l	06-23-95	NDA
Endrin Aldehyde	508	<0.01	ug/l	06-23-95	NDA
Heptachlor	508	<0.04	ug/l	06-23-95	NDA
Heptachlor Epoxide	508	<0.02	ug/l	06-23-95	NDA
Toxaphene	508	<1.0	ug/l	06-23-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: June 28, 1995

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Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Dry Event #1, TWELVE MILE CREEK
Sample Date/Time: June 14, 1995
Sampler: N.A. Conaway

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
08:15 AM	pH	8.3		NAC
13:50 PM	pH	8.5		NAC
17:30 PM	pH	8.4		NAC
08:15 AM	Dissolved Oxygen	5.72	mg/l	NAC
13:50 PM	Dissolved Oxygen	5.0	mg/l	NAC
17:30 PM	Dissolved Oxygen	5.38	mg/l	NAC
08:15 AM	Temperature	14.5	°C	NAC
13:50 PM	Temperature	19.4	°C	NAC
17:30 PM	Temperature	20.2	°C	NAC
08:15 AM	Conductivity	411	uS/cm	NAC
13:50 PM	Conductivity	413	uS/cm	NAC
17:30 PM	Conductivity	416	uS/cm	NAC
08:15 AM	Velocity *	0.5	fps	NAC

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President

Reported: June 28, 1995
Revised: Sept 18, 1996

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Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Dry Event #1, WALNUT CREEK
Sample Date/Time: June 14, 1995
Sampler: N.A. Conaway

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
10:25 AM	pH	8.6		NAC
15:00 PM	pH	8.7		NAC
18:16 PM	pH	8.7		NAC
10:25 AM	Dissolved Oxygen	5.62	mg/l	NAC
15:00 PM	Dissolved Oxygen	5.38	mg/l	NAC
18:16 PM	Dissolved Oxygen	5.22	mg/l	NAC
10:25 AM	Temperature	17.5	°C	NAC
15:00 PM	Temperature	23.6	°C	NAC
18:16 PM	Temperature	23.4	°C	NAC
10:25 AM	Conductivity	554	uS/cm	NAC
15:00 PM	Conductivity	553	uS/cm	NAC
18:16 PM	Conductivity	552	uS/cm	NAC
10:25 AM	Velocity *	2.47	fps	NAC

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President

Reported: June 28, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Dry Event #1, ELK CREEK
Sample Date/Time: June 14, 1995
Sampler: N.A. Conaway

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
11:18 AM	pH	8.9		NAC
15:30 PM	pH	9.2		NAC
18:40 PM	pH	9.0		NAC
11:18 AM	Dissolved Oxygen	6.25	mg/l	NAC
15:30 PM	Dissolved Oxygen	5.03	mg/l	NAC
18:40 PM	Dissolved Oxygen	5.03	mg/l	NAC
11:18 AM	Temperature	20.7	°C	NAC
15:30 PM	Temperature	25.2	°C	NAC
18:40 PM	Temperature	24.1	°C	NAC
11:18 AM	Conductivity	419	uS/cm	NAC
15:30 PM	Conductivity	402	uS/cm	NAC
18:40 PM	Conductivity	393	uS/cm	NAC
11:18 AM	Velocity *	1.41	fps	NAC

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President

Reported: June 28, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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7397 CHESTNUT STREET ◦ P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #02W, TWELVE MILE CREEK Lab Log No: 50759

Sample Date/Time: August 11, 1995/10:30AM, 12:20PM, 14:27PM

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003	mg/l	08-23-95	RJI
Arsenic	206.2	0.011	mg/l	08-22-95	RJI
Beryllium	210.1	<0.005	mg/l	08-23-95	RJI
Cadmium	213.2	0.0004	mg/l	08-17-95	NAC
Chromium, Total	218.1	0.13	mg/l	08-22-95	RJI
Chromium, VI	218.4	<0.01	mg/l	08-11-95	NDA
Copper	220.2	0.021	mg/l	08-22-95	RJI
Lead	239.2	0.018	mg/l	08-15-95	NAC
Mercury	245.1	<0.0002	mg/l	08-24-95	RJI
Nickel	249.1	0.04	mg/l	08-22-95	RJI
Selenium	270.2	<0.002	mg/l	08-21-95	RJI
Silver	272.2	0.0003	mg/l	08-22-95	RJI
Thallium	279.2	<0.001	mg/l	08-21-95	RJI
Zinc	289.1	0.2	mg/l	08-18-95	NAC
Cyanide, Free	DER (White)	<0.005	mg/l	08-15-95	LT
Aluminum	202.1	13.8	mg/l	08-18-95	NAC
Alkalinity	310.1	44	mg/l	08-16-95	KW
Ammonia Nitrogen	350.1	0.19	mg/l	08-18-95	LT
Fecal Coliform Grab@12:20PM	SM-16, 909C	13,100	col/100 ml	08-12-95	LT
Hardness	130.1	112	mg/l	08-11-95	KW
Iron	236.1	19.5	mg/l	08-18-95	NAC
Manganese	243.1	1.34	mg/l	08-22-95	RJI
Nitrite Nitrogen	353.2	0.06	mg/l	08-17-95	LT
Nitrate Nitrogen	353.2	3.28	mg/l	08-17-95	LT
Chloride	325.2	35	mg,l	08-15-95	LT

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Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #02W, TWELVE MILE CREEK Lab Log No: 50759
Sample Date/Time: August 11, 1995/10:30AM, 12:20PM, 14:27PM
Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Oil & Grease Grab					
@10:30AM	413.1	<0.4	mg/l	08-22-95	KW
@12:20PM	413.1	<0.4	mg/l	08-22-95	KW
@14:27PM	413.1	0.8	mg/l	08-22-95	KW
$CBOD_5$	405.1	10	mg/l	08-16-95	KW
Total Suspended Solids	160.2	680	mg/l	08-16-95	KW
Phosphorus	365.4	0.89	mg/l	08-22-95	LT
COD	410.4	115	mg/l	08-22-95	NDA
Aldrin	508	<0.4	ug/l	08-24-95	NDA
aphaBHC	508	<0.02	ug/l	08-24-95	NDA
beta-BHC	508	<0.02	ug/l	08-24-95	NDA
gamma-BHC(Lindane)	508	<0.02	ug/l	08-24-95	NDA
delta-BHC	508	<0.02	ug/l	08-24-95	NDA
alpha-Chlordane	508	<0.2	ug/l	08-24-95	NDA
gamma-Chlordane	508	<0.2	ug/l	08-24-95	NDA
4,4'-DDT	508	<0.01	ug/l	08-24-95	NDA
4,4'DDE	508	<0.01	ug/l	08-24-95	NDA
4,4'-DDD	508	<0.01	ug/l	08-24-95	NDA
Dieldrin	508	<0.5	ug/l	08-24-95	NDA
alpha-Endosulfan	508	<0.01	ug/l	08-24-95	NDA
beta-Endosulfan	508	<0.01	ug/l	08-24-95	NDA
endosulfan Sulfate	508	<0.01	ug/l	08-24-95	NDA
Endrin	508	<0.01	ug/l	08-24-95	NDA
Endrin Aldehyde	508	<0.01	ug/l	08-24-95	NDA
Heptachlor	508	<0.04	ug/l	08-24-95	NDA
Heptachlor Epoxide	508	<0.02	ug/l	08-24-95	NDA
Toxaphene	508	<1.0	ug/l	08-24-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: August 24, 1995

CHURCH laboratory, inc.

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7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #02W. WALNUT CREEK Lab Log No: 50760

Sample Date/Time: August 11, 1995/10:25AM, 12:45PM, 14:45PM

Sampler: R.W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS	ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003 mg/l	08-23-95	RJI
Arsenic	206.2	0.010 mg/l	08-22-95	RJI
Beryllium	210.1	<0.005 mg/l	08-23-95	RJI
Cadmium	213.2	0.0005 mg/l	08-17-95	NAC
Chromium, Total	218.1	0.29 mg/l	08-22-95	RJI
Chromium, VI	218.4	<0.01 mg/l	08-11-95	NDA
Copper	220.2	0.033 mg/l	08-22-95	RJI
Lead	239.2	0.049 mg/l	08-15-95	NAC
Mercury	245.1	<0.0002 mg/l	08-24-95	RJI
Nickel	249.1	0.10 mg/l	08-22-95	RJI
Selenium	270.2	<0.002 mg/l	08-21-95	RJI
Silver	272.2	<0.0002 mg/l	08-22-95	RJI
Thallium	279.2	<0.001 mg/l	08-21-95	RJI
Zinc	289.1	0.67 mg/l	08-18-95	NAC
Cyanide, Free	DER (White)	<0.005 mg/l	08-15-95	LT
Aluminum	202.1	38.5 mg/l	08-18-95	NAC
Alkalinity	310.1	165 mg/l	08-16-95	KW
Ammonia Nitrogen	350.1	0.33 mg/l	08-18-95	LT
Fecal Coliform Grab@12:45 PM	SM-16, 909C	11,500 col/100 ml	08-12-95	LT
Hardness	130.1	144 mg/l	08-11-95	KW
Iron	236.1	35.5 mg/l	08-18-95	NAC
Manganese	243.1	2.44 mg/l	08-22-95	RJI
Nitrite Nitrogen	353.2	0.10 mg/l	08-17-95	LT
Nitrate Nitrogen	353.2	0.59 mg/l	08-17-95	LT
Chloride	325.2	29 mg/l	08-15-95	LT

CHURCH laboratory, inc.

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Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #02W,WALNUT CREEK Lab Log No: 50760
Sample Date/Time: August 11, 1995/10:25AM, 12:45PM, 14:45PM
Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Oil & Grease Grab					
@10:25AM	413.1	1.6	mg/l	08-22-95	KW
@12:45PM	413.1	3.2	mg/l	08-22-95	KW
@14:45PM	413.1	1.2	mg/l	08-22-95	KW
$CBOD_5$	405.1	15	mg/l	08-16-95	KW
Total Suspended Solids	160.2	1508	mg/l	08-16-95	KW
Phosphorus	365.4	1,74	mg/l	08-22-95	LT
COD	410.4	125	mg/l	08-22-95	NDA
Aldrin	508	<0.4	ug/l	08-24-95	NDA
aphaBHC	508	<0.02	ug/l	08-24-95	NDA
beta-BHC	508	<0.02	ug/l	08-24-95	NDA
gamma-BHC(Lindane)	508	<0.02	ug/l	08-24-95	NDA
delta-BHC	508	<0.02	ug/l	08-24-95	NDA
alpha-Chlordane	508	<0.2	ug/l	08-24-95	NDA
gamma-Chlordane	508	<0.2	ug/l	08-24-95	NDA
4,4'-DDT	508	<0.01	ug/l	08-24-95	NDA
4,4'DDE	508	<0.01	ug/l	08-24-95	NDA
4,4'-DDD	508	<0.01	ug/l	08-24-95	NDA
Dieldrin	508	<0.5	ug/l	08-24-95	NDA
alpha-Endosulfan	508	<0.01	ug/l	08-24-95	NDA
beta-Endosulfan	508	<0.01	ug/l	08-24-95	NDA
endosulfan Sulfate	508	<0.01	ug/l	08-24-95	NDA
Endrin	508	<0.01	ug/l	08-24-95	NDA
Endrin Aldehyde	508	<0.01	ug/l	08-24-95	NDA
Heptachlor	508	<0.04	ug/l	08-24-95	NDA
Heptachlor Epoxide	508	<0.02	ug/l	08-24-95	NDA
Toxaphene	508	<1.0	ug/l	08-24-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: August 24, 1995

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #02W, ELK CREEK Lab Log No: 50758

Sample Date/Time: August 11, 1995/11:00 AM, 13:30PM, 15:15PM

Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003	mg/l	08-23-95	RJI
Arsenic	206.2	0.003	mg/l	08-22-95	RJI
Beryllium	210.1	<0.005	mg/l	08-23-95	RJI
Cadmium	213.2	<0.0001	mg/l	08-17-95	NAC
Chromium, Total	218.1	<0.05	mg/l	08-22-95	RJI
Chromium, VI	218.4	<0.01	mg/l	08-11-95	NDA
Copper	220.2	0.0002	mg/l	08-22-95	RJI
Lead	239.2	<0.001	mg/l	08-15-95	NAC
Mercury	245.1	<0.0002	mg/l	08-24-95	RJI
Nickel	249.1	0.02	mg/l	08-22-95	RJI
Selenium	270.2	<0.002	mg/l	08-21-95	RJI
Silver	272.2	0.0008	mg/l	08-22-95	RJI
Thallium	279.2	<0.001	mg/l	08-21-95	RJI
Zinc	289.1	<0.005	mg/l	08-18-95	NAC
Cyanide, Free	DER (White)	<0.005	mg/l	08-15-95	LT
Aluminum	202.1	1.28	mg/l	08-18-95	NAC
Alkalinity	310.1	105	mg/l	08-16-95	KW
Ammonia Nitrogen	350.1	0.10	mg/l	08-18-95	LT
Fecal Coliform Grab@13:30PM	SM-16, 909C	1940	col/100 ml	08-12-95	LT
Hardness	130.1	184	mg/l	08-11-95	KW
Iron	236.1	0.82	mg/l	08-16-95	NAC
Manganese	243.1	0.06	mg/l	08-22-95	RJI
Nitrite Nitrogen	353.2	0.03	mg/l	08-17-95	LT
Nitrate Nitrogen	353.2	1.27	mg/l	08-17-95	LT
Chloride	325.2	37	mg;l	08-15-95	LT

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Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #02W, ELK CREEK Lab Log No: 50758
Sample Date/Time: August 11, 1995/11:00M, 13:30PM, 15:15PM
Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Oil & Grease Grab					
@11:00AM	413.1	<0.4	mg/l	08-22-95	KW
@13:30PM	413.1	<0.4	mg/l	08-22-95	KW
@15:15PM	413.1	<0.4	mg/l	08-22-95	KW
$CBOD_5$	405.1	6	mg/l	08-16-95	KW
Total Suspended Solids	160.2	24	mg/l	08-16-95	KW
Phosphorus	365.4	0.04	mg/l	06-22-95	LT
COD	410.4	10	mg/l	06-22-95	NDA
Aldrin	508	<0.4	ug/l	08-24-95	NDA
aphaBHC	508	<0.02	ug/l	08-24-95	NDA
beta-BHC	508	<0.02	ug/l	08-24-95	NDA
gamma-BHC(Lindane)	508	<0.02	ug/l	08-24-95	NDA
delta-BHC	508	<0.02	ug/l	08-24-95	NDA
alpha-Chlordane	508	<0.2	ug/l	08-24-95	NDA
gamma-Chlordane	508	<0.2	ug/l	08-24-95	NDA
4,4'-DDT	508	<0.01	ug/l	08-24-95	NDA
4,4'DDE	508	<0.01	ug/l	08-24-95	NDA
4,4'-DDD	508	<0.01	ug/l	08-24-95	NDA
Dieldrin	508	<0.5	ug/l	08-24-95	NDA
alpha-Endosulfan	508	<0.01	ug/l	08-24-95	NDA
beta-Endosulfan	508	<0.01	ug/l	08-24-95	NDA
endosulfan Sulfate	508	<0.01	ug/l	08-24-95	NDA
Endrin	508	<0.01	ug/l	08-24-95	NDA
Endrin Aldehyde	508	<0.01	ug/l	08-24-95	NDA
Heptachlor	508	<0.04	ug/l	08-24-95	NDA
Heptachlor Epoxide	508	<0.02	ug/l	08-24-95	NDA
Toxaphene	508	<1.0	ug/l	08-24-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: August 24, 1995

