

Friess Washington Co. SED 22 Apr 86 Chloro = $42 \mu\text{g l}^{-1}$ 25 ml

REL

Note: sample is badly contaminated - abundance estimates not possible.

Species present:

Aphanizomenon flos-aquae

Cryptomonas sp.

Synedra ulna

cf. *Cyclotella* sp (?)

Zooplankton Data - Friess Lake - Washington Co. 1986

Key = Abundent 5 Occasional 2
 Very Common 4 Present 1
 Common 3 Absent 0

Lake Name	Friess Lake	Friess Lake	Friess Lake	Friess Lake
County Name	Washington County	Washington County	Washington County	Washington County
Water Body #				
STORET #				
Latitude				
Longitude				
Collector				
Collection Date	22-Apr-86	25-Jun-86	30-Jul-86	13-Aug-86
Year	86	86	86	86
Month	4	6	7	8
Day	22	25	30	13
Identification By	Woolsey, Edward A. Woolsey, Edward A. Woolsey, Edward A. Woolsey, Edward A.			
Date of Identification	Dec 87	Dec 87	Dec 87	Dec 87
Tow Length Meters	14.6	14.6	14.6	14.6
Liter/(MG/L) Subsample	0.758	0.758	0.758	0.758
Size-Daphnia-Number	30	30	32	15
Size-Daphnia-Mean mm	1.49	2.11	2	2.07
Size-Daphnia-Standard deviation	0.46	0.35	0.45	0.46
Size-Copepods-Number	35	31	31	29
Size-Copepods-Mean	1.19	1.18	1.12	1.22
Size-Copepods-Standard deviation	0.26	0.22	0.36	0.39
Size-All Zooplankton-Number	38	30	30	44
Size-All Zooplankton-Mean	1.19	1.37	1.25	1.51
Size-All Zooplankton-SD	0.28	0.46	0.52	0.53
Acanthocyclops vernalis	0	3	2	3
Chydorus sphaericus	2	2	0	0
Daphnia galeata mendotae	0	0	3	3
Diacyclops thomasi	4	0	0	0
Diaphanosoma leuchtenbergianum	0	0	3	2
Mesocyclops edax	0	3	3	3
Skistodiaptomus oregonensis	0	3	3	3
Eubosmina coregoni	0	2	0	0
Tropocyclops prasinus	0	3	3	2
Chaoborus sp	2	0	0	0
Daphnia pulicuria	3	3	4	2

Lake: Friess Lake
County: Washington
Date: June 1986

Cyanobacteria

- \ 2 Anabaena cf. variabilis
- 5 Aphanizomenon flos-aquae

Diatoms

- 2 3 Cyclotella comta
- 1 Synedra acus

} Dinoflagellates

u Cryptomonads

- 3 Cryptomonas ovata

< Green algae

Q Chrysophytes

7 Euglenoids

Ratio: Eukaryotic Algae / Cyanobacteria

by biomass - 25 / 75
by cell density - 15 / 85

"Unit" Size Distribution (as percent)

1-10um:
11-20um: 10
21-30um: 10
31-40um:
41-50um:
51-60um:
61-70um:
71-80um:
>80um: 80

NOTE: No nannoplankton.
Preservation problem?

Lake: Friess Lake
County: Washington
Date: July 1986

Cyanobacteria

- 2 Anabaena cf. circinalis
- 5 Aphanizomenon flos-aquae
- 3 Chroococcus cf. dispersus
- 3 Chroococcus limneticus
- 2 Lyngbya sp.

Diatoms

- 1 Cyclotella cf. comta
- 3 Fragilaria crotonensis
- 2 Synedra cf. acus

Dinoflagellates

- 1 Ceratium furcoides
- 2 Ceratium hirundinella

Cryptomonads

- 1 Chroomonas reflexa
- 3 Cryptomonas ovata

Green algae

- 1 Ankyra lanceolata
- 1 Oocystis sp.
- 1 Pediastrum cf. boryanum
- 1 Staurastrum paradoxum

Chrysophytes

- 1 Dinobryon sociale

Euglenoids

Ratio: Eukaryotic Algae / Cyanobacteria

by biomass - 10 / 90
by cell density - 5 / 95

"Unit" Size Distribution (as percent)

1-10um: 10
11-20um: 10
21-30um: 10
31-40um:
41-50um:
51-60um:
61-70um:
71-80um:
>80um: 70

Lake: Friess Lake
County: Washington
Date: August 1986

Cyanobacteria

3 *Anabaena* cf. *planctonica*
5 *Aphanizomenon flos-aquae*
3 *Chroococcus dispersus*
1 *Chroococcus limneticus*
1 *Gomphosphaeria aponina*

Diatoms

3 *Cyclotella* cf. *comta*
2 *Fragilaria crotonensis*

Dinoflagellates

1 *Ceratium furcoides*
2 *Ceratium hirundinella*
2 *Gymnodinium* sp. (small)

