

# ANATECH

Analytical Laboratories

FAX: 616-845-9942  
616-843-1877

NEWAYGO CO.

JUL - 2 1991

DRAIN COMMISSIONER

June 28, 1991

Hess Lake Improvement Board  
P.O. Box 885  
1087 Newell Street  
White Cloud, MI 49349

Attn: Mr. David Jordan

Dear Mr. Jordan:

Please find enclosed the results for your water samples. Analysis was performed in accordance with the methods in the "Federal Register," Vol. 49, No. 209, Friday, October 26, 1984, "U.S. EPA Methods for Chemical Analysis of Water and Wastes," (EPA-600/4-79-020), March, 1983, "Standard Methods for the Analysis of Water and Wastewater," 16th Edition, or "Test Methods for Evaluating Solid Wastes," SW 846, U.S. EPA, September 1986.

LAB REF. NO.: 11676, 11677, 11678

If you have any questions concerning these results, please do not hesitate to contact our laboratory at (616) 843-1877.

Sincerely

ANATECH Analytical Laboratories



Gerald T. Skar  
Laboratory Director

nef

Enclosure

xc: Mr. Wallace Arthur

# ANATECH

Analytical Laboratories

## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Improvement Board - Wheeler Drain  
LAB REF. NO.: 11676  
SAMPLED BY: WA  
DESCRIPTION: Water Sample  
ANALYST: BN


DATE SAMPLED: 06/13/91  
DATE RECEIVED: 06/13/91  
DATE FINISHED: 06/27/91  
REPORT DATE: 06/28/91

LAB SAMPLE I.D.: 6827  
CLIENT SAMPLE I.D.: #1-1 BETWEEN LAKE & POND  
LIMIT OF DETECTION

=====

NITRATE-N . . . . .	1.2 . . . . .	0.2
NITRITE-N . . . . .	0.021 . . . . .	0.001
TOTAL PHOSPHORUS . . . . .	0.061 . . . . .	0.002

Results are in mg/L

  
Gerald T. Skar  
Laboratory Director

nef

# ANATECH

Analytical Laboratories

## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Improvement Board - Wheeler Drain  
LAB REF. NO.: 11676  
SAMPLED BY: WA  
DESCRIPTION: Water Sample  
ANALYST: BN  
DATE SAMPLED: 06/13/91  
DATE RECEIVED: 06/13/91  
DATE FINISHED: 06/27/91  
REPORT DATE: 06/28/91

LAB SAMPLE I.D.: 6828  
CLIENT SAMPLE I.D.: #1-2 UP STREAM  
LIMIT OF DETECTION

=====

NITRATE-N . . . . .	1.4 . . . . .	0.2
NITRITE-N . . . . .	0.032 . . . . .	0.001
TOTAL PHOSPHORUS . . . . .	0.059 . . . . .	0.002

Results are in mg/L



Gerald T. Skar  
Laboratory Director

nef





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Analytical Laboratories

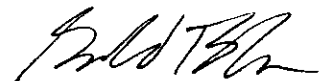
## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Improvement Board - Hess Lake  
LAB REF. NO.: 11678                      DATE SAMPLED: 06/13/91  
SAMPLED BY: WA                              DATE RECEIVED: 06/13/91  
DESCRIPTION: Water Sample                DATE FINISHED: 06/27/91  
ANALYST: BN                                      REPORT DATE: 06/28/91

LAB SAMPLE I.D.:                              6831                              LIMIT OF  
CLIENT SAMPLE I.D.:                        #1 EAST SIDE OF LAKE            DETECTION  
=====

NITRATE-N . . . . . 1.2 . . . . . 0.2  
NITRITE-N . . . . . 0.011 . . . . . 0.001  
TOTAL PHOSPHORUS . . . . . 0.016 . . . . . 0.002

Results are in mg/L



Gerald T. Skar  
Laboratory Director

nef

# ANATECH

Analytical Laboratories


## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Improvement Board - Hess Lake  
LAB REF. NO.: 11678                      DATE SAMPLED: 06/13/91  
SAMPLED BY: WA                              DATE RECEIVED: 06/13/91  
DESCRIPTION: Water Sample                DATE FINISHED: 06/27/91  
ANALYST: BN                                  REPORT DATE: 06/28/91