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #02W, TRIP BLANK Lab Log No: 50758B
Sample Date/Time: August 11, 1995
Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003	mg/l	08-23-95	RJI
Arsenic	206.2	<0.001	mg/l	08-22-95	RJI
Beryllium	210.1	<0.005	mg/l	08-23-95	RJI
Cadmium	213.2	<0.0001	mg/l	08-17-95	NAC
Chromium, Total	218.1	<0.05	mg/l	08-22-95	RJI
Chromium, VI	218.4	<0.01	mg/l	08-11-95	NDA
Copper	220.2	<0.001	mg/l	08-22-95	RJI
Lead	239.2	<0.001	mg/l	08-15-95	NAC
Mercury	245.1	<0.0002	mg/l	08-24-95	RJI
Nickel	249.1	<0.01	mg/l	08-22-95	RJI
Selenium	270.2	<0.002	mg/l	08-21-95	RJI
Silver	272.2	<0.0002	mg/l	08-22-95	RJI
Thallium	279.2	<0.001	mg/l	08-21-95	RJI
Zinc	289.1	<0.005	mg/l	08-18-95	NAC
Cyanide, Free	DER (White)	<0.005	mg/l	08-15-95	LT
Aluminum	202.1	<0.1	mg/l	08-18-95	NAC
Alkalinity	310.1	0.2	mg/l	08-16-95	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	08-18-95	LT
Fecal Coliform	SM-16, 909C	0	col/100 ml	08-12-95	LT
Hardness	130.1	2	mg/l	08-11-95	KW
Iron	236.1	<0.03	mg/l	08-18-95	NAC
Manganese	243.1	<0.01	mg/l	08-22-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	08-17-95	LT
Nitrate Nitrogen	353.2	<0.01	mg/l	08-17-95	LT
Chloride	325.2	<2	mg/l	08-15-95	LT

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FAIRVIEW, PA. 16415

Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #02W, TRIP BLANK
Lab Log No: 50758B
Sample Date/Time: August 11, 1995
Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Oil & Grease	413.1	<0.4	mg/l	08-22-95	KW
$CBOD_5$	405.1	2	mg/l	08-16-95	KW
Total Suspended Solids	160.2	2	mg/l	08-16-95	KW
Phosphorus	365.4	<0.01	mg/l	08-22-95	LT
COD	410.4	<10	mg/l	08-22-95	NDA
Aldrin	508	<0.4	ug/l	08-24-95	NDA
aphaBHC	508	<0.02	ug/l	08-24-95	NDA
beta-BHC	508	<0.02	ug/l	08-24-95	NDA
gamma-BHC(Lindane)	508	<0.02	ug/l	08-24-95	NDA
delta-BHC	508	<0.02	ug/l	08-24-95	NDA
alpha-Chlordane	508	<0.2	ug/l	08-24-95	NDA
gamma-Chlordane	508	<0.2	ug/l	08-24-95	NDA
4,4'-DDT	508	<0.01	ug/l	08-24-95	NDA
4,4'DDE	508	<0.01	ug/l	08-24-95	NDA
4,4'-DDD	508	<0.01	ug/l	08-24-95	NDA
Dieldrin	508	<0.5	ug/l	08-24-95	NDA
alpha-Endosulfan	508	<0.01	ug/l	08-24-95	NDA
beta-Endosulfan	508	<0.01	ug/l	08-24-95	NDA
endosulfan Sulfate	508	<0.01	ug/l	08-24-95	NDA
Endrin	508	<0.01	ug/l	08-24-95	NDA
Endrin Aldehyde	508	<0.01	ug/l	08-24-95	NDA
Heptachlor	508	<0.04	ug/l	08-24-95	NDA
Heptachlor Epoxide	508	<0.02	ug/l	08-24-95	NDA
Toxaphene	508	<1.0	ug/l	08-24-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: August 24, 1995

CHURCH laboratory, inc.

(814) 474-2044

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FAIRVIEW, PA 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #02W, TWELVE MILE CREEK
Sample Date/Time: Augugst 11, 1995
Sampler: N.A. Conaway
Site Observations: In round one all of the flow was near the cement wall, covering roughly 2/3 of the total bed. In rounds two and three the flow had spread over the entire bed. Water was less turbid in round three. There was no noticable change in turbidity between rounds one and two.

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
10:30 AM	pH	8.2		NAC
12:20 PM	pH	8.0		NAC
14:27 PM	pH	8.0		NAC
10:30 AM	Dissolved Oxygen	4.68	mg/l	NAC
12:20 PM	Dissolved Oxygen	4.70	mg/l	NAC
14:27 PM	Dissolved Oxygen	4.36	mg/l	NAC
10:30 AM	Temperature	19.7	°C	NAC
12:20 PM	Temperature	20.5	°C	NAC
14:27 PM	Temperature	22.1	°C	NAC
10:30 AM	Conductivity	241	uS/cm	NAC
12:20 PM	Conductivity	324	uS/cm	NAC
14:27 PM	Conductivity	361	uS/cm	NAC
10:30 AM	Velocity *	4.9	fps	NAC
12:20 PM	Velocity *	4.9	fps	NAC
14:27 PM	Velocity *	3.67	fps	NAC
10:30 AM	Depth	1.75	ft	NAC
12:20 PM	Depth	2.0	ft	NAC
14:27 PM	Depth	1.37	ft	NAC

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: August 24, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01

Sample ID: Event #02W, WALNUT CREEK

Sample Date/Time: August 11, 1995

Sampler: R. W. Stallbaum

Site Observation: During round one the water was slightly turbid. During round two the water turned black, there were a lot of floating branches and debris. By the third round the water had spread all the way across the stream bed.

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
10:25 AM	pH	8.26		RWS
12:45 PM	pH	7.76		RWS
14:45 PM	pH	7.81		RWS
10:25 AM	Dissolved Oxygen	8.4	mg/l	RWS
12:45 PM	Dissolved Oxygen	7.7	mg/l	RWS
14:45 PM	Dissolved Oxygen	7.4	mg/l	RWS
10:25 AM	Temperature	21.0	°C	RWS
12:45 PM	Temperature	22.0	°C	RWS
14:45 PM	Temperature	22.1	°C	RWS
10:25 AM	Conductivity	276	uS/cm	RWS
12:45 PM	Conductivity	416	uS/cm	RWS
14:45 PM	Conductivity	305	uS/cm	RWS
10:25 AM	Velocity *	2.6	fps	RWS
12:45 PM	Velocity *	2.86	fps	RWS
14:45 PM	Velocity *	7.33	fps	RWS

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7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Field Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #02W,WALNUT CREEK
Sample Date/Time: August 11, 1995
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
10:25 AM- St 1	Distance	18.69	ft	RWS
- St 2	from bridge	19.03	ft	RWS
- St 3	to	19.27	ft	RWS
- St 4	water surface	19.18	ft	RWS
- St 8		19.15	ft	RWS
12:45PM - St 1	Distance	18.08	ft	RWS
- St 2	from bridge	18.70	ft	RWS
- St 3	to	18.77	ft	RWS
- St 4	water surface	18.67	ft	RWS
- St 5		18.70	ft	RWS
- St 8		18.56	ft	RWS
14:45 PM- St 1	Distance	18.11	ft	RWS
- St 2	from bridge	17.97	ft	RWS
- St 3	to	18.01	ft	RWS
- St 4	water surface	18.03	ft	RWS
- St 5		17.94	ft	RWS
- St 7		18.52	ft	RWS
- St 8		18.44	ft	RWS

Robert W. Stallbaum, Jr.
President
Reported: August 24, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

(814) 474-2044

7387 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #02W, ELK CREEK
Sample Date/Time: August 11, 1995
Sampler: R.W. Stallbaum
Site Observations: During rounds one and two the water stayed clear. During round three the water was slightly turbid with what looked like algae.

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
11:00 AM	pH	7.3		RWS
13:30 PM	pH	8.3		RWS
15:15 PM	pH	8.4		RWS
12:00 AM	Dissolved Oxygen	7.87	mg/l	RWS
13:30 PM	Dissolved Oxygen	9.3	mg/l	RWS
15:15 PM	Dissolved Oxygen	9.4	mg/l	RWS
11:00 AM	Temperature	22.2	°C	RWS
13:30 PM	Temperature	24.4	°C	RWS
15:15 PM	Temperature	26.8	°C	RWS
11:00 AM	Conductivity	469	uS/cm	RWS
13:30 PM	Conductivity	462	uS/cm	RWS
15:15 PM	Conductivity	473	uS/cm	RWS
11:00 AM	Velocity *	1.33	fps	RWS
13:30 PM	Velocity *	1.43	fps	RWS
15:15 PM	Velocity *	1.63	fps	RWS

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: August 24, 1995
Revised: Sept 18, 1996

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Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #03W, TWELVE MILE CREEK Lab Log No: 51224

Sample Date/Time: September 20, 1995/13:40PM, 15:38PM, 17:28PM

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003	mg/l	09-28-95	RJI
Arsenic	206.2	<0.001	mg/l	09-22-95	RJI
Beryllium	210.1	<0.005	mg/l	09-26-95	RJI
Cadmium	213.2	<0.0001	mg/l	09-27-95	RJI
Chromium, Total	218.1	<0.05	mg/l	09-21-95	RJI
Chromium, VI	218.4	<0.01	mg/l	09-21-95	RJI
Copper	220.2	<0.001	mg/l	09-27-95	RJI
Lead	239.2	<0.001	mg/l	09-25-95	RJI
Mercury	245.1	<0.0002	mg/l	09-29-95	RJI
Nickel	249.1	<0.01	mg/l	09-21-95	RJI
Selenium	270.2	<0.002	mg/l	09-26-95	RJI
Silver	272.2	<0.0002	mg/l	09-27-95	RJI
Thallium	279.2	<0.001	mg/l	09-26-95	RJI
Zinc	289.1	<0.005	mg/l	09-21-95	RJI
Aluminum	202.1	0.31	mg/l	09-26-95	RJI
Alkalinity	310.1	79	mg/l	09-25-95	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	09-22-95	LT
Fecal Coliform Grab@15:38PM	SM-16, 909C	1,150	col/100 ml	09-21-95	LT
Hardness	130.1	186	mg/l	09-21-95	KW
Iron	236.1	0.15	mg/l	09-21-95	RJI
Manganese	243.1	0.04	mg/l	10-02-95	RJI
Nitrite Nitrogen	353.2	0.01	mg/l	09-26-95	LT
Nitrate Nitrogen	353.2	2.85	mg/l	09-26-95	LT
Chloride	325.2	34	mg/l	09-26-95	LT

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Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #03W, TWELVE MILE CREEK Lab Log No: 51224
Sample Date/Time: September 20, 1995/13:40PM, 15:38PM, 17:28PM
Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
$CBOD_5$	405.1	7	mg/l	09-25-95	KW
Total Suspended Solids	160.2	4	mg/l	09-21-95	KW
Phosphorus	365.4	0.01	mg/l	09-21-95	LT
COD	410.4	<10	mg/l	09-22-95	NAC

Robert W. Stallbaum, Jr.
President

Reported: October 2, 199595

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Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #03W. WALNUT CREEK Lab Log No: 51225

Sample Date/Time: September 20, 1995/13:40 PM, 15:40PM, 17:45PM

Sampler: R.W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003	mg/l	09-28-95	RJI
Arsenic	206.2	<0.001	mg/l	09-22-95	RJI
Beryllium	210.1	<0.005	mg/l	09-26-95	RJI
Cadmium	213.2	<0.0001	mg/l	09-27-95	RJI
Chromium, Total	218.1	<0.05	mg/l	09-21-95	RJI
Chromium, VI	218.4	<0.01	mg/l	09-21-95	NDA
Copper	220.2	<0.001	mg/l	09-27-95	RJI
Lead	239.2	<0.001	mg/l	09-25-95	RJI
Mercury	245.1	<0.0002	mg/l	09-29-95	RJI
Nickel	249.1	<0.01	mg/l	09-21-95	RJI
Selenium	270.2	<0.002	mg/l	09-26-95	RJI
Silver	272.2	<0.0002	mg/l	09-27-95	RJI
Thallium	279.2	<0.001	mg/l	09-26-95	RJI
Zinc	289.1	<0.005	mg/l	09-21-95	RJI
Aluminum	202.1	<0.1	mg/l	09-26-95	RJI
Alkalinity	310.1	104	mg/l	08-16-95	KW
Ammonia Nitrogen	350.1	0.05	mg/l	08-18-95	LT
Fecal Coliform Grab@15:40 PM	SM-16, 909C	2,140	col/100 ml	09-21-95	LT
Hardness	130.1	144	mg/l	09-21-95	KW
Iron	236.1	0.13	mg/l	09-21-95	RJI
Manganese	243.1	0.03	mg/l	10-02-95	RJI
Nitrite Nitrogen	353.2	0.02	mg/l	09-26-95	LT
Nitrate Nitrogen	353.2	0.70	mg/l	09-26-95	LT
Chloride	325.2	42	mg,l	09-26-95	LT

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Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #03W,WALNUT CREEK Lab Log No: 51225
Sample Date/Time: September 20, 1995/1340PM, 15:40PM, 17:45PM
Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
$CBOD_5$	405.1	5	mg/l	09-25-95	KW
Total Suspended Solids	160.2	4	mg/l	09-21-95	KW
Phosphorus	365.4	<0.014	mg/l	09-21-95	LT
COD	410.4	10	mg/l	09-22-95	NAC

Robert W. Stallbaum, Jr.
President

Reported: October 2, 1995

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Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #03W, ELK CREEK Lab Log No: 51226

Sample Date/Time: September 20, 1995/14:15PM, 16:15PM, 18:20PM

Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003	mg/l	09-28-95	RJI
Arsenic	206.2	<0.001	mg/l	09-22-95	RJI
Beryllium	210.1	<0.005	mg/l	09-26-95	RJI
Cadmium	213.2	<0.0001	mg/l	09-27-95	RJI
Chromium, Total	218.1	<0.05	mg/l	09-21-95	RJI
Chromium, VI	218.4	<0.01	mg/l	09-21-95	NDA
Copper	220.2	<0.001	mg/l	09-27-95	RJI
Lead	239.2	<0.001	mg/l	09-25-95	RJI
Mercury	245.1	<0.0002	mg/l	09-29-95	RJI
Nickel	249.1	<0.01	mg/l	09-21-95	RJI
Selenium	270.2	<0.002	mg/l	09-26-95	RJI
Silver	272.2	<0.0002	mg/l	09-27-95	RJI
Thallium	279.2	<0.001	mg/l	09-26-95	RJI
Zinc	289.1	<0.005	mg/l	09-21-95	RJI
Aluminum	202.1	<0.1	mg/l	09-26-95	RJI
Alkalinity	310.1	98	mg/l	09-25-95	KW
Ammonia Nitrogen	350.1	0.07	mg/l	09-22-95	LT
Fecal Coliform Grab@16:15PM	SM-16, 909C	290	col/100 ml	09-21-95	LT
Hardness	130.1	222	mg/l	09-21-95	KW
Iron	236.1	0.09	mg/l	09-21-95	RJI
Manganese	243.1	0.03	mg/l	10-02-95	RJI
Nitrite Nitrogen	353.2	0.03	mg/l	09-26-95	LT
Nitrate Nitrogen	353.2	1.87	mg/l	09-26-95	LT
Chloride	325.2	46	mg,l	09-26-95	LT