Cryptomonads

2 *Chroomonas minuta*
2 *Cryptomonas* cf. *ovata*

Green algae

1 *Oocystis* sp.
1 *Quadrigula chodati*
1 *Staurastrum paradoxum*

Chrysophytes

1 *Dinobryon sociale*

Euglenoids

Ratio: Eukaryotic Algae / Cyanobacteria

by biomass - 10 / 90
by cell density - 5 / 95

"Unit" Size Distribution (as percent)

1-10um: 5
11-20um: 10
21-30um: 10
31-40um: 5
41-50um:
51-60um:
61-70um:
71-80um:
>80um: 70

Water Body No.:

Lake: Friess
County: Washington
DNR District: SED

Zooplankton 1988

Collected by:

Identified by: Dr. William E. Walton

Key = Abundant 5 Occasional 2
 Very Common 4 Present 1
 Common 3 Absent 0

	15 Feb	13 Apr	1 Jun	12 Jul	16 Aug
Tow length (m)					
Subsample volume	0.1	0.1	0.05	0.1	0.05
Daphnia					
Number	9	6	20	29	12
Mean size (mm)	1.28	1.15	1.08	0.94	1.39
Standard deviation	0.10	0.52	0.23	0.28	0.19
Copepods					
Number	47	39	62	59	69
Mean size (mm)	0.82	0.65	0.66	0.64	0.71
Standard deviation	0.41	0.42	0.45	0.40	0.40
All zooplankton					
Number	58	59	95	91	91
Mean size (mm)	0.88	0.64	0.70	0.72	0.79
Standard deviation	0.41	0.43	0.44	0.39	0.43

		15 Feb	13 Apr	1 Jun	12 Jul	16 Aug
Skistodiaptomus oregonensis	SKIOR	4	3	5	5	4
Calanoid copepodids	CALCO	0	0	5	5	5
Calanoid nauplii	CALNA	0	3	5	5	4
Acanthocyclops vernalis	ACAVE	0	0	3	3	0
Diacyclops bicuspidatus thomasi	DIATH	5	4	3	2	2
Mesocyclops edax	MESED	0	2	3	3	5
Orthocyclops modestus	ORTMO	4	2	3	3	5
Tropocyclops prasinus	TROPR	0	0	0	1	0
Cyclopoid copepodids	CYCCO	5	5	5	5	5
Cyclopoid nauplii	CYCNA	5	5	5	5	5
Alona reticulata	ALORE	0	0	0	1	0
Bosmina longirostris	BOSLO	3	5	4	2	1
Chydorus sphaericus	CHYSP	0	3	2	1	2
Daphnia galeata mendotae	DAPGM	5	3	5	5	5
Daphnia pulicaria	DAPPUL	1	3	5	4	3
Daphnia retrocurva	DAPRE	0	0	0	4	1
Diaphanosoma birgei	DIABI	0	0	0	3	5
Ostracoda	OSTSP	0	0	0	0	3
Chaoborus sp.	CHOSP	0	0	2	1	1

Date		4-22-86	
Lake	FREISS	Time	9.45
County	WASHINGTON	Lake Acreage	118
Storet Number	---	Maximum Depth	45 FT
Water Body Number	---	Air Temperature	40°F
Station Location			SEE map.

Light Penetration Station	Secchi Disc Depth in Meters
	1.4 m

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	cond.	Depth	D.O.	Temp.	pH
	0	12.0	8.0	8.0	415				
	5	12.2	8.0						
	10	11.9	8.0						
	15	11.7	8.0						
	20	11.7	8.0						
	25	11.7	7.8						
	30	11.4	6.2						
	35	5.5	6.0						
	40	4.2	5.0	7.8					
Bottom	45	4.0	5.0		410				

Wind Speed and Direction	S-10 mph NE	Cloud Cover	0% Sunny
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Macrophyte Sampling Information

Additional Comments or Remarks

Lake brown (Tea color) stained.

Prepared By *Neil O'Reilly*

TIME 13:45

06-25-86

FRIESE lke

SUNNY ~~partly~~ cloud

Temp 20°C Wind 5-10 SW

Depth	Temp	DO	Secchi	Cond	pH
0	22	7.4	2.8	480	8.2
3					
10	21	9.4			
15	16	3.1			
20	11.5	0.15			
25	8.5	0.15		500	7.4 (7m)
30	7.5	0.1			
35	7.2	0.1			
40	7.1	0.1			
45	7.0	0.1		560	6.8

Date	8-13-86
Lake	Fresh Lake
Time	17:30
County	Washington
Lake Acreage	
Storet Number	673202
Maximum Depth	48'
Water Body Number	0853200
Air Temperature	22°C

Station Location

Light Penetration Station	Secchi Disc Depth in Meters
	4.25 ft. (1.3 M)

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	Depth	D.O.	Temp.	pH
	0	8.2	21.9	8.6	550				
	5	9.2	23.0						
	10	5.8	21.9						
	15	0.1	18.6						
mid-	25	0.1	12.2	7.9	550				
	30	0.1	9.7						
	35	0.1	8.3						
	40	0.1	7.8						
	45	0.09	7.7						
	48	0.09	7.6	7.6	550				

Wind Speed and Direction	Cloud Cover
SW - 5-7 mph	100%

Macrophyte Sampling Information

Additional Comments or Remarks

middle - 25 ft.