LAB SAMPLE I.D.:                              6832                              LIMIT OF  
CLIENT SAMPLE I.D.:                        #2 WEST SIDE OF LAKE            DETECTION  
=====

NITRATE-N . . . . .	1.1 . . . . .	0.2
NITRITE-N . . . . .	0.011 . . . . .	0.001
TOTAL PHOSPHORUS . . . . .	0.037 . . . . .	0.002

Results are in mg/L

  
Gerald T. Skar  
Laboratory Director  
nef

# ANATECH

Analytical Laboratories

FAX: 616-845-9942  
616-843-1877

NEWAYGO CO.

OCT 21 1991

October 18, 1991

DRAIN COMMISSIONER

Attn: Mr. David Jordan  
Hess Lake Improvement Board  
P.O. Box 885  
1087 Newell Street  
White Cloud, MI 49349

Dear Mr. Jordan:

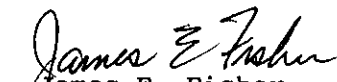
Please find enclosed the results for your water samples. Analysis was performed in accordance with the methods in the "Federal Register," Vol. 49, No. 209, Friday, October 26, 1984, "U.S. EPA Methods for Chemical Analysis of Water and Wastes," (EPA-600/4-79-020), March, 1983, "Standard Methods for the Analysis of Water and Wastewater," 16th Edition, or "Test Methods for Evaluating Solid Wastes," SW 846, U.S. EPA, September 1986.

LAB REF. NO.: 13114, 13115, 13116

If you have any questions concerning these results, please do not hesitate to contact our laboratory at (616) 843-1877.

Sincerely

ANATECH Analytical Laboratories

  
James E. Fisher  
Laboratory Manager

nef

Enclosure

xc: Mr. Wallace Arthur



# ANATECH

Analytical Laboratories

## ANALYTICAL REPORT

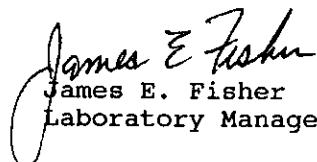
CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Improvement Board  
LAB REF. NO.: 13114                      DATE SAMPLED: 10/07/91  
SAMPLED BY: NCDC                      DATE RECEIVED: 10/07/91  
DESCRIPTION: Water Sample              DATE FINISHED: 10/16/91  
ANALYST: PT, DC                      REPORT DATE: 10/18/91

LAB SAMPLE I.D.:                      2483                      LIMIT OF  
CLIENT SAMPLE I.D.:                  WEST SIDE OF LAKE 1-2              DETECTION  
=====

NITRATE-N . . . . . ND . . . . . 0.7  
NITRITE-N . . . . . ND . . . . . 0.001  
TOTAL PHOSPHORUS . . . . . 0.071 . . . . . 0.002

Results are in mg/L

ND = Non Detectable

  
James E. Fisher  
Laboratory Manager  
nef



# ANATECH

Analytical Laboratories

## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Improvement Board  
LAB REF. NO.: 13115  
SAMPLED BY: NCDC  
DESCRIPTION: Water Sample  
ANALYST: PT, DC  
DATE SAMPLED: 10/07/91  
DATE RECEIVED: 10/07/91  
DATE FINISHED: 10/16/91  
REPORT DATE: 10/18/91

LAB SAMPLE I.D.: 2485  
CLIENT SAMPLE I.D.: WHEELER DRAIN -1 DOWN STREAM  
LIMIT OF DETECTION

=====

NITRATE-N . . . . .	2.9 . . . . .	0.7
NITRITE-N . . . . .	0.02 . . . . .	0.001
TOTAL PHOSPHORUS . . . . .	0.24 . . . . .	0.002