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Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #03W, ELK CREEK Lab Log No: 51226
Sample Date/Time: September 20, 1995/14:15PM, 16:15PM, 18:20PM
Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
$CBOD_5$	405.1	6	mg/l	09-16-95	KW
Total Suspended Solids	160.2	2	mg/l	09-16-95	KW
Phosphorus	365.4	0.06	mg/l	09-21-95	LT
COD	410.4	10	mg/l	09-22-95	NAC

Robert W. Stallbaum, Jr.
President

Reported: October 2, 1995

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Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #03W, TRIP BLANK Lab Log No: 51223

Sample Date/Time: September 20, 1995

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Antimony	204.2	<0.003	mg/l	09-28-95	RJI
Arsenic	206.2	<0.001	mg/l	09-22-95	RJI
Beryllium	210.1	<0.005	mg/l	09-26-95	RJI
Cadmium	213.2	<0.0001	mg/l	09-27-95	RJI
Chromium, Total	218.1	<0.05	mg/l	09-21-95	RJI
Chromium, VI	218.4	<0.01	mg/l	09-21-95	NDA
Copper	220.2	<0.001	mg/l	09-27-95	RJI
Lead	239.2	<0.001	mg/l	09-25-95	RJI
Mercury	245.1	<0.0002	mg/l	09-29-95	RJI
Nickel	249.1	<0.01	mg/l	09-21-95	RJI
Selenium	270.2	<0.002	mg/l	09-26-95	RJI
Silver	272.2	<0.0002	mg/l	09-27-95	RJI
Thallium	279.2	<0.001	mg/l	09-26-95	RJI
Zinc	289.1	<0.005	mg/l	09-21-95	RJI
Aluminum	202.1	<0.1	mg/l	09-26-95	RJI
Alkalinity	310.1	<0.02	mg/l	09-25-95	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	09-22-95	LT
Fecal Coliform	SM-16, 909C	0	col/100 ml	09-21-95	LT
Hardness	130.1	2	mg/l	09-21-95	KW
Iron	236.1	<0.03	mg/l	09-21-95	RJI
Manganese	243.1	<0.01	mg/l	10-02-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	09-26-95	LT
Nitrate Nitrogen	353.2	<0.01	mg/l	09-26-95	LT
Chloride	325.2	<2	mg,l	09-26-95	LT

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FAIRVIEW, PA. 16415

Water Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #03W, **TRIP BLANK** Lab Log No: 51223
Sample Date/Time: September 20, 1995
Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
$CBOD_5$	405.1	2	mg/l	09-25-95	KW
Total Suspended Solids	160.2	2	mg/l	08-21-95	KW
Phosphorus	365.4	<0.01	mg/l	08-21-95	LT
COD	410.4	<10	mg/l	08-22-95	NAC

Robert W. Stallbaum, Jr.
President

Reported: October 2, 1995

CHURCH laboratory, inc.

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FAIRVIEW, PA. 15415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #03W, TWELVE MILE CREEK
Sample Date/Time: September 20, 1995
Sampler: N.A. Conaway

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
13:40 PM	pH	8.2		NAC
15:38 PM	pH	8.2		NAC
17:28 PM	pH	8.2		NAC
13:40 PM	Dissolved Oxygen	4.6	mg/l	NAC
15:38 PM	Dissolved Oxygen	4.63	mg/l	NAC
17:28 PM	Dissolved Oxygen	4.47	mg/l	NAC
13:40 PM	Temperature	15.6	°C	NAC
15:38 PM	Temperature	15.7	°C	NAC
17:28 PM	Temperature	16	°C	NAC
13:40 PM	Conductivity	417	uS/cm	NAC
15:38 PM	Conductivity	434	uS/cm	NAC
17:28 PM	Conductivity	428	uS/cm	NAC
13:40 PM	Velocity *	0.84	fps	NAC
15:38 PM	Velocity *	0.78	fps	NAC
17:28 PM	Velocity *	0.58	fps	NAC
13:40 PM	Depth	0.75	ft	NAC
15:38 PM	Depth	0.75	ft	NAC
17-28 PM	Depth	0.57	ft	NAC

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: October 2, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #03W, WALNUT CREEK
Sample Date/Time: September 20, 1995
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
13:40 PM	pH	8.05		RWS
15:40 PM	pH	8.23		RWS
17:45 PM	pH	8.29		RWS
13:40 PM	Dissolved Oxygen	10.2	mg/l	RWS
15:40 PM	Dissolved Oxygen	10.4	mg/l	RWS
17:45 PM	Dissolved Oxygen	13.2	mg/l	RWS
13:40 PM	Temperature	15.7	°C	RWS
15:40 PM	Temperature	16.1	°C	RWS
17:45 PM	Temperature	16.3	°C	RWS
13:40 PM	Conductivity	443	uS/cm	RWS
15:40 PM	Conductivity	476	uS/cm	RWS
17:45 PM	Conductivity	5424	uS/cm	RWS
13:40 PM	Velocity *	1.72	fps	RWS
15:40 PM	Velocity *	2.24	fps	RWS
17:45 PM	Velocity *	2.46	fps	RWS

*Result is an average of three trials using stop watch and oranges.

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7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Field Analyses Report
Malcolm Pirnie, Inc.

Project:	Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID:	Event #03W, WALNUT CREEK
Sample Date/Time:	September 20, 1995
Sampler:	R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
13:40 PM- St 1	Distance	19.18	ft	RWS
- St 2	from bridge	19.31	ft	RWS
- St 3	to	19.56	ft	RWS
- St 4	water surface	19.53	ft	RWS
15:40 PM- St 1	Distance	19.14	ft	RWS
- St 2	from bridge	19.26	ft	RWS
- St 3	to	19.51	ft	RWS
- St 4	water surface	19.50	ft	RWS
17:45 AM- St 1	Distance	19.23	ft	RWS
- St 2	from bridge	19.30	ft	RWS
- St 3	to	19.59	ft	RWS
- St 4	water surface	19.53	ft	RWS

Robert W. Stallbaum, Jr.
President

Reported: October 2, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #03W, ELK CREEK
Sample Date/Time: September 20, 1995
Sampler: R.W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
14:15 PM	pH	8.2		RWS
16:15 PM	pH	8.1		RWS
18:20 PM	pH	8.1		RWS
14:15 PM	Dissolved Oxygen	11.4	mg/l	RWS
16:15 PM	Dissolved Oxygen	11.2	mg/l	RWS
18:20 PM	Dissolved Oxygen	14.5	mg/l	RWS
14:15 PM	Temperature	16.9	°C	RWS
16:15 PM	Temperature	17.3	°C	RWS
18:20 PM	Temperature	17.3	°C	RWS
14:15 PM	Conductivity	544	uS/cm	RWS
16:15 PM	Conductivity	536	uS/cm	RWS
18:20 PM	Conductivity	551	uS/cm	RWS
14:15 PM	Velocity *	0.94	fps	RWS
16:15 PM	Velocity *	1.08	fps	RWS
18:20 PM	Velocity *	1.04	fps	RWS

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President

Reported: October 2, 1995
Resived: Sept 18, 1996

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #04D, TWELVE MILE CREEK Lab Log No: 51449

Sample Date/Time: October 3, 1995/ 07:30AM, 09:30AM, 11:33AM

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	10-11-95	RJI
Cadmium	213.2	<0.0001	mg/l	10-12-95	RJI
Chromium, Total	218.1	<0.05	mg/l	10-05-95	RJI
Copper	220.2	0.001	mg/l	10-06-95	RJI
Lead	239.2	<0.001	mg/l	10-03-95	RJI
Nickel	249.1	0.02	mg/l	10-06-95	RJI
Silver	272.2	<0.0002	mg/l	10-11-95	RJI
Zinc	289.1	<0.005	mg/l	10-06-95	RJI
Aluminum	202.1	<0.1	mg/l	10-11-95	RJI
Alkalinity	310.1	88	mg/l	10-06-95	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	10-03-95	LT
Fecal Coliform Grab@09:30AM	SM-16, 909C	29	col/100 ml	10-04-95	LT
Hardness	130.1	198	mg/l	10-03-95	KW
Iron	236.1	<0.03	mg/l	10-06-95	RJI
Manganese	243.1	0.01	mg/l	10-12-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	10-10-95	LT
Nitrate Nitrogen	353.2	1.95	mg/l	10-10-95	LT
Chloride	325.2	40	mg;l	10-06-95	LT
$CBOD_5$	405.1	2	mg/l	10-09-95	KW
Total Suspended Solids	160.2	2	mg/l	10-05-95	KW
Phosphorus	365.4	<0.01	mg/l	10-04-95	LT
COD	410.4	<10	mg/l	10-11-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: October 16, 1995

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #04D, WALNUT CREEK Lab Log No: 51450

Sample Date/Time: October 3, 1995/ 07:45AM, 09:50AM, 11:50AM

Sampler: R.W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	10-11-95	RJI
Cadmium	213.2	<0.0001	mg/l	10-12-95	RJI
Chromium, Total	218.1	<0.05	mg/l	10-05-95	RJI
Copper	220.2	<0.001	mg/l	10-06-95	RJI
Lead	239.2	<0.001	mg/l	10-03-95	RJI
Nickel	249.1	0.01	mg/l	10-06-95	RJI
Silver	272.2	<0.0002	mg/l	10-11-95	RJI
Zinc	289.1	<0.005	mg/l	10-06-95	RJI
Aluminum	202.1	<0.1	mg/l	10-11-95	RJI
Alkalinity	310.1	122	mg/l	10-06-95	KW
Ammonia Nitrogen	350.1	0.02	mg/l	10-03-95	LT
Fecal Coliform Grab@09:50AM	SM-16, 909C	45	col/100 ml	10-04-95	LT
Hardness	130.1	220	mg/l	10-03-95	KW
Iron	236.1	<0.03	mg/l	10-06-95	RJI
Manganese	243.1	0.02	mg/l	10-12-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	10-10-95	LT
Nitrate Nitrogen	353.2	0.10	mg/l	10-10-95	LT
Chloride	325.2	51	mg/l	10-06-95	LT
$CBOD_5$	405.1	2	mg/l	10-09-95	KW
Total Suspended Solids	160.2	4	mg/l	10-05-95	KW
Phosphorus	365.4	<0.01	mg/l	10-04-95	LT
COD	410.4	<10	mg/l	10-11-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: October 16, 1995

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #04D, ELK CREEK Lab Log No: 51451

Sample Date/Time: October 3, 1995/ 08:15AM, 10:20AM, 12:20PM

Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	10-11-95	RJI
Cadmium	213.2	<0.0001	mg/l	10-12-95	RJI
Chromium, Total	218.1	<0.05	mg/l	10-05-95	RJI
Copper	220.2	<0.001	mg/l	10-06-95	RJI
Lead	239.2	<0.001	mg/l	10-03-95	RJI
Nickel	249.1	0.01	mg/l	10-06-95	RJI
Silver	272.2	<0.0002	mg/l	10-11-95	RJI
Zinc	289.1	<0.005	mg/l	10-06-95	RJI
Aluminum	202.1	<0.1	mg/l	10-11-95	RJI
Alkalinity	310.1	108	mg/l	10-06-95	KW
Ammonia Nitrogen	350.1	0.11	mg/l	10-03-95	LT
Fecal Coliform Grab@10:20AM	SM-16, 909C	12	col/100 ml	10-04-95	LT
Hardness	130.1	226	mg/l	10-03-95	KW
Iron	236.1	0.06	mg/l	10-06-95	RJI
Manganese	243.1	0.03	mg/l	10-12-95	RJI
Nitrite Nitrogen	353.2	0.01	mg/l	10-10-95	LT
Nitrate Nitrogen	353.2	2.40	mg/l	10-10-95	LT
Chloride	325.2	51	mg/l	10-06-95	LT
$CBOD_5$	405.1	2	mg/l	10-09-95	KW
Total Suspended Solids	160.2	2	mg/l	10-05-95	KW
Phosphorus	365.4	0.08	mg/l	10-04-95	LT
COD	410.4	<10	mg/l	10-11-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: October 16, 1995

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #04D, TRIP BLANK No: 51448

Sample Date/Time: October 3, 1995

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	10-11-95	RJI
Cadmium	213.2	<0.0001	mg/l	10-12-95	RJI
Chromium, Total	218.1	<0.05	mg/l	10-05-95	RJI
Copper	220.2	0.001	mg/l	10-06-95	RJI
Lead	239.2	<0.001	mg/l	10-03-95	RJI
Nickel	249.1	< 0.01	mg/l	10-06-95	RJI
Silver	272.2	<0.0002	mg/l	10-11-95	RJI
Zinc	289.1	<0.005	mg/l	10-06-95	RJI
Aluminum	202.1	<0.1	mg/l	10-11-95	RJI
Alkalinity	310.1	<0.02	mg/l	10-06-95	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	10-03-95	LT
Fecal Coliform	SM-16, 909C	0	col/100 ml	10-04-95	LT
Hardness	130.1	<2	mg/l	10-03-95	KW
Iron	236.1	<0.031	mg/l	10-06-95	RJI
Manganese	243.1	<0.014	mg/l	10-12-95	RJI
Nitrite Nitrogen	353.2	< 0.01	mg/l	10-10-95	LT
Nitrate Nitrogen	353.2	<0.01	mg/l	10-10-95	LT
Chloride	325.2	<2	mg/l	10-06-95	LT
$CBOD_5$	405.1	<2	mg/l	10-09-95	KW
Total Suspended Solids	160.2	<2	mg/l	10-05-95	KW
Phosphorus	365.4	<0.01	mg/l	10-04-95	LT
COD	410.4	<10	mg/l	10-11-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: October 16, 1995

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #04D, TWELVE MILE CREEK
Sample Date/Time: October 3, 1995
Sampler: N.A. Conaway

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
07:30 AM	pH	8.3		NAC
09:30 AM	pH	8.2		NAC
11:33 AM	pH	8.2		NAC
07:30 AM	Dissolved Oxygen	6.67	mg/l	NAC
09:30 AM	Dissolved Oxygen	6.72	mg/l	NAC
11:33 AM	Dissolved Oxygen	6.73	mg/l	NAC
07:30 AM	Temperature	13.3	°C	NAC
09:30 AM	Temperature	13.9	°C	NAC
11:33 AM	Temperature	13.9	°C	NAC
07:30 AM	Conductivity	487	uS/cm	NAC
09:30 AM	Conductivity	481	uS/cm	NAC
11:33 AM	Conductivity	489	uS/cm	NAC
07:30 AM	Velocity *	0.22	fps	NAC
09:30 AM	Velocity *	0.21	fps	NAC
11:33 AM	Velocity *	0.21	fps	NAC
07:30 AM	Depth	0.42	ft	NAC
09:30 AM	Depth	0.42	ft	NAC
11:33 AM	Depth	0.42	ft	NAC

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: October 16, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #04D, WALNUT CREEK
Sample Date/Time: October 3, 1995
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
07:45 AM	pH	8.3		RWS
09:50 AM	pH	8.3		RWS
11:50 AM	pH	8.4		RWS
07:45 AM	Dissolved Oxygen	10 6	mg/l	RWS
09:50 AM	Dissolved Oxygen	9.6	mg/l	RWS
11:50 AM	Dissolved Oxygen	10.1	mg/l	RWS
07:45 AM	Temperature	13.2	°C	RWS
09:50 AM	Temperature	13.3	°C	RWS
11:55 AM	Temperature	13.9	°C	RWS
07:45 AM	Conductivity	562	uS/cm	RWS
09:50 AM	Conductivity	560	uS/cm	RWS
11:50 AM	Conductivity	554	uS/cm	RWS
07:45 AM	Velocity *	1.72	fps	RWS
09:50 AM	Velocity *	1.2	fps	RWS
11:50 AM	Velocity *	1.25	fps	RWS

*Result is an average of three trials using stop watch and oranges.

CHURCH laboratory, inc.

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FAIRVIEW, PA 16415

Field Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #04D,WALNUT CREEK
Sample Date/Time: October 3, 1995
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
07:45 AM- St 1	Distance	19.31	ft	RWS
- St 2	from bridge	19.38	ft	RWS
- St 3	to	19.49	ft	RWS
- St 4	water surface	19.56	ft	RWS
09:50 AM- St 1	Distance	19.29	ft	RWS
- St 2	from bridge	19.35	ft	RWS
- St 3	to	19.48	ft	RWS
- St 4	water surface	19.53	ft	RWS
11:50 AM- St 1	Distance	19.29	ft	RWS
- St 2	from bridge	19.37	ft	RWS
- St 3	to	19.49	ft	RWS
- St 4	water surface	19.52	ft	RWS

Robert W. Stallbaum, Jr.
President

Reported: October 16, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sple ID: Event #04D, ELK CREEK
Sample Date/Time: October 3, 1995
Sampler: R.W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
08:15 AM	pH	8.2		RWS
10:20 AM	pH	8.2		RWS
12:20 PM	pH	8.3		RWS
08:15 AM	Dissolved Oxygen	9.8	mg/l	RWS
10:20 AM	Dissolved Oxygen	10.2	mg/l	RWS
12:20 PM	Dissolved Oxygen	10.4	mg/l	RWS
08:15 AM	Temperature	14.2	°C	RWS
10:20 AM	Temperature	15	°C	RWS
12:20 PM	Temperature	15.3	°C	RWS
08:15 AM	Conductivity	606	uS/cm	RWS
10:20 AM	Conductivity	600	uS/cm	RWS
12:20 PM	Conductivity	587	uS/cm	RWS
08:15 AM	Velocity *	0.75	fps	RWS
10:20 AM	Velocity *	0.72	fps	RWS
12:20 PM	Velocity *	0.72	fps	RWS
08:15 AM	Depth	1.93	ft	RWS
10:20 AM	Depth	1.94	ft	RWS
12:20 PM	Depth	1.92	ft	RWS

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President

Reported: October 16, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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7397 CHESTNUT STREET ◦ P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #05W, TWELVE MILE CREEK Lab Log No: 51489

Sample Date/Time: October 5, 1995/ 16:40PM, 18:30PM, 20:30PM, 22:30PM

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	10-11-95	RJI
Cadmium	213.2	<0.0001	mg/l	10-12-95	RJI
Chromium, Total	218.1	<0.05	mg/l	10-12-95	RJI
Copper	220.2	0.002	mg/l	10-09-95	RJI
Lead	239.2	0.001	mg/l	10-09-95	RJI
Nickel	249.1	<0.01	mg/l	10-06-95	RJI
Silver	272.2	<0.0002	mg/l	10-11-95	RJI
Zinc	289.1	<0.005	mg/l	10-06-95	RJI
Aluminum	202.1	0.59	mg/l	10-11-95	RJI
Alkalinity	310.1	53	mg/l	10-06-95	KW
Ammonia Nitrogen	350.1	0.02	mg/l	10-12-95	LT
Fecal Coliform Grab@18:30PM	SM-16, 909C	940	col/100 ml	10-07-95	LT
Hardness	130.1	164	mg/l	10-06-95	KW
Iron	236.1	3.14	mg/l	10-12-95	RJI
Manganese	243.1	0.49	mg/l	10-12-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	10-10-95	LT
Nitrate Nitrogen	353.2	1.37	mg/l	10-10-95	LT
Chloride	325.2	37	mg/l	10-06-95	LT
$CBOD_5$	405.1	11	mg/l	10-11-95	KW
Total Suspended Solids	160.2	198	mg/l	10-12-95	KW
Phosphorus	365.4	0.34	mg/l	10-09-95	LT
COD	410.4	30	mg/l	10-11-95	NDA

Robert W. Stallbaum, Jr.
President
Reported: October 16, 1995

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET ◦ P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #05W, WALNUT CREEK Lab Log No: 51490

Sample Date/Time: October 5, 1995/ 17:05PM, 19:15PM, 21:20PM, 23:10PM

Sampler: R.W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.002	mg/l	10-11-95	RJI
Cadmium	213.2	<0.0001	mg/l	10-12-95	RJI
Chromium, Total	218.1	<0.05	mg/l	10-12-95	RJI
Copper	220.2	0.008	mg/l	10-09-95	RJI
Lead	239.2	0.014	mg/l	10-09-95	RJI
Nickel	249.1	<0.01	mg/l	10-06-95	RJI
Silver	272.2	<0.0002	mg/l	10-11-95	RJI
Zinc	289.1	<0.005	mg/l	10-06-95	RJI
Aluminum	202.1	<0.1	mg/l	10-11-95	RJI
Alkalinity	310.1	122	mg/l	10-06-95	KW
Ammonia Nitrogen	350.1	0.02	mg/l	10-12-95	LT
Fecal Coliform Grab@19:15PM	SM-16, 909C	2940	col/100 ml	10-07-95	LT
Hardness	130.1	144	mg/l	10-06-95	KW
Iron	236.1	14.40	mg/l	10-12-95	RJI
Manganese	243.1	0.80	mg/l	10-12-95	RJI
Nitrite Nitrogen	353.2	0.05	mg/l	10-10-95	LT
Nitrate Nitrogen	353.2	0.56	mg/l	10-10-95	LT
Chloride	325.2	37	mg/l	10-06-95	LT
$CBOD_5$	405.1	10	mg/l	10-11-95	KW
Total Suspended Solids	160.2	892	mg/l	10-12-95	KW
Phosphorus	365.4	1.08	mg/l	10-09-95	LT
COD	410.4	50	mg/l	10-11-95	NDA

Robert W. Stallbaum, Jr.
President
Reported: October 16,995

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET ◦ P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #05W, ELK CREEK Lab Log No: 51491

Sample Date/Time: October 5, 1995/ 16:40PM, 18:40PM, 20:45PM, 22:40PM

Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	10-11-95	RJI
Cadmium	213.2	<0.0001	mg/l	10-12-95	RJI
Chromium, Total	218.1	<0.05	mg/l	10-05-95	RJI
Copper	220.2	0.001	mg/l	10-09-95	RJI
Lead	239.2	0.003	mg/l	10-09-95	RJI
Nickel	249.1	<0.01	mg/l	10-06-95	RJI
Silver	272.2	<0.0002	mg/l	10-11-95	RJI
Zinc	289.1	<0.005	mg/l	10-06-95	RJI
Aluminum	202.1	0.56	mg/l	10-11-95	RJI
Alkalinity	310.1	75	mg/l	10-06-95	KW
Ammonia Nitrogen	350.1	0.08	mg/l	10-12-95	LT
Fecal Coliform Grab@18:40PM	SM-16, 909C	1410	col/100 ml	10-07-95	LT
Hardness	130.1	200	mg/l	10-06-95	KW
Iron	236.1	2.23	mg/l	10-12-95	RJI
Manganese	243.1	0.26	mg/l	10-12-95	RJI
Nitrite Nitrogen	353.2	0.01	mg/l	10-10-95	LT
Nitrate Nitrogen	353.2	0.88	mg/l	10-10-95	LT
Chloride	325.2	33	mg/l	10-06-95	LT
$CBOD_5$	405.1	5	mg/l	10-11-95	KW
Total Suspended Solids	160.2	142	mg/l	10-12-95	KW
Phosphorus	365.4	0.17	mg/l	10-09-95	LT
COD	410.4	20	mg/l	10-11-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: October 16, 1995

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #05W, TRIP BLANK No: 51488

Sample Date/Time: October 5, 1995

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	10-11-95	RJI
Cadmium	213.2	<0.0001	mg/l	10-12-95	RJI
Chromium, Total	218.1	<0.05	mg/l	10-12-95	RJI
Copper	220.2	<0.001	mg/l	10-09-95	RJI
Lead	239.2	<0.001	mg/l	10-12-95	RJI
Nickel	249.1	< 0.01	mg/l	10-06-95	RJI
Silver	272.2	<0.0002	mg/l	10-11-95	RJI
Zinc	289.1	<0.005	mg/l	10-06-95	RJI
Aluminum	202.1	<0.1	mg/l	10-11-95	RJI
Alkalinity	310.1	<0.02	mg/l	10-06-95	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	10-12-95	LT
Fecal Coliform	SM-16, 909C	0	col/100 ml	10-07-95	LT
Hardness	130.1	<2	mg/l	10-06-95	KW
Iron	236.1	<0.03	mg/l	10-12-95	RJI
Manganese	243.1	<0.01	mg/l	10-12-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	10-10-95	LT
Nitrate Nitrogen	353.2	<0.01	mg/l	10-10-95	LT
Chloride	325.2	<2	mg,l	10-06-95	LT
$CBOD_5$	405.1	<2	mg/l	10-11-95	KW
Total Suspended Solids	160.2	<2	mg/l	10-12-95	KW
Phosphorus	365.4	<0.01	mg/l	10-09-95	LT
COD	410.4	<10	mg/l	10-11-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: October 16, 1995

CHURCH laboratory, inc.

(814) 474-2044

7307 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #05W, TWELVE MILE CREEK
Sample Date/Time: October 5, 1995
Sampler: N.A. Conaway

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
16:40 PM	pH	8.3		NAC
18:30 PM	pH	8.8		NAC
20:30 PM	pH	9.0		NAC
22:30 PM	Ph	8.8		NAC
16:40 PM	Dissolved Oxygen	7.52	mg/l	NAC
18:30 PM	Dissolved Oxygen	6.49	mg/l	NAC
20:30 PM	Dissolved Oxygen	7.2	mg/l	NAC
22:30 PM	Dissolved Oxygen	8.3	mg/l	NAC
16:40 PM	Temperature	15.1	°C	NAC
18:30 PM	Temperature	15.2	°C	NAC
20:30 PM	Temperature	15.1	°C	NAC
22:30 PM	Temperature	15.2	°C	NAC
16:40 PM	Conductivity	455	uS/cm	NAC
18:30 PM	Conductivity	439	uS/cm	NAC
20:30 PM	Conductivity	383	uS/cm	NAC
22:30 PM	Conductivity	410	uS/cm	NAC
16:40 PM	Velocity *	0.82	fps	NAC
18:30 PM	Velocity *	1.46	fps	NAC
20:30 PM	Velocity *	3.95	fps	NAC
22:30 PM	Velocity *	6.64	fps	NAC

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7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Field Analyses Report
Malcolm Pirnie, Inc.

Project:	Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID:	Event #05W,TWELVE MILE CREEK
Sample Date/Time:	October 5, 1995
Sampler:	R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
16:40 PM	Depth	1.0	ft	NAC
18:30 PM	Depth	1.0	ft	NAC
20:30 PM	Depth	1.5	ft	NAC
22:30 PM	Depth	1.5	ft	NAC

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President

Reported: October 16, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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FAIRVIEW PA 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #05W, WALNUT CREEK
Sample Date/Time: October 5, 1995
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
17:05 PM	pH	8.0		RWS
19:15 PM	pH	7.4		RWS
21:20 PM	pH	7.1		RWS
23:10 PM	pH	6.9		RWS
17:05 PM	Dissolved Oxygen	9.8	mg/l	RWS
19:15 PM	Dissolved Oxygen	9.7	mg/l	RWS
21:20 PM	Dissolved Oxygen	10.0	mg/l	RWS
23:10 PM	Dissolved Oxygen	9.3	mg/l	RWS
17:05 PM	Temperature	15.1	°C	RWS
19:15 PM	Temperature	15.2	°C	RWS
21:20 PM	Temperature	15.1	°C	RWS
23:10 PM	Temperature	15.4	°C	RWS
17:05 PM	Conductivity	432	uS/cm	RWS
19:15 PM	Conductivity	401	uS/cm	RWS
21:20 PM	Conductivity	428	uS/cm	RWS
23:10 PM	Conductivity	309	uS/cm	RWS
17:05 PM	Velocity *	2.62	fps	RWS
19:15 PM	Velocity *	3.13	fps	RWS
21:20 PM	Velocity *	4.53	fps	RWS
23:10 PM	Velocity *	7.5	fps	RWS

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Field Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #05W,WALNUT CREEK
Sample Date/Time: October 5, 1995
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
17:05 PM- St 1	Distance	19.11	ft	RWS
- St 2	from bridge	19.23	ft	RWS
- St 3	to	19 42	ft	RWS
- St 4	water surface	19.37	ft	RWS
19:15 PM- St 1	Distance	18.84	ft	RWS
- St 2	from bridge	19.18	ft	RWS
- St 3	to	19.29	ft	RWS
- St 4	water surface	19.3	ft	RWS
- St 5		19.24	ft	RWS
- St 8		19.62	ft	RWS
21:20 PM- St 1	Distance	18.94	ft	RWS
- St 2	from bridge	18.55	ft	RWS
- St 3	to	18.79	ft	RWS
- St 4	water surface	18.18	ft	RWS
- St 5		18.58	ft	RWS
- St 8		18.17	ft	RWS
23:10 PM- St 1	Distance	17.44	ft	RWS
- St 2	from bridge	17.71	ft	RWS
- St 3	to	18.65	ft	RWS
- St 4	water surface	17.49	ft	RWS
- St 5		17.93	ft	RWS
- St 7		18.23	ft	RWS
- St 8		18.28	ft	RWS

Robert W. Stallbaum, Jr.
President
Reported: October 16, 1995
Resived: Sept 18, 1996

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7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #05W, ELK CREEK
Sample Date/Time: October 5, 1995
Sampler: R.W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
16:40 PM	pH	7.9		RWS
18:40 PM	pH	8.0		RWS
20:45 PM	pH	7.6		RWS
22:40 PM	pH	7.8		RWS
16:40 PM	Dissolved Oxygen	9.8	mg/l	RWS
18:40 PM	Dissolved Oxygen	10.4	mg/l	RWS
20:45 PM	Dissolved Oxygen	9.9	mg/l	RWS
22:40 PM	Dissolved Oxygen	9.8	mg/l	RWS
16:40 PM	Temperature	15.5	°C	RWS
18:40 PM	Temperature	15.3	°C	RWS
20:45 PM	Temperature	15.4	°C	RWS
22:40 PM	Temperature	15.5	°C	RWS
16:40 PM	Conductivity	540	uS/cm	RWS
18:40 PM	Conductivity	520	uS/cm	RWS
20:45 PM	Conductivity	482	uS/cm	RWS
22:40 PM	Conductivity	403	uS/cm	RWS
16:40 PM	Velocity *	1.36	fps	RWS
18:40 PM	Velocity *	2.17	fps	RWS
20:45 PM	Velocity *	3.52	fps	RWS
22:40 PM	Velocity *	4.17	fps	RSW

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FAIRVIEW, PA. 16415

Field Analyses Report
Malcolm Pirnie, Inc.