Results are in mg/L

*James E. Fisher*  
James E. Fisher  
Laboratory Manager

nef

# ANATECH

Analytical Laboratories

## ANALYTICAL REPORT

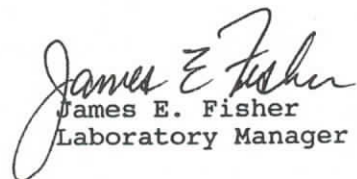
CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Improvement Board  
LAB REF. NO.: 13115  
SAMPLED BY: NCDC  
DESCRIPTION: Water Sample  
ANALYST: PT, DC  
DATE SAMPLED: 10/07/91  
DATE RECEIVED: 10/07/91  
DATE FINISHED: 10/16/91  
REPORT DATE: 10/18/91

LAB SAMPLE I.D.: 2486  
CLIENT SAMPLE I.D.: WHEELER DRAIN -1 UP STREAM  
LIMIT OF DETECTION

=====

NITRATE-N . . . . . 2.9 . . . . . 0.7  
NITRITE-N . . . . . 0.001 . . . . . 0.001  
TOTAL PHOSPHORUS . . . . . 0.14 . . . . . 0.002

Results are in mg/L

  
James E. Fisher  
Laboratory Manager  
nef



# ANATECH

Analytical Laboratories

## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Improvement Board  
LAB REF. NO.: 13116  
SAMPLED BY: NCDC  
DESCRIPTION: Water Sample  
ANALYST: PT, DC

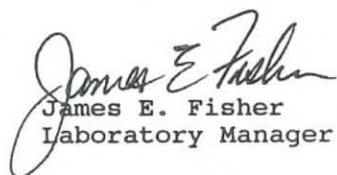
DATE SAMPLED: 10/07/91  
DATE RECEIVED: 10/07/91  
DATE FINISHED: 10/16/91  
REPORT DATE: 10/18/91

LAB SAMPLE I.D.: 2488  
CLIENT SAMPLE I.D.: ALGER CREEK 2# UP STREAM  
LIMIT OF DETECTION

=====

NITRATE-N . . . . .	4.1 . . . . .	0.7
NITRITE-N . . . . .	0.02 . . . . .	0.001
TOTAL PHOSPHORUS . . . . .	0.14 . . . . .	0.002

Results are in mg/L

  
James E. Fisher  
Laboratory Manager  
nef

# ANATECH

Analytical Laboratories

NEWAYGO CO FAX: 616-845-9942  
616-843-1877

FEB 27 1992

DRAIN COMMISSIONER

February 26, 1992

Attn: Mr. David Jordan  
Hess Lake Improvement Board  
P.O. Box 885  
1087 Newell Street  
White Cloud, MI 49349

Dear Mr. Jordan:

Please find enclosed the results for your water samples. Analysis was performed in accordance with the methods in the "Federal Register," Vol. 49, No. 209, Friday, October 26, 1984, "U.S. EPA Methods for Chemical Analysis of Water and Wastes," (EPA-600/4-79-020), March, 1983, "Standard Methods for the Analysis of Water and Wastewater," 16th Edition, or "Test Methods for Evaluating Solid Wastes," SW 846, U.S. EPA, September 1986.

LAB REF. NO.: 20430

If you have any questions concerning these results, please do not hesitate to contact our laboratory at (616) 843-1877.

Sincerely

ANATECH Analytical Laboratories

  
James E. Fisher  
Laboratory Manager

nef

Enclosure

xc: Mr. Wallace Arthur

# ANATECH

Analytical Laboratories

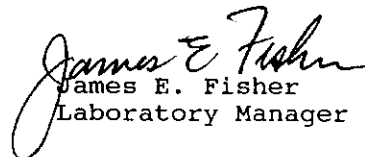
## ANALYTICAL REPORT

CLIENT: Newaygo Co. Drain Commission  
PROJECT: Hess Lake Improvement  
LAB REF. NO.: 20430  
SAMPLED BY: Wallace  
DESCRIPTION: Water Sample  
ANALYST: PT

DATE SAMPLED: 02/06/92  
DATE RECEIVED: 02/06/92  
DATE FINISHED: 02/24/92  
REPORT DATE: 02/26/92

LAB SAMPLE I.D.	CLIENT SAMPLE I.D.	TOTAL PHOSPHORUS	LIMIT OF DETECTION
1940	WHEELER DRAIN - UP	0.07	0.02
1941	WHEELER DRAIN - DOWN	0.07	0.02
1942	ALGER CREEK - UP STREAM	0.03	0.02
1943	ALGER CREEK - ROAD	0.15	0.02
1944	EAST SIDE OF HESS LAKE	0.19	0.02
1945	WEST SIDE OF HESS LAKE	0.04	0.02

Results are in mg/L

  
James E. Fisher  
Laboratory Manager

nef



# ANATECH

Analytical Laboratories

FAX: 616-845-9942  
616-843-1877

NEWAYGO CO.