Project:	Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID:	Event #05W, ELK CREEK
Sample Date/Time:	October 5, 1995
Sampler:	R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
16:40 PM	Depth	2.14	ft	RWS
18:40 PM	Depth	2.44	ft	RWS
20:45 PM	Depth	2.73	ft	RWS
22:40 PM	Depth	2.83	ft	RWS

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President

Reported: October 16, 1995
Revised: Sept 18, 1996

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #06W, TWELVE MILE CREEK Lab Log No: 51884

Sample Date/Time: November 7, 1995/ 10:00AM, 12:00N, 14:00PM

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.002	mg/l	11-08-95	RJI
Cadmium	213.2	<0.0001	mg/l	11-09-95	RJI
Chromium, Total	218.1	<0.05	mg/l	11-09-95	RJI
Copper	220.2	0.004	mg/l	11-09-95	RJI
Lead	239.2	0.004	mg/l	11-08-95	RJI
Nickel	249.1	<0.01	mg/l	10-09-95	RJI
Silver	272.2	<0.0002	mg/l	11-09-95	RJI
Zinc	289.1	0.008	mg/l	11-09-95	RJI
Aluminum	202.1	0.76	mg/l	11-08-95	RJI
Alkalinity	310.1	30	mg/l	11-08-95	KW
Ammonia Nitrogen	350.1	0.01	mg/l	11-09-95	LT
Fecal Coliform Grab@12:00N	SM-16, 909C	1200	col/100 ml	11-08-95	LT
Hardness	130.1	106	mg/l	11-08-95	KW
Iron	236.1	1.63	mg/l	11-09-95	RJI
Manganese	243.1	0.20	mg/l	11-09-95	RJI
Nitrite Nitrogen	353.2	0.01	mg/l	11-08-95	LT
Nitrate Nitrogen	353.2	0.97	mg/l	11-08-95	LT
Chloride	325.2	38	mg/l	11-08-95	LT
$CBOD_5$	405.1	2	mg/l	11-13-95	KW
Total Suspended Solids	160.2	134	mg/l	11-10-95	KW
Phosphorus	365.4	0.28	mg/l	11-14-95	LT
COD	410.4	35	mg/l	11-10-95	NDA

Robert W. Stallbaum, Jr.
President
Reported: November 15, 1995

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Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #06W, WALNUT CREEK Lab Log No: 51885

Sample Date/Time: November 7, 1995/ 10:00AM, 12:00 N, 14:00PM

Sampler: R.W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.002	mg/l	11-08-95	RJI
Cadmium	213.2	<0.0001	mg/l	11-09-95	RJI
Chromium, Total	218.1	<0.05	mg/l	11-09-95	RJI
Copper	220.2	0.004	mg/l	11-09-95	RJI
Lead	239.2	0.005	mg/l	11-08-95	RJI
Nickel	249.1	<0.01	mg/l	11-09-95	RJI
Silver	272.2	<0.0002	mg/l	11-09-95	RJI
Zinc	289.1	0.022	mg/l	11-09-95	RJI
Aluminum	202.1	1.51	mg/l	11-08-95	RJI
Alkalinity	310.1	75	mg/l	11-08-95	KW
Ammonia Nitrogen	350.1	0.05	mg/l	11-09-95	LT
Fecal Coliform Grab@12:00N	SM-16, 909C	330	col/100 ml	11-08-95	LT
Hardness	130.1	176	mg/l	11-08-95	KW
Iron	236.1	2.54	mg/l	11-09-95	RJI
Manganese	243.1	0.21	mg/l	11-09-95	RJI
Nitrite Nitrogen	353.2	0.04	mg/l	11-08-95	LT
Nitrate Nitrogen	353.2	0.95	mg/l	11-08-95	LT
Chloride	325.2	62	mg,l	11-08-95	LT
$CBOD_5$	405.1	3	mg/l	11-13-95	KW
Total Suspended Solids	160.2	212	mg/l	11-10-95	KW
Phosphorus	365.4	0.31	mg/l	11-14-95	LT
COD	410.4	20	mg/l	11-10-95	NDA

Robert W. Stallbaum, Jr.
President
Reported: November 15, 1995

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Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #06W, ELK CREEK Lab Log No: 51886

Sample Date/Time: November 7, 1995/ 10:30AM, 12:30PM, 14:30PM

Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.002	mg/l	11-08-95	RJI
Cadmium	213.2	<0.0001	mg/l	11-09-95	RJI
Chromium, Total	218.1	<0.05	mg/l	11-09-95	RJI
Copper	220.2	<0.001	mg/l	11-09-95	RJI
Lead	239.2	<0.001	mg/l	11-08-95	RJI
Nickel	249.1	<0.01	mg/l	11-09-95	RJI
Silver	272.2	<0.0002	mg/l	11-09-95	RJI
Zinc	289.1	<0.005	mg/l	11-09-95	RJI
Aluminum	202.1	0.21	mg/l	11-08-95	RJI
Alkalinity	310.1	55	mg/l	11-08-95	KW
Ammonia Nitrogen	350.1	0.02	mg/l	11-09-95	LT
Fecal Coliform Grab@12:30PM	SM-16, 909C	300	col/100 ml	11-08-95	LT
Hardness	130.1	156	mg/l	11-08-95	KW
Iron	236.1	0.23	mg/l	11-09-95	RJI
Manganese	243.1	0.05	mg/l	11-09-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	11-08-95	LT
Nitrate Nitrogen	353.2	1.22	mg/l	11-08-95	LT
Chloride	325.2	41	mg/l	11-08-95	LT
$CBOD_5$	405.1	2	mg/l	11-13-95	KW
Total Suspended Solids	160.2	24	mg/l	11-10-95	KW
Phosphorus	365.4	0.10	mg/l	11-14-95	LT
COD	410.4	15	mg/l	11-10-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: November 15, 1995

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Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #06W, TRIP BLANK No: 51883

Sample Date/Time: November 7, 1995

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	11-08-95	RJI
Cadmium	213.2	<0.0001	mg/l	11-09-95	RJI
Chromium, Total	218.1	<0.05	mg/l	11-09-95	RJI
Copper	220.2	<0.001	mg/l	11-09-95	RJI
Lead	239.2	<0.001	mg/l	11-08-95	RJI
Nickel	249.1	< 0.01	mg/l	11-09-95	RJI
Silver	272.2	<0.0002	mg/l	11-09-95	RJI
Zinc	289.1	<0.005	mg/l	11-09-95	RJI
Aluminum	202.1	<0.1	mg/l	11-08-95	RJI
Alkalinity	310.1	<0.02	mg/l	11-08-95	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	11-09-95	LT
Fecal Coliform	SM-16, 909C	0	col/100 ml	11-08-95	LT
Hardness	130.1	<2	mg/l	11-08-95	KW
Iron	236.1	<0.03	mg/l	11-09-95	RJI
Manganese	243.1	<0.01	mg/l	11-09-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	11-08-95	LT
Nitrate Nitrogen	353.2	<0.01	mg/l	11-08-95	LT
Chloride	325.2	<2	mg/l	11-08-95	LT
$CBOD_5$	405.1	<2	mg/l	11-13-95	KW
Total Suspended Solids	160.2	<2	mg/l	11-10-95	KW
Phosphorus	365.4	<0.01	mg/l	11-14-95	LT
COD	410.4	<10	mg/l	11-10-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: November 15, 1995

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Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #06W, TWELVE MILE CREEK
Sample Date/Time: November 7, 1995
Sampler: N.A. Conaway

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
10:00 AM	pH	8.9		NAC
12:00 N	pH	8.9		NAC
14:00 PM	pH	8.9		NAC
10:00 AM	Dissolved Oxygen	10.36	mg/l	NAC
12:00 N	Dissolved Oxygen	10.83	mg/l	NAC
14:00 PM	Dissolved Oxygen	10.75	mg/l	NAC
10:40 AM	Temperature	8.4	°C	NAC
12:00 N	Temperature	6.6	°C	NAC
14:00 PM	Temperature	6.3	°C	NAC
16:40 AM	Conductivity	305	uS/cm	NAC
12:00 N	Conductivity	296	uS/cm	NAC
14:00 PM	Conductivity	272	uS/cm	NAC
10:40 AM	Velocity *	3.42	fps	NAC
12:00 N	Velocity *	6.96	fps	NAC
14:00 PM	Velocity *	5.83	fps	NAC
10:00 AM	Depth	1.25	ft	NAC
12:00 N	Depth	2.0	ft	NAC
14:00 PM	Depth	1.75	ft	NAC

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: November 15, 1995
Revised: Sept 18, 1996

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FAIRVIEW, PA 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #06W, WALNUT CREEK
Sample Date/Time: November 7, 1995
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
10:00 AM	pH	7.75		RWS
12:00 N	pH	7.87		RWS
14:00 PM	pH	7.58		RWS
10:00 AM	Dissolved Oxygen	11.6	mg/l	RWS
12:00 N	Dissolved Oxygen	11.6	mg/l	RWS
14:00 PM	Dissolved Oxygen	11.1	mg/l	RWS
10:00 AM	Temperature	4.7	°C	RWS
12:00 N	Temperature	4.9	°C	RWS
14:00 PM	Temperature	5.4	°C	RWS
10:00 AM	Conductivity	512	uS/cm	RWS
12:00 N	Conductivity	547	uS/cm	RWS
14:00 PM	Conductivity	490	uS/cm	RWS
10:00 AM	Velocity *	3.13	fps	RWS
12:00 N	Velocity *	3.68	fps	RWS
14:00 PM	Velocity *	4.62	fps	RWS

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FAIRVIEW, PA 16415

Field Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #06W,WALNUT CREEK
Sample Date/Time: November 7, 1995
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
10:00 AM- St 1	Distance	18.87	ft	RWS
- St 2	from bridge	19.05	ft	RWS
- St 3	to	19.29	ft	RWS
- St 4	water surface	19.09	ft	RWS
- St 8		19.51	ft	RWS
12:00 N - St 1	Distance	18.71	ft	RWS
- St 2	from bridge	18.85	ft	RWS
- St 3	to	19.07	ft	RWS
- St 4	water surface	19.08	ft	RWS
- St 8		19.51	ft	RWS
14:00 PM- St 1	Distance	18.36	ft	RWS
- St 2	from bridge	18.14	ft	RWS
- St 3	to	18.32	ft	RWS
- St 4	water surface	18.44	ft	RWS
- St 5		18.32	ft	RWS
- St 8		18.84	ft	RWS

Robert W. Stallbaum, Jr.
President

Reported: November 15, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

(814) 474-2044

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FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #06W, ELK CREEK
Sample Date/Time: November 7, 1995
Sampler: R.W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
10:30 AM	pH	7.5		RWS
12:30 PM	pH	7.5		RWS
14:30 PM	pH	7.4		RWS
10:30 AM	Dissolved Oxygen	11.3	mg/l	RWS
12:30 PM	Dissolved Oxygen	11.3	mg/l	RWS
14:30 PM	Dissolved Oxygen	11.2	mg/l	RWS
10:30 AM	Temperature	4.6	°C	RWS
12:30 PM	Temperature	4.9	°C	RWS
14:30 PM	Temperature	5.2	°C	RWS
10:30 AM	Conductivity	409	uS/cm	RWS
12:30 PM	Conductivity	412	uS/cm	RWS
14:30 PM	Conductivity	419	uS/cm	RWS
10:30 AM	Velocity *	3.42	fps	RWS
12:30 PM	Velocity *	3.79	fps	RWS
14:30 PM	Velocity *	4.17	fps	RWS
10:30 AM	Depth	2.58	ft	RWS
12:30 PM	Depth	2.75	ft	RWS
14:30 PM	Depth	2.83	ft	RWS

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: November 15, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #07W, TWELVE MILE CREEK Lab Log No: 51951

Sample Date/Time: November 11, 1995/ 7:00AM, 9:00AM, 11:00AM

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.004	mg/l	11-13-95	RJI
Cadmium	213.2	0.0004	mg/l	11-14-95	RJI
Chromium, Total	218.1	<0.05	mg/l	11-14-95	RJI
Copper	220.2	0.015	mg/l	11-13-95	RJI
Lead	239.2	0.015	mg/l	11-14-95	RJI
Nickel	249.1	0.01	mg/l	11-14-95	RJI
Silver	272.2	<0.0002	mg/l	11-14-95	RJI
Zinc	289.1	0.050	mg/l	11-14-95	RJI
Aluminum	202.1	8.59	mg/l	11-13-95	RJI
Alkalinity	310.1	14	mg/l	11-20-95	KW
Ammonia Nitrogen	350.1	0.08	mg/l	11-16-95	LT
Fecal Coliform Grab@9:00AM	SM-16, 909C	10,400	col/100 ml	11-12-95	RWS/LT
Hardness	130.1	72	mg/l	11-12-95	KW
Iron	236.1	6.92	mg/l	11-14-95	RJI
Manganese	243.1	0.65	mg/l	11-16-95	RJI
Nitrite Nitrogen	353.2	0.07	mg/l	11-15-95	LT
Nitrate Nitrogen	353.2	1.16	mg/l	11-15-95	LT
Chloride	325.2	21	mg/l	11-20-95	LT
$CBOD_5$	405.1	2	mg/l	11-16-95	KW
Total Suspended Solids	160.2	828	mg/l	11-15-95	KW
Phosphorus	365.4	0.84	mg/l	11-14-95	LT
COD	410.4	60	mg/l	11-14-95	NDA

Robert W. Stallbaum, Jr.
President
Reported: November 22, 1995

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #07W, WALNUT CREEK Lab Log No: 51953

Sample Date/Time: November 11, 1995/ 7:20AM, 10:35 AM, 13:20PM

Sampler: R.W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.006	mg/l	11-13-95	RJI
Cadmium	213.2	0.0004	mg/l	11-14-95	RJI
Chromium, Total	218.1	<0.05	mg/l	11-14-95	RJI
Copper	220.2	0.016	mg/l	11-13-95	RJI
Lead	239.2	0.025	mg/l	11-14-95	RJI
Nickel	249.1	0.02	mg/l	11-14-95	RJI
Silver	272.2	<0.0002	mg/l	11-14-95	RJI
Zinc	289.1	0.089	mg/l	11-14-95	RJI
Aluminum	202.1	13.10	mg/l	11-13-95	RJI
Alkalinity	310.1	40	mg/l	11-20-95	KW
Ammonia Nitrogen	350.1	0.06	mg/l	11-16-95	LT
Fecal Coliform Grab@10:35AM	SM-16, 909C	5200	col/100 ml	11-12-95	RWS/LT
Hardness	130.1	104	mg/l	11-12-95	KW
Iron	236.1	10.22	mg/l	11-14-95	RJI
Manganese	243.1	0.79	mg/l	11-16-95	RJI
Nitrite Nitrogen	353.2	0.09	mg/l	11-15-95	LT
Nitrate Nitrogen	353.2	1.17	mg/l	11-15-95	LT
Chloride	325.2	37	mg/l	11-20-95	LT
$CBOD_5$	405.1	3	mg/l	11-16-95	KW
Total Suspended Solids	160.2	892	mg/l	11-15-95	KW
Phosphorus	365.4	0.95	mg/l	11-14-95	LT
COD	410.4	60	mg/l	11-14-95	NDA