MAR 11 1992

DRAIN COMMISSIONER

March 10, 1992

Attn: Mr. David Jordan  
Hess Lake Improvement Board  
P.O. Box 885  
1087 Newell Street  
White Cloud, MI 49349

Dear Mr. Jordan:

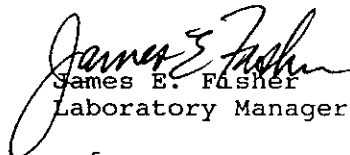
Please find enclosed the results for your water samples. Analysis was performed in accordance with the methods in the "Federal Register," Vol. 49, No. 209, Friday, October 26, 1984, "U.S. EPA Methods for Chemical Analysis of Water and Wastes," (EPA-600/4-79-020), March, 1983, "Standard Methods for the Analysis of Water and Wastewater," 16th Edition, or "Test Methods for Evaluating Solid Wastes," SW 846, U.S. EPA, September 1986.

LAB REF. NO.: 20606

If you have any questions concerning these results, please do not hesitate to contact our laboratory at (616) 843-1877.

Sincerely

ANATECH Analytical Laboratories

  
James E. Fisher  
Laboratory Manager

nef

Enclosure

xc: Mr. Wallace Arthur

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Analytical Laboratories

## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Improvement  
LAB REF. NO.: 20606  
SAMPLED BY: WA  
DESCRIPTION: Water Sample  
ANALYST: PT, GL

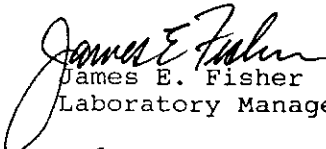
DATE SAMPLED: 02/19/92  
DATE RECEIVED: 02/20/92  
DATE FINISHED: 03/04/92  
REPORT DATE: 03/10/92

LAB SAMPLE I.D.: 3027  
CLIENT SAMPLE I.D.: WHEELER DRAIN  
LIMIT OF DETECTION

=====

NITRATE-N . . . . .	0.8 . . . . .	0.3
NITRITE-N . . . . .	0.010 . . . . .	0.001
TOTAL PHOSPHORUS . . . . .	0.06 . . . . .	0.02

Results are in mg/L

  
James E. Fisher  
Laboratory Manager  
nef

# ANATECH

Analytical Laboratories

## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Improvement  
LAB REF. NO.: 20606  
SAMPLED BY: WA  
DESCRIPTION: Water Sample  
ANALYST: PT, GL  
DATE SAMPLED: 02/19/92  
DATE RECEIVED: 02/20/92  
DATE FINISHED: 03/04/92  
REPORT DATE: 03/10/92


LAB SAMPLE I.D.:	3028	LIMIT OF
CLIENT SAMPLE I.D.:	HESS LAKE	DETECTION

=====

NITRATE-N . . . . .	ND . . . . .	0.2
NITRITE-N . . . . .	0.003 . . . . .	0.001
TOTAL PHOSPHORUS . . . . .	0.012 . . . . .	0.002

Results are in mg/L

ND = Non Detectable

  
James E. Fisher  
Laboratory Manager  
nef

# ANATECH

Analytical Laboratories

## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Improvement  
LAB REF. NO.: 20606  
SAMPLED BY: WA  
DESCRIPTION: Water Sample  
ANALYST: PT, GL

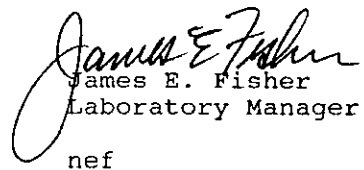
DATE SAMPLED: 02/19/92  
DATE RECEIVED: 02/20/92  
DATE FINISHED: 03/04/92  
REPORT DATE: 03/10/92

LAB SAMPLE I.D.: 3029  
CLIENT SAMPLE I.D.: ALGAR DRAIN  
LIMIT OF DETECTION

=====

NITRATE-N . . . . .	1.2 . . . . .	0.3
NITRITE-N . . . . .	0.008 . . . . .	0.001
TOTAL PHOSPHORUS . . . . .	0.14 . . . . .	0.02

Results are in mg/L

  
James E. Fisher  
Laboratory Manager  
nef

# ANATECH

Analytical Laboratories

FAX: 616-845-9942  
616-843-1877

NEWAYGO CO

MAY 21 1992

DRAIN COMMISSIONER

May 20, 1992

Attn: Mr. David Jordan  
Hess Lake Improvement Board  
P.O. Box 885  
1087 Newell Street  
White Cloud, MI 49349

Dear Mr. Jordan:


Please find enclosed the results for your water samples. Analysis was performed in accordance with the methods in the "Federal Register," Vol. 49, No. 209, Friday, October 26, 1984, "U.S. EPA Methods for Chemical Analysis of Water and Wastes," (EPA-600/4-79-020), March, 1983, "Standard Methods for the Analysis of Water and Wastewater," 17th Edition, or "Test Methods for Evaluating Solid Wastes," SW 846, U.S. EPA, September 1986.

LAB REF. NO.: 21741

If you have any questions concerning these results, please do not hesitate to contact our laboratory at (616) 843-1877.

Sincerely

ANATECH ANALYTICAL LABORATORIES

  
James E. Fisher  
Laboratory Manager

smm

Enclosure

# ANATECH

Analytical Laboratories

## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Water Samples  
LAB REF. NO.: 21741  
SAMPLED BY: WA  
DESCRIPTION: Water Sample  
ANALYST: PT, EB

DATE SAMPLED: 04/12/92  
DATE RECEIVED: 05/13/92  
DATE FINISHED: 05/19/92  
REPORT DATE: 05/20/92

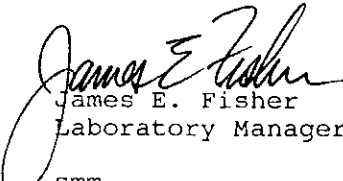
LAB SAMPLE I.D.: 7582  
CLIENT SAMPLE I.D.: EAST SIDE  
LIMIT OF DETECTION

=====

NITRATE-N . . . . .	ND . . . . .	0.7
NITRITE-N . . . . .	ND . . . . .	0.001
TOTAL PHOSPHORUS . . . . .	0.06 . . . . .	0.02

Results are in mg/L

ND = Non Detectable

  
James E. Fisher  
Laboratory Manager  
smm

# ANATECH

Analytical Laboratories

## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Water Samples  
LAB REF. NO.: 21741  
SAMPLED BY: WA  
DESCRIPTION: Water Sample  
ANALYST: PT, EB

DATE SAMPLED: 04/12/92  
DATE RECEIVED: 05/13/92  
DATE FINISHED: 05/19/92  
REPORT DATE: 05/20/92

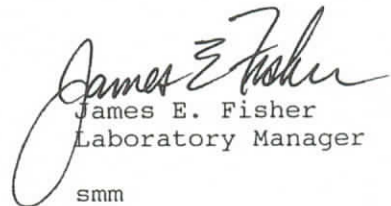
LAB SAMPLE I.D.: 7583  
CLIENT SAMPLE I.D.: WEST SIDE  
LIMIT OF DETECTION

=====

NITRATE-N . . . . .	ND . . . . .	0.7
NITRITE-N . . . . .	ND . . . . .	0.001
TOTAL PHOSPHORUS . . . . .	0.06 . . . . .	0.02

Results are in mg/L

ND = Non Detectable

  
James E. Fisher  
Laboratory Manager  
smm

# ANATECH

Analytical Laboratories

## ANALYTICAL REPORT

CLIENT: Newaygo County Drain Commission  
PROJECT: Hess Lake Water Samples  
LAB REF. NO.: 21741  
SAMPLED BY: WA  
DESCRIPTION: Water Sample  
ANALYST: PT, EB