Robert W. Stallbaum, Jr.
President
Reported: November 22, 1995

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #07W, **ELK CREEK** Lab Log No: 51952

Sample Date/Time: November 11, 1995/ 7:45AM, 10:00AM, 13:00PM

Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.004	mg/l	11-13-95	RJI
Cadmium	213.2	0.0001	mg/l	11-14-95	RJI
Chromium, Total	218.1	<0.05	mg/l	11-14-95	RJI
Copper	220.2	0.010	mg/l	11-13-95	RJI
Lead	239.2	0.013	mg/l	11-14-95	RJI
Nickel	249.1	0.02	mg/l	11-14-95	RJI
Silver	272.2	<0.0002	mg/l	11-14-95	RJI
Zinc	289.1	0.045	mg/l	11-14-95	RJI
Aluminum	202.1	8.20	mg/l	11-13-95	RJI
Alkalinity	310.1	31	mg/l	11-20-95	KW
Ammonia Nitrogen	350.1	0.06	mg/l	11-16-95	LT
Fecal Coliform Grab@10:00AM	SM-16, 909C	4700	col/100 ml	11-12-95	RWS/LT
Hardness	130.1	102	mg/l	11-12-95	KW
Iron	236.1	7.49	mg/l	11-14-95	RJI
Manganese	243.1	0.50	mg/l	11-16-95	RJI
Nitrite Nitrogen	353.2	0.07	mg/l	11-15-95	LT
Nitrate Nitrogen	353.2	1.36	mg/l	11-15-95	LT
Chloride	325.2	24	mg/l	11-20-95	LT
$CBOD_5$	405.1	2	mg/l	11-16-95	KW
Total Suspended Solids	160.2	768	mg/l	11-15-95	KW
Phosphorus	365.4	0.79	mg/l	11-14-95	LT
COD	410.4	50	mg/l	11-14-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: November 22, 1995

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #07W, TRIP BLANK No: 51950

Sample Date/Time: November 11, 1995

Sampler: N.A. Conaway

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	11-13-95	RJI
Cadmium	213.2	<0.0001	mg/l	11-14-95	RJI
Chromium, Total	218.1	<0.05	mg/l	11-14-95	RJI
Copper	220.2	<0.001	mg/l	11-13-95	RJI
Lead	239.2	<0.001	mg/l	11-14-95	RJI
Nickel	249.1	< 0.01	mg/l	11-14-95	RJI
Silver	272.2	<0.0002	mg/l	11-14-95	RJI
Zinc	289.1	<0.005	mg/l	11-14-95	RJI
Aluminum	202.1	<0.1	mg/l	11-13-95	RJI
Alkalinity	310.1	<1	mg/l	11-20-95	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	11-16-95	LT
Fecal Coliform	SM-16, 909C	0	col/100 ml	11-12-95	RWS/LT
Hardness	130.1	<2	mg/l	11-12-95	KW
Iron	236.1	<0.03	mg/l	11-14-95	RJI
Manganese	243.1	<0.01	mg/l	11-16-95	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	11-15-95	LT
Nitrate Nitrogen	353.2	<0.01	mg/l	11-15-95	LT
Chloride	325.2	<2	mg;l	11-20-95	LT
$CBOD_5$	405.1	<2	mg/l	11-16-95	KW
Total Suspended Solids	160.2	<2	mg/l	11-15-95	NCW
Phosphorus	365.4	<0.01	mg/l	11-14-95	LT
COD	410.4	<10	mg/l	11-14-95	NDA

Robert W. Stallbaum, Jr.
President

Reported: November 22, 1995

CHURCH laboratory, inc.

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7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #07W, TWELVE MILE CREEK
Sample Date/Time: November 11, 1995
Sampler: N.A. Conaway

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
7:00 AM	pH	9.5		NAC
9:00 AM	pH	8.9		NAC
11:00 AM	pH	8.8		NAC
7:00 AM	Dissolved Oxygen	12.32	mg/l	NAC
9:00 AM	Dissolved Oxygen	12.75	mg/l	NAC
11:00 AM	Dissolved Oxygen	12.29	mg/l	NAC
7:00 AM	Temperature	7.2	°C	NAC
9:00 AM	Temperature	7.4	°C	NAC
11:00 AM	Temperature	8	°C	NAC
7:00 AM	Conductivity	189	uS/cm	NAC
9:00 AM	Conductivity	186	uS/cm	NAC
11:00 AM	Conductivity	170	uS/cm	NAC
7:00 AM	Velocity *	11.7	fps	NAC
9:00 AM	Velocity *	10.6	fps	NAC
11:00 AM	Velocity *	8.3	fps	NAC
7:00 AM	Depth	3.25	ft	NAC
9:00 AM	Depth	3.5	ft	NAC
11:00 AM	Depth	2.75	ft	NAC

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: November 22, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #07W, WALNUT CREEK
Sample Date/Time: November 11, 1995
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
7:20 AM	pH	7.36		RWS
10:35 AM	pH	7.09		RWS
13:20 PM	pH	7.12		RWS
7:20 AM	Dissolved Oxygen	11.2	mg/l	RWS
10:35 AM	Dissolved Oxygen	10.9	mg/l	RWS
13:20 PM	Dissolved Oxygen	11.0	mg/l	RWS
7:20 AM	Temperature	7.1	°C	RWS
10:35 AM	Temperature	7.5	°C	RWS
13:20 PM	Temperature	7.8	°C	RWS
7:20 AM	Conductivity	345	uS/cm	RWS
10:35 AM	Conductivity	303	uS/cm	RWS
13:20 PM	Conductivity	282	uS/cm	RWS
7:20 AM	Velocity *	7.1	fps	RWS
10:35 AM	Velocity *	7.5	fps	RWS
13:20 PM	Velocity *	6.6	fps	RWS

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Field Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #07W,WALNUT CREEK
Sample Date/Time: November 11, 1995
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
7:20 AM- St 1	Distance	17.38	ft	RWS
- St 2	from bridge	17.61	ft	RWS
- St 3	to	17.68	ft	RWS
- St 4	water surface	17.74	ft	RWS
- St 5		18.02	ft	RWS
- St 7		18.11	ft	RWS
- St 8		18.31	ft	RWS
- St 9		18.29	ft	RWS
- St 10		18.28	ft	RWS
10:35 AM- St 1	Distance	17.07	ft	RWS
- St 2	from bridge	17.14	ft	RWS
- St 3	to	17.31	ft	RWS
- St 4	water surface	17.42	ft	RWS
- St 5		17.81	ft	RWS
- St 7		17.76	ft	RWS
- St 8		17.92	ft	RWS
- St 9		18.05	ft	RWS
- St 10		18.43	ft	RWS
13:20 PM- St 1	Distance	16.08	ft	RWS
- St 2	from bridge	16.33	ft	RWS
- St 3	to	17.22	ft	RWS
- St 4	water surface	17.3	ft	RWS
- St 5		17.73	ft	RWS
- St 7		17.68	ft	RWS
- St 8		17.87	ft	RWS
- St 9		17.96	ft	RWS
- St 10		18.07	ft	RWS

Robert W. Stallbaum, Jr.
President
Reported: November 22, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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7397 CHESTNUT STREET • P.O. BOX 63
FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #07W, ELK CREEK
Sample Date/Time: November 11, 1995
Sampler: R.W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
7:45 AM	pH	7.3		RWS
10:00 AM	pH	7.2		RWS
13:00 PM	pH	6.9		RWS
7:45 AM	Dissolved Oxygen	11.1	mg/l	RWS
10:00 AM	Dissolved Oxygen	10.9	mg/l	RWS
13:00 PM	Dissolved Oxygen	10.6	mg/l	RWS
7:45 AM	Temperature	6.8	°C	RWS
10:00 AM	Temperature	7.2	°C	RWS
13:00 PM	Temperature	7.8	°C	RWS
7:45 AM	Conductivity	280	uS/cm	RWS
10:00 PM	Conductivity	256	uS/cm	RWS
13:00 PM	Conductivity	221	uS/cm	RWS
7:45 AM	Velocity *	7.9	fps	RWS
10:00 AM	Velocity *	9.4	fps	RWS
13:00 PM	Velocity *	8.2	fps	RWS
7:45 AM	Depth	5.0	ft	RWS
10:00 AM	Depth	5.67	ft	RWS
13:00 PM	Depth	6.25	ft	RWS

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President

Reported: November 22, 1995
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #08W, TWELVE MILE CREEK Lab Log No: 53864

Sample Date/Time: April 12, 1996/ 19:40PM, 21:40 PM, 23:35PM

Sampler: N. C. Whiteman

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.001	mg/l	04-15-96	RJI
Cadmium	213.2	<0.0001	mg/l	05-01-96	RJI
Chromium, Total	218.1	<0.05	mg/l	04-16-96	RJI
Copper	220.2	0.004	mg/l	05-07-96	RJI
Lead	239.2	0.008	mg/l	04-15-96	RJI
Nickel	249.1	0.01	mg/l	04-16-96	RJI
Silver	272.2	<0.0002	mg/l	05-07-96	RJI
Zinc	289.1	0.028	mg/l	04-15-96	RJI
Aluminum	202.1	5.28	mg/l	04-16-96	RJI
Alkalinity	310.1	44	mg/l	04-16-96	KW
Ammonia Nitrogen	350.1	0.20	mg/l	04-22-96	LT
Fecal Coliform Grab@21:40PM	SM-16, 909C	198	col/100 ml	04-13-96	NCW
Hardness	130.1	116	mg/l	04-15-96	KW
Iron	236.1	6.95	mg/l	04-16-96	RJI
Manganese	243.1	0.15	mg/l	04-16-96	RJI
Nitrite Nitrogen	353.2	0.05	mg/l	04-19-96	LT
Nitrate Nitrogen	353.2	2.05	mg/l	04-19-96	LT
Chloride	325.2	42	mg,l	04-24-96	LT
$CBOD_5$	405.1	3	mg/l	04-18-96	KW
Total Suspended Solids	160.2	180	mg/l	04-22-96	KW
Phosphorus	365.4	0.36	mg/l	04-16-96	LT
COD	410.4	20	mg/l	04-25-96	NDA

Robert W. Stallbaum, Jr.
President
Reported: May 7, 1996

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #08W, WALNUT CREEK Lab Log No: 53864

Sample Date/Time: April 12, 1996/ 20:30PM, 22:30PM, 00:30AM

Sampler: R.W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	04-16-96	RJI
Cadmium	213.2	<0.0001	mg/l	05-01 -96	RJI
Chromium, Total	218.1	<0.05	mg/l	04-16-96	RJI
Copper	220.2	0.003	mg/l	05-07-96	RJI
Lead	239.2	0.003	mg/l	04-15-96	RJI
Nickel	249.1	0.01	mg/l	04-16-96	RJI
Silver	272.2	<0.0002	mg/l	05-07-96	RJI
Zinc	289.1	0.032	mg/l	04-15-96	RJI
Aluminum	202.1	1.67	mg/l	04-16-96	RJI
Alkalinity	310.1	97	mg/l	04-16-96	KW
Ammonia Nitrogen	350.1	0.12	mg/l	04-22-96	LT
Fecal Coliform Grab@22:30PM	SM-16, 909C	143	col/100 ml	04-13-96	NCW
Hardness	130.1	158	mg/l	04-15-96	KW
Iron	236.1	2.16	mg/l	04-16-96	RJI
Manganese	243.1	0.07	mg/l	04-16-96	RJI
Nitrite Nitrogen	353.2	0.02	mg/l	04-19-96	LT
Nitrate Nitrogen	353.2	0.71	mg/l	04-19-96	LT
Chloride	325.2	65	mg,l	04-24-96	LT
$CBOD_5$	405.1	3	mg/l	04-18-96	KW
Total Suspended Solids	160.2	68	mg/l	04-22-96	KW
Phosphorus	365.4	0.15	mg/l	04-16-96	LT
COD	410.4	10	mg/l	04-25-96	NDA

Robert W. Stallbaum, Jr.
President
Reported: May 7, 1996

CHURCH laboratory, inc.

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7397 CHESTNUT STREET ◦ P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #08W, ELK CREEK Lab Log No: 53865

Sample Date/Time: April 12, 1996/ 19:55PM, 22:00 PM, 24:00M

Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	04-15-96	RJI
Cadmium	213.2	<0.0001	mg/l	05-01-96	RJI
Chromium, Total	218.1	<0.05	mg/l	04-16-96	RJI
Copper	220.2	<0.001	mg/l	05-07-96	RJI
Lead	239.2	0.002	mg/l	04-15-96	RJI
Nickel	249.1	0.01	mg/l	04-16-96	RJI
Silver	272.2	<0.0002	mg/l	05-07-96	RJI
Zinc	289.1	<0.005	mg/l	04-15-96	RJI
Aluminum	202.1	1.35	mg/l	04-16-96	RJI
Alkalinity	310.1	70	mg/l	04-16-96	KW
Ammonia Nitrogen	350.1	0.11	mg/l	04-22-96	LT
Fecal Coliform Grab@22:00PM	SM-16, 909C	9	col/100 ml	04-13-96	NCW
Hardness	130.1	132	mg/l	04-15-96	KW
Iron	236.1	1.95	mg/l	04-16-96	RJI
Manganese	243.1	0.05	mg/l	04-16-96	RJI
Nitrite Nitrogen	353.2	0.02	mg/l	04-19-96	LT
Nitrate Nitrogen	353.2	1.16	mg/l	04-19-96	LT
Chloride	325.2	30	mg,l	04-24-96	LT
$CBOD_5$	405.1	4	mg/l	04-18-96	KW
Total Suspended Solids	160.2	62	mg/l	04-22-96	KW
Phosphorus	365.4	0.14	mg/l	04-16-96	LT
COD	410.4	<10	mg/l	04-25-96	NDA

Robert W. Stallbaum, Jr.
President
Reported: May 7, 1996

CHURCH laboratory, inc.

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7397 CHESTNUT STREET • P.O. BOX 83
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Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #08W, TRIP BLANK No: 53867

Sample Date/Time: April 12, 1996

Sampler: N.C. Whiteman

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	04-15-96	RJI
Cadmium	213.2	<0.0001	mg/l	05-03-96	RJI
Chromium, Total	218.1	<0.05	mg/l	04-16-96	RJI
Copper	220.2	<0.001	mg/l	05-03-96	RJI
Lead	239.2	<0.001	mg/l	04-15-96	RJI
Nickel	249.1	< 0.01	mg/l	04-16-96	RJI
Silver	272.2	<0.0002	mg/l	05-03-96	RJI
Zinc	289.1	<0.005	mg/l	04-15-96	RJI
Aluminum	202.1	<0.1	mg/l	04-16-96	RJI
Alkalinity	310.1	<1	mg/l	04-16-96	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	04-22-96	LT
Fecal Coliform	SM-16, 909C	0	col/100 ml	04-13-96	NCW
Hardness	130.1	<2	mg/l	04-15-96	KW
Iron	236.1	<0.03	mg/l	04-16-96	RJI
Manganese	243.1	<0.01	mg/l	04-16-96	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	04-19-96	LT
Nitrate Nitrogen	353.2	<0.01	mg/l	04-19-96	LT
Chloride	325.2	<2	mg/l	04-24-96	LT
$CBOD_5$	405.1	2	mg/l	04-18-96	KW
Total Suspended Solids	160.2	<2	mg/l	04-22-96	KW
Phosphorus	365.4	<0.01	mg/l	04-16-96	LT
COD	410.4	<10	mg/l	04-25-96	NDA

Robert W. Stallbaum, Jr.
President

Reported: May 7, 1996

CHURCH laboratory, inc.

(814) 474-2044

7997 CHESTNUT STREET • P.O. BOX 89
FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #08W, TWELVE MILE CREEK
Sample Date/Time: April 12, 1996
Sampler: N. C. Whiteman

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
19:40 PM	pH	8.2		NCW
21:40 PM	pH	7.6		NCW
23:35 PM	pH	7.6		NCW
19:40 PM	Dissolved Oxygen	12.55	mg/l	NCW
21:40 PM	Dissolved Oxygen	12.71	mg/l	NCW
23:35 PM	Dissolved Oxygen	13.	mg/l	NCW
19:40 PM	Temperature	8.5	°C	NCW
21:40 PM	Temperature	7.6	°C	NCW
23:35 PM	Temperature	7	°C	NCW
19:40 PM	Conductivity	354	uS/cm	NCW
21:40 PM	Conductivity	333	us/cm	NCW
23:35 PM	Conductivity	306	uS/cm	NCW
19:40 PM	Velocity *	2.6	fps	NCW
21:40 PM	Velocity *	4	fps	NCW
23:35 PM	Velocity *	7	fps	NCW
19:49 PM	Depth	1.5	ft	NCW
21:40 PM	Depth	1.75	ft	NCW
23:35 PM	Depth	2.1	ft	NCW

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: April 30, 1996
Revised: Sept 18, 1996

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #08W, WALNUT CREEK
Sample Date/Time: April 12, 1996
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
20:30 PM	pH	7.9		RWS
22:30 PM	pH	8.2		RWS
00:30 AM	pH	8.0		RWS
20:30 PM	Dissolved Oxygen	10.68	mg/l	RWS
22:30 PM	Dissolved Oxygen	10.3	mg/l	RWS
00:30 AM	Dissolved Oxygen	10.7	mg/l	RWS
20:30 PM	Temperature	8.0	°C	RWS
22:30 PM	Temperature	8.2	°C	RWS
00:30 AM	Temperature	7.7	°C	RWS
20:30 PM	Conductivity	463	uS/cm	RWS
22:30 PM	Conductivity	526	uS/cm	RWS
00:30 AM	Conductivity	628	uS/cm	RWS
20:30 PM	Velocity *	2.7	fps	RWS
22:30 PM	Velocity *	3.6	fps	RWS
00:30 AM	Velocity *	4.1	fps	RWS

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Field Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #08W,WALNUT CREEK
Sample Date/Time: April 12, 1996
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
20:30 PM- St 1	Distance	18.86	ft	RWS
- St 2	from bridge	18.97	ft	RWS
- St 3	to	19.14	ft	RWS
- St 4	water surface	19.59	ft	RWS
- St 5		19.43	ft	RWS
- St 9		19.31	ft	RWS
22:30 PM- St 1	Distance	18.92	ft	RWS
- St 2	from bridge	19.24	ft	RWS
- St 3	to	19.25	ft	RWS
- St 4	water surface	19.37	ft	RWS
- St 9		20.07	ft	RWS
- St 10		19.28	ft	RWS
00:30 AM- St 1	Distance	18.62	ft	RWS
- St 2	from bridge	18.97	ft	RWS
- St 3	to	19.23	ft	RWS
- St 4	water surface	18.94	ft	RWS
- St 5		18.61	ft	RWS
- St 9		19.12	ft	RWS

Robert W. Stallbaum, Jr.
President
Reported: April 30, 1996
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #08W, ELK CREEK
Sample Date/Time: April 12, 1996
Sampler: R.W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
19:55 PM	pH	7.8		RWS
22:00 PM	pH	8.0		RWS
24 00 M	pH	7.9		RWS
19:55 PM	Dissolved Oxygen	10.47	mg/l	RWS
22:00 PM	Dissolved Oxygen	10.0	mg/l	RWS
24:00 M	Dissolved Oxygen	10.0	mg/l	RWS
19:55 PM	Temperature	9.7	°C	RWS
22:00 PM	Temperature	9.2	°C	RWS
24:00 M	Temperature	8.6	°C	RWS
19:55 PM	Conductivity	329	uS/cm	RWS
22:00 PM	Conductivity	341	uS/cm	RWS
24:00 M	Conductivity	372	uS/cm	RWS
19:55 PM	Velocity *	2.6	fps	RWS
22:00 PM	Velocity *	2.6	fps	RWS
24:00 M	Velocity *	2.9	fps	RWS
19:55 PM	Depth	2.5	ft	RWS
22:00 PM	Depth	2.61	ft	RWS
24:00 M	Depth	2.65	ft	RWS

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: April 30, 1996
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #09W, TWELVE MILE CREEK Lab Log No: 54116

Sample Date/Time: April 30, 1996/ 11:40AM, 13:40 PM, 15:40PM

Sampler: N. C. Whiteman

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.007	mg/l	05-02-96	RJI
Cadmium	213.2	<0.0001	mg/l	05-01-96	RJI
Chromium, Total	218.1	<0.05	mg/l	05-02-96	RJI
Copper	220.2	0.002	mg/l	05-07-96	RJI
Lead	239.2	<0.001	mg/l	05-01-96	RJI
Nickel	249.1	0.05	mg/l	05-03-96	RJI
Silver	272.2	<0.0002	mg/l	05-07-96	RJI
Zinc	289.1	0.023	mg/l	05-03-96	RJI
Aluminum	202.1	5.07	mg/l	05-02-96	RJI
Alkalinity	310.1	33	mg/l	05-10-96	KW
Ammonia Nitrogen	350.1	0.04	mg/l	05-06-96	LT
Fecal Coliform Grab@13:40PM	SM-16, 909C	504	col/100 ml	05-01-96	LT
Hardness	130.1	70	mg/l	05-01-96	KW
Iron	236.1	7.12	mg/l	05-03-96	RJI
Manganese	243.1	0.13	mg/l	05-06-96	RJI
Nitrite Nitrogen	353.2	0.01	mg/l	05-14-96	LT
Nitrate Nitrogen	353.2	1.02	mg/l	05-14-96	LT
Chloride	325.2	24	mg,l	05-10-96	LT
$CBOD_5$	405.1	2	mg/l	05-06-96	KW
Total Suspended Solids	160.2	180	mg/l	05-03-96	KW
Phosphorus	365.4	0.32	mg/l	05-03-96	LT
COD	410.4	25	mg/l	05-03-96	NDA

Robert W. Stallbaum, Jr.
President
Reported: May 17, 1996

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #09W, WALNUT CREEK Lab Log No: 54117

Sample Date/Time: April 12, 1996/ 11:40AM, 13:40PM, 15:40PM

Sampler: R.W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.003	mg/l	05-02-96	RJI
Cadmium	213.2	<0.0001	mg/l	05-01-96	RJI
Chromium, Total	218.1	<0.05	mg/l	05-02-96	RJI
Copper	220.2	0.001	mg/l	05-07-96	RJI
Lead	239.2	0.002	mg/l	05-01-96	RJI
Nickel	249.1	0.07	mg/l	05-03-96	RJI
Silver	272.2	<0.0002	mg/l	05-07-96	RJI
Zinc	289.1	0.084	mg/l	05-03-96	RJI
Aluminum	202.1	17.48	mg/l	05-02-96	RJI
Alkalinity	310.1	62	mg/l	05-10-96	KW
Ammonia Nitrogen	350.1	0.12	mg/l	05-06-96	LT
Fecal Coliform Grab@13:40PM	SM-16, 909C	792	col/100 ml	05-01-96	LT
Hardness	130.1	100	mg/l	05-01-96	KW
Iron	236.1	25.87	mg/l	05-03-96	RJI
Manganese	243.1	0.45	mg/l	05-06-96	RJI
Nitrite Nitrogen	353.2	0.02	mg/l	05-14-96	LT
Nitrate Nitrogen	353.2	0.47	mg/l	05-14-96	LT
Chloride	325.2	43	mg/l	05-10-96	LT
$CBOD_5$	405.1	2	mg/l	05-06-96	KW
Total Suspended Solids	160.2	784	mg/l	05-03-96	KW
Phosphorus	365.4	0.78	mg/l	05-03-96	LT
COD	410.4	40	mg/l	05-03-96	NDA

Robert W. Stallbaum, Jr.
President
Reported: May 17, 1996

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #09W, ELK CREEK Lab Log No: 54118

Sample Date/Time: April 30, 1996/ 12:00N, 14:10 PM, 16:10PM

Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.002	mg/l	05-02-96	RJI
Cadmium	213.2	<0.0001	mg/l	05-01-96	RJI
Chromium, Total	218.1	<0.05	mg/l	05-02-96	RJI
Copper	220.2	0.003	mg/l	05-07-96	RJI
Lead	239.2	0.001	mg/l	05-01-96	RJI
Nickel	249.1	0.09	mg/l	05-03-96	RJI
Silver	272.2	<0.0002	mg/l	05-07-96	RJI
Zinc	289.1	0.079	mg/l	05-03-96	RJI
Aluminum	202.1	17.95	mg/l	05-02-96	RJI
Alkalinity	310.1	40	mg/l	05-10-96	KW
Ammonia Nitrogen	350.1	0.16	mg/l	05-06-96	LT
Fecal Coliform Grab@14:10PM	SM-16, 909C	1116	col/100 ml	05-01-96	LT
Hardness	130.1	80	mg/l	05-01-96	KW
Iron	236.1	35.64	mg/l	05-03-96	RJI
Manganese	243.1	0.42	mg/l	05-06-96	RJI
Nitrite Nitrogen	353.2	0.03	mg/l	05-14-96	LT
Nitrate Nitrogen	353.2	0.54	mg/l	05-14-96	LT
Chloride	325.2	15	mg/l	05-10-96	LT
$CBOD_5$	405.1	2	mg/l	05-06-96	KW
Total Suspended Solids	160.2	836	mg/l	05-03-96	KW
Phosphorus	365.4	0.95	mg/l	05-03-96	LT
COD	410.4	30	mg/l	05-03-96	NDA

Robert W. Stallbaum, Jr.
President
Reported: May 17, 1996

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Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #09W, TRIP BLANK No: 54116A

Sample Date/Time: April 30, 1996

Sampler: N.C. Whiteman

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	05-02-96	RJI
Cadmium	213.2	<0.0001	mg/l	05-01-96	RJI
Chromium, Total	218.1	<0.05	mg/l	05-02-96	RJI
Copper	220.2	<0.001	mg/l	05-07-96	RJI
Lead	239.2	<0.001	mg/l	05-01-96	RJI
Nickel	249.1	< 0.01	mg/l	05-03-96	RJI
Silver	272.2	<0.0002	mg/l	05-07-96	RJI
Zinc	289.1	<0.005	mg/l	05-03-96	RJI
Aluminum	202.1	<0.1	mg/l	05-02-96	RJI
Alkalinity	310.1	<1	mg/l	05-10-96	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	05-06-96	LT
Fecal Coliform	SM-16, 909C	0	col/100 ml	05-01-96	LT
Hardness	130.1	<2	mg/l	05-01-96	KW
Iron	236.1	<0.03	mg/l	05-03-96	RJI
Manganese	243.1	<0.01	mg/l	05-06-96	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	05-14-96	LT
Nitrate Nitrogen	353.2	<0.01	mg/l	05-14-96	LT
Chloride	325.2	<2	mg/l	05-10-96	LT
$CBOD_5$	405.1	2	mg/l	05-06-96	KW
Total Suspended Solids	160.2	2	mg/l	05-03-96	KW
Phosphorus	365.4	<0.01	mg/l	05-03-96	LT
COD	410.4	<10	mg/l	05-15-96	NDA

Robert W. Stallbaum, Jr.
President

Reported: May 17, 1996

CHURCH laboratory, inc.

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7397 CHESTNUT STREET • P.O. BOX 69
FAIRVIEW, PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #09W, TWELVE MILE CREEK
Sample Date/Time: April 30, 1996
Sampler: N. C. Whiteman

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
11:40 PM	pH	8.1		NCW
13:40 PM	pH	8.1		NCW
15:40 PM	pH	8.1		NCW
11:40 PM	Dissolved Oxygen	11.13	mg/l	NCW
13:40 PM	Dissolved Oxygen	11.34	mg/l	NCW
15:40 PM	Dissolved Oxygen	9.94	mg/l	NCW
11:40 PM	Temperature	10.4	°C	NCW
13:40 PM	Temperature	9.3	°C	NCW
15:40 PM	Temperature	9.4	°C	NCW
11:40 PM	Conductivity	249	uS/cm	NCW
13:40 PM	Conductivity	213	uS/cm	NCW
15:40 PM	Conductivity	168	uS/cm	NCW
11:40 PM	Velocity *	5.8	fps	NCW
13:40 PM	Velocity *	8.3	fps	NCW
15:40 PM	Velocity *	7.4	fps	NCW
11:40 PM	Depth	1.75	ft	NCW
13:40 PM	Depth	2.75	ft	NCW
15:40 PM	Depth	3	ft	NCW

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: May 17, 1996
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #09W, WALNUT CREEK
Sample Date/Time: April 30, 1996
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
11:40 AM	pH	7.4		RWS
13:30 PM	pH	7.6		RWS
15:40 PM	pH	7.6		RWS
11:40 AM	Dissolved Oxygen	9.2	mg/l	RWS
13:40 PM	Dissolved Oxygen	9.2	mg/l	RWS
15:40 PM	Dissolved Oxygen	9.0	mg/l	RWS
11:40 AM	Temperature	9.6	°C	RWS
13:40 PM	Temperature	9.3	°C	RWS
15:40 PM	Temperature	9.3	°C	RWS
11:40 AM	Conductivity	410	uS/cm	RWS
13:40 PM	Conductivity	343	uS/cm	RWS
15:40 PM	Conductivity	261	uS/cm	RWS
11:40 AM	Velocity *	4.9	fps	RWS
13:40 PM	Velocity *	6.5	fps	RWS
15:40 PM	Velocity *	6.9	fps	RWS

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FAIRVIEW, PA. 16415

Field Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #09W,WALNUT CREEK
Sample Date/Time: April 30, 1996
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
11:40 AM- St 1	Distance	17.76	ft	RWS
- St 2	from bridge	18.72	ft	RWS
- St 3	to	18.14	ft	RWS
- St 4	water surface	18.45	ft	RWS
- St 5		18.58	ft	RWS
- St 7		18.54	ft	RWS
- St 8		18.56	ft	RWS
- St 9		18.69	ft	RWS
13:40 PM- St 1	Distance	16.71	ft	RWS
- St 2	from bridge	17.28	ft	RWS
- St 3	to	17.96	ft	RWS
- St 4	water surface	17.76	ft	RWS
- St 5		17.96	ft	RWS
- St 6		18.22	ft	RWS
- St 7		18.11	ft	RWS
- St 8		17.74	ft	RWS
- St 9		18.13	ft	RWS
- St 10		18.29	ft	RWS
15:40 PM- St 1	Distance	16.72	ft	RWS
- St 2	from bridge	16.48	ft	RWS
- St 3	to	17.11	ft	RWS
- St 4	water surface	17.56	ft	RWS
- St 5		17.6	ft	RWS
- St 6		17.14	ft	RWS
- St 7		17.26	ft	RWS
- St 8		17.48	ft	RWS
- St 9		17.35	ft	RWS
- St 10		17.84	ft	RWS

Robert W. Stallbaum, Jr.
President
Reported: May 17, 1996
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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7397 CHESTNUT STREET • P.O. BOX 63
FAIRVIEW PA. 16415

Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #09W, ELK CREEK
Sample Date/Time: April 30, 1996
Sampler: R.W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
12:00 N	pH	7.5		RWS
14:10 PM	pH	7.5		RWS
16:10 PM	pH	7.3		RWS
12:00 N	Dissolved Oxygen	8.9	mg/l	RWS
14:10 PM	Dissolved Oxygen	8.9	mg/l	RWS
16:10 PM	Dissolved Oxygen	8.9	mg/l	RWS
12:00 N	Temperature	9.7	°C	RWS
14:10 PM	Temperature	9.6	°C	RWS
16:10 PM	Temperature	9.5	°C	RWS
12:00 N	Conductivity	227	uS/cm	RWS
14:10 PM	Conductivity	195	uS/cm	RWS
16:10 PM	Conductivity	161	uS/cm	RWS
12:00 N	Velocity *	5.3	fps	RWS
14:10 PM	Velocity *	7.4	fps	RWS
16:10 PM	Velocity *	6.8	fps	RWS
12:00 N	Depth at east wall	4.75	ft	RWS
14:10 PM	Depth "	6.25	ft	RWS
16:10 PM	Depth "	7.5	ft	RWS

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President

Reported: May 17,, 1996
Revised: Sept 18, 1996

CHURCH laboratory, inc.