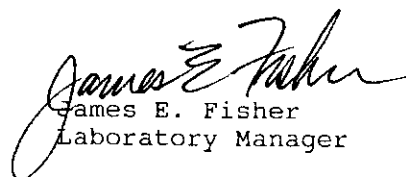
DATE SAMPLED: 04/12/92  
DATE RECEIVED: 05/13/92  
DATE FINISHED: 05/19/92  
REPORT DATE: 05/20/92

LAB SAMPLE I.D.: 7584  
CLIENT SAMPLE I.D.: ALGAR DRAIN (FORK)  
LIMIT OF DETECTION

=====

NITRATE-N . . . . .	0.7	. . . . .	0.7
NITRITE-N . . . . .	0.004	. . . . .	0.001
TOTAL PHOSPHORUS . . . . .	0.23	. . . . .	0.02

Results are in mg/L  
ND = Non Detectable

  
James E. Fisher  
Laboratory Manager

smm



# Anatech Lab Results

Very Dry 6-13-91  
Very Rainy 10-7-91  
Ice Condition 2-19-92  
Spring 5-13-92  
Upstream from Waste dump site

	West side of lake				Alger Drain Fork-upstream
1 Nitrate	1.1	N/D	N/D	N/D	.7
2 Nitrite	.011	N/D	.003	N/D	.004
3 Total Phos	.037	.071	.012	.06	.23
4					
5 East side of lake					
6 Nitrate	1.2	N/D	NO	N/D	
7 Nitrite	.011	N/D	Report	N/D	
8 Total Phos	.016	.053		.06	
9					
10 UPSTREAM ALGER					
11 Nitrate	1.7	4.1	1.2	N/D 1.2	
12 Nitrite	.014	.02	.003	N/D .012	
13 Total Phos	.098	.14	.14	N/D .22	
14					
15 ALGER LAKE					
16 Nitrate	1.2	3.4	NO RESULTS	.3	
17 Nitrite	.012	.05		.010	
18 Total Phos	.108	.10	.15	.18	
19					
20 Wheeler UP STREAM					
21 Nitrate	1.4	2.9	NO	N/D	
22 Nitrite	.032	.001	Result	.016	
23 Total Phos.	.059	.14	.07	.07	
24					
25 Wheeler Lake					
26 Nitrate	1.2	2.9	.8	.3	
27 Nitrite	.012	.02	.01	.016	
28 Total Phos.	.061	.24	.06	.08	
29					
30					
31					
32					
33					
34					
35					
36					
37					

# Anatech Lab Results

Very Dry 6-13-91  
 Very Rainy 10-7-91  
 Ice Condition 2-19-92  
 Spring 5-13-92  
 Upstream from Waste dump site

	West side of lake				Alger Drain Fork-upstream
1 Nitrate	1.1	N/D	N/D	N/D	.7
2 Nitrite	.011	N/D	.003	N/D	.004
3 Total Phos	.037	.071	.012	.06	.23
4					
5 East Side of lake					
6 Nitrate	1.2	N/D	NO	N/D	
7 Nitrite	.011	N/D	REPORT	N/D	
8 Total Phos	.016	.053		.06	
9					
10 UPSTREAM ALGER					
11 Nitrate	1.7	4.1	1.2	N/D 1.2	
12 Nitrite	.014	.02	.008	N/D .012	
13 Total Phos	.098	.14	.14	N/D .22	
14					
15 ALGER LAKE					
16 Nitrate	1.2	3.4	NO RESULTS	.8	
17 Nitrite	.012	.05		.010	
18 Total Phos	.105	.10	.15	.18	
19					
20 Wheeler UP STREAM					
21 Nitrate	1.4	2.9	NO	N/D	
22 Nitrite	.032	.001	RESULT	.016	
23 Total Phos.	.059	.14	.07	.07	
24					
25 Wheeler Lake					
26 Nitrate	1.2	2.4	.8	.8	
27 Nitrite	.012	.02	.01	.016	
28 Total Phos.	.061	.24	.06	.08	
29					
30					
31					
32					
33					
34					
35					
36					
37					