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7397 CHESTNUT STREET • P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #10W, TWELVE MILE CREEK Lab Log No: 54293

Sample Date/Time: May 9-10,1996/ 21:30PM, 23:30 PM, 01:30AM

Sampler: N. C. Whiteman

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.001	mg/l	05-14-96	RJI
Cadmium	213.2	0.0001	mg/l	05-10-96	RJI
Chromium, Total	218.1	<0.05	mg/l	05-16-96	RJI
Copper	220.2	<0.001	mg/l	05-10-96	RJI
Lead	239.2	0.002	mg/l	05-14-96	RJI
Nickel	249.1	<0.01	mg/l	05-16-96	RJI
Silver	272.2	<0.0002	mg/l	05-14-96	RJI
Zinc	289.1	0.006	mg/l	05-16-96	RJI
Aluminum	202.1	1.09	mg/l	05-17-96	RJI
Alkalinity	310.1	43	mg/l	05-10-96	KW
Ammonia Nitrogen	350.1	0.42	mg/l	05-13-96	LT
Fecal Coliform Grab@23:30PM	SM-16, 909C	700	col/100 ml	05-11-96	LT
Hardness	130.1	90	mg/l	05-10-96	KW
Iron	236.1	1.29	mg/l	05-16-96	RJI
Manganese	243.1	0.05	mg/l	05-10-96	RJI
Nitrite Nitrogen	353.2	0.02	mg/l	05-14-96	LT
Nitrate Nitrogen	353.2	2.98	mg/l	05-14-96	LT
Chloride	325.2	31	mg/l	05-10-96	LT
$CBOD_5$	405.1	2	mg/l	05-15-96	KW
Total Suspended Solids	160.2	50	mg/l	05-17-96	KW
Phosphorus	365.4	0.01	mg/l	05-16-96	LT
COD	410.4	20	mg/l	05-15-96	NDA

Robert W. Stallbaum, Jr.
President
Reported: May 17, 1996

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET ◦ P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219.

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #10W, WALNUT CREEK Lab Log No: 54294

Sample Date/Time: May 9-10, 1996/ 23:30PM, 01:30AM, 03:30AM

Sampler: R.W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.002	mg/l	05-14-96	RJI
Cadmium	213.2	0.0002	mg/l	05-10-96	RJI
Chromium, Total	218.1	0.05	mg/l	05-16-96	RJI
Copper	220.2	0.007	mg/l	05-10-96	RJI
Lead	239.2	0.014	mg/l	05-14-96	RJI
Nickel	249.1	0.02	mg/l	05-16-96	RJI
Silver	272.2	<0.0002	mg/l	05-14-96	RJI
Zinc	289.1	0.076	mg/l	05-16-96	RJI
Aluminum	202.1	19.03	mg/l	05-17-96	RJI
Alkalinity	310.1	45	mg/l	05-10-96	KW
Ammonia Nitrogen	350.1	0.09	mg/l	05-13-96	LT
Fecal Coliform Grab@01:30AM	SM-16, 909C	10100	col/100 ml	05-11-96	LT
Hardness	130.1	74	mg/l	05-10-96	KW
Iron	236.1	20.22	mg/l	05-16-96	RJI
Manganese	243.1	0.30	mg/l	05-16-96	RJI
Nitrite Nitrogen	353.2	0.14	mg/l	05-14-96	LT
Nitrate Nitrogen	353.2	0.44	mg/l	05-14-96	LT
Chloride	325.2	22	mg,l	05-10-96	LT
CBOD,	405.1	8	mg/l	05-15-96	KW
Total Suspended Solids	160.2	2504	mg/l	05-17-96	KW
Phosphorus	365.4	2.08	mg/l	05-16-96	LT
COD	410.4	20	mg/l	05-15-96	NDA

Robert W. Stallbaum, Jr.
President
Reported: May 17, 1996

CHURCH laboratory, inc.

(814) 474-2044

7397 CHESTNUT STREET ◦ P.O. BOX 83
FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #10W, ELK CREEK Lab Log No: 54295

Sample Date/Time: May 9-10, 1996/ 23:00PM, 01:00AM, 03:00AM

Sampler: R. W. Stallbaum

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	0.003	mg/l	05-14-96	RJI
Cadmium	213.2	<0.0001	mg/l	05-10-96	RJI
Chromium, Total	218.1	0.06	mg/l	05-11-96	RJI
Copper	220.2	0.003	mg/l	05-10-96	RJI
Lead	239.2	0.009	mg/l	05-14-96	RJI
Nickel	249.1	0.02	mg/l	05-16-96	RJI
Silver	272.2	<0.0002	mg/l	05-14-96	RJI
Zinc	289.1	0.079	mg/l	05-16-96	RJI
Aluminum	202.1	18.18	mg/l	05-17-96	RJI
Alkalinity	310.1	30	mg/l	05-10-96	KW
Ammonia Nitrogen	350.1	0.07	mg/l	05-13-96	LT
Fecal Coliform Grab@01:00AM	SM-16, 909C	6400	col/100 ml	05-11-96	LT
Hardness	130.1	55	mg/l	05-10-96	KW
Iron	236.1	19.87	mg/l	05-16-96	RJI
Manganese	243.1	0.25	mg/l	05-16-96	RJI
Nitrite Nitrogen	353.2	0.20	mg/l	05-14-96	LT
Nitrate Nitrogen	353.2	0.47	mg/l	05-14-96	LT
Chloride	325.2	8.4	mg/l	05-10-96	LT
$CBOD_5$	405.1	6	mg/l	05-15-96	KW
Total Suspended Solids	160.2	3428	mg/l	05-17-96	KW
Phosphorus	365.4	2.30	mg/l	05-16-96	LT
COD	410.4	30	mg/l	05-15-96	NDA

Robert W. Stallbaum, Jr.
President
Reported: May 17, 1996

CHURCH laboratory, inc.

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FAIRVIEW, PA. 16415

Water Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01

Sample ID: Event #10W, TRIP BLANK No: 54298A

Sample Date/Time: May 9-10, 1996

Sampler: N.C. Whiteman

PARAMETER	EPA METHOD	RESULTS/ UNITS		ANALYSIS DATE	ANALYST
Arsenic	206.2	<0.001	mg/l	05-14-96	RJI
Cadmium	213.2	<0.0001	mg/l	05-10-96	RJI
Chromium, Total	218.1	<0.05	mg/l	05-16-96	RJI
Copper	220.2	<0.001	mg/l	05-10-96	RJI
Lead	239.2	<0.001	mg/l	05-14-96	RJI
Nickel	249.1	< 0.01	mg/l	05-16-96	RJI
Silver	272.2	<0.0002	mg/l	05-14-96	RJI
Zinc	289.1	<0.005	mg/l	05-16-96	RJI
Aluminum	202.1	<0.1	mg/l	05-17-96	RJI
Alkalinity	310.1	<1	mg/l	05-10-96	KW
Ammonia Nitrogen	350.1	<0.01	mg/l	05-13-96	LT
Fecal Coliform	SM-16, 909C	0	col/100 ml	05-11-96	LT
Hardness	130.1	<2	mg/l	05-10-96	KW
Iron	236.1	<0.03	mg/l	05-16-96	RJI
Manganese	243.1	<0.01	mg/l	05-16-96	RJI
Nitrite Nitrogen	353.2	<0.01	mg/l	05-14-96	LT
Nitrate Nitrogen	353.2	<0.01	mg/l	05-14-96	LT
Chloride	325.2	<2	mg;l	05-10-96	LT
$CBOD_5$	405.1	2	mg/l	05-15-96	KW
Total Suspended Solids	160.2	2	mg/l	05-17-96	KW
Phosphorus	365.4	<0.01	mg/l	05-16-96	LT
COD	410.4	<10	mg/l	05-15-96	NDA

Robert W. Stallbaum, Jr.
President

Reported: May 17, 1996

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Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study
for Lake Erie Watershed #2758-01
Sample ID: Event #10W, TWELVE MILE CREEK
Sample Date/Time: May 9-10, 1996
Sampler: N. C. Whiteman

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
21:30 PM	pH	8.9		NCW
23:30 PM	pH	8.5		NCW
01:30 AM	pH	8.1		NCW
21:30 PM	Dissolved Oxygen	7.57	mg/l	NCW
23:30 PM	Dissolved Oxygen	7.58	mg/l	NCW
01:30 AM	Dissolved Oxygen	7.54	mg/l	NCW
21:30 PM	Temperature	14.9	°C	NCW
23:30 PM	Temperature	14.3	°C	NCW
01:30 AM	Temperature	14.8	°C	NCW
21:30 PM	Conductivity	273	uS/cm	NCW
23:30 PM	Conductivity	271	uS/cm	NCW
01:30 PM	Conductivity	253	uS/cm	NCW
21:30 PM	Velocity *	2.8	fps	NCW
23:30 PM	Velocity *	6.2	fps	NCW
01:30 AM	Velocity *	7.5	fps	NCW
21:30 PM	Depth	1.5	ft	NCW
23:30 PM	Depth	2	ft	NCW
01:30 AM	Depth	2.5	ft	NCW

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: May 17, 1996
Revised: Sept 18, 1996

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Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #10W, WALNUT CREEK
Sample Date/Time: May 9-10, 1996
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
23:30 PM	pH	7.2		RWS
01:30 AM	pH	7.6		RWS
03:30 AM	pH	7.5		RWS
23:30 PM	Dissolved Oxygen	7.8	mg/l	RWS
01:30 AM	Dissolved Oxygen	8.3	mg/l	RWS
03:30 AM	Dissolved Oxygen	8.4	mg/l	RWS
23:30 PM	Temperature	14.9	°C	RWS
01:30 AM	Temperature	14.6	°C	RWS
03:30 AM	Temperature	14.4	°C	RWS
23:30 PM	Conductivity	228	uS/cm	RWS
01:30 AM	Conductivity	199	uS/cm	RWS
03:30 AM	Conductivity	180	uS/cm	RWS
23:30 PM	Velocity *	8.7	fps	RWS
01:30 AM	Velocity *	7.4	fps	RWS
03:30 AM	Velocity *	8.6	fps	RWS

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FAIRVIEW, PA. 16415

Field Analyses Report
Malcolm Pirnie, Inc.

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #10W,WALNUT CREEK
Sample Date/Time: May 9-10, 1996
Sampler: R. W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
23:30 PM- St 1	Distance	16.7	ft	RWS
- St 2	from bridge	16.64	ft	RWS
- St 3	to	16.91	ft	RWS
- St 4	water surface	17.03	ft	RWS
- St 5		17.35	ft	RWS
- St 6		16.6	ft	RWS
- St 7		16.7	ft	RWS
- St 8		17.25	ft	RWS
- St 9		17.41	ft	RWS
- St 10		18.21	ft	RWS
01:30 AM- St 1	Distance	16.74	ft	RWS
- St 2	from bridge	16.65	ft	RWS
- St 3	to	17.17	ft	RWS
- St 4	water surface	17.48	ft	RWS
- St 5		17.42	ft	RWS
- St 6		16.79	ft	RWS
- St 7		16.86	ft	RWS
- St 8		17.01	ft	RWS
- St 9		17.27	ft	RWS
- St 10		17.58	ft	RWS
03:30 AM- St 1	Distance	17.18	ft	RWS
- St 2	from bridge	16.74	ft	RWS
- St 3	to	16.92	ft	RWS
- St 4	water surface	16.88	ft	RWS
- St 5		17.43	ft	RWS
- St 6		16.63	ft	RWS
- St 7		16.87	ft	RWS
- St 8		17.07	ft	RWS
- St 9		17.2	ft	RWS
- St 10		17.83	ft	RWS

Robert W. Stallbaum, Jr.
President
Reported: May 17, 1996
Revised: Sept 18, 1996

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Field Analyses Report

Customer: Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Buffalo, NY 14219

Project: Erie County Water Quality Monitoring Study for Lake Erie Watershed #2758-01
Sample ID: Event #10W, ELK CREEK
Sample Date/Time: May 9-10, 1996
Sampler: R.W. Stallbaum

TIME	PARAMETER	RESULTS/ UNITS		ANALYST
23:00 PM	pH	6.5		RWS
01:30 AM	pH	7.0		RWS
03 00 AM	pH	7.3		RWS
23:00 PM	Dissolved Oxygen	8.5	mg/l	RWS
01:00 AM	Dissolved Oxygen	8.6	mg/l	RWS
03:00 AM	Dissolved Oxygen	8.7	mg/l	RWS
23:00 PM	Temperature	14.6	°C	RWS
01:00 AM	Temperature	14.9	°C	RWS
03:00 AM	Temperature	14.3	°C	RWS
23:00 PM	Conductivity	127	uS/cm	RWS
01:00 AM	Conductivity	127	uS/cm	RWS
03:00 AM	Conductivity	120	uS/cm	RWS
23:00 PM	Velocity *	6.6	fps	RWS
01:00 AM	Velocity *	5.2	fps	RWS
03:00 AM	Velocity *	5.7	fps	RWS
23:00 PM	Depth at east wall	8.	ft	RWS
01:00 AM	Depth "	8.25	ft	RWS
03:00 AM	Depth "	7.75	ft	RWS

*Result is an average of three trials using stop watch and oranges.

Robert W. Stallbaum, Jr.
President
Reported: May 17,, 1996
Revised: Sept 18, 1996

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