Prepared By

Joe Miller

Date <u>2/25/87</u>	
Lake <u>FRIESS</u>	Time
County <u>WASH</u>	Lake Acreage
Storet Number <u>673202</u>	Maximum Depth
Water Body Number	Air Temperature
Station Location <u>N 43 14.61 W 088 16.93</u>	

Light Penetration Station	Secchi Disc Depth in Meters <u>2.8</u>
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	Depth	D.O.	Temp.	pH
*	1.0	12.2	2.6	7.5	468				
	5.0	10.8	2.8						
	10.0	10.6	2.8						
	15.0	10.6	2.8						
	20.0	10.5	2.8						
*	25.0	10.6	2.8	7.45	470				
	30.0	8.6	2.8						
	35.0	4.8	3.0						
	40.0	2.1	3.8						
*	45.0	0.2	4.0	7.4	610				

BOTTOM 49'

Wind Speed and Direction <u>7-10 SE</u>	Cloud Cover <u>30 %</u>
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By [Signature]

Date <u>4/9/87</u>	
Lake <u>FRIESS LAKE</u>	Time <u>1555</u>
County <u>WASHINGTON Co.</u>	Lake Acreage <u>117</u>
Storet Number <u>6 7 3 2 0 2</u>	Maximum Depth <u>48 Ft.</u>
Water Body Number <u>0 8 5 3 2 0 0</u>	Air Temperature <u>70</u>
Station Location <u>Maximum depth</u>	
Light Penetration Station _____ Secchi Disc Depth in Meters <u>1.3</u>	

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH		Depth	D.O.	Temp.	pH
X	5	16.6	8.0	8.25	400				
	5	16.0	7.5						
	10	15.6	7.0						
X	15	13.4	6.2	8.15	465				
	20	13.0	6.0						
	25	12.6	6.0						
	30	12.4	5.8						
	35	12.4	5.5						
	40	12.0	5.5						
X	45	12.0	5.5	8.1	550				

Wind Speed and Direction <u>SSW 0-5</u>	Cloud Cover <u>0%</u>
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By WU/Bo

Date	6/2/87
Lake	Friss
Time	15:40
County	
Storet Number	
Water Body Number	
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters
	4.9

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH		Depth	D.O.	Temp.	pH
*	Surface	8.3	25.1	8.0	640				
	5	8.1	23.0						
*	10	8.6	18.3	7.7	650				
	15	7.2	15.9						
	20	5.5	11.5						
	25	3.9	7.5						
	30	3.0	7.0						
	35	2.1	6.8						
	40	1.1	6.5						
*	45	0.4	6.5	7.7	690				

Wind Speed and Direction	Cloud Cover
	100%

Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

Date	2/21/87
Lake	Fryess L.
Time	
County	WASH Co.
Lake Acreage	
Storet Number	
Maximum Depth	
Water Body Number	
Air Temperature	

Station Location

Light Penetration Station	Secchi Disc Depth in Meters
	1.5 M

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	Cond	Depth	D.O.	Temp.	pH
*	1	9.5	28.0	8.3	600				
	5	9.8	26.8						
	10	9.4	21.2						
	15	2.2	20.4						
*	20	0.4	14.0	7.75	660				
	25	0.2	8.8						
	30	0.1	7.8						
	35	0.05	7.5						
	40	0.05	7.2						
*	45	0.05	7.0	7.7	680				

Wind Speed and Direction	Cloud Cover
SW @ 5	25% VERY HAZY

Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By *Wakeman / Wayne*

Date 8-18-87	
Lake FRIESS LAKE	Time 3:40
County WASHINGTON Co.	Lake Acreage 117
Storet Number 6 7 3 2 0 2	Maximum Depth 48 Ft.
Water Body Number 0 8 5 3 2 0 0	Air Temperature
Station Location Maximum depth	

Light Penetration Station	Secchi Disc Depth in Meters 1.7
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH		Depth	D.O.	Temp.	pH
*	0	8.1	24.2	8.6	600	50	0.0	7.3	
	5	8.1	24.0						
	10	7.0	23.8						
	15	1.8	22.0						
*	20	0.1	15.5	7.7	610				
	25	0.0	9.4						
	30	0.0	8.0						
	35	0.0	8.0						
	40	0.0	7.5						
*	45	0.0	7.5	7.6	650				

Wind Speed and Direction SW 5-15	Cloud Cover 10%
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

Date		2-15-88		
Lake	FRIESS LAKE		Time	14:00
County	WASHINGTON Co.		Lake Acreage	117
Storet Number	6 7 3 2 0 2		Maximum Depth	48 Ft.
Water Body Number	0 8 5 3 2 0 0		Air Temperature	

Station Location
Maximum depth

Light Penetration Station	Secchi Disc Depth in Meters
	2.7

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

2.7
1.7
-8.0

Unit ft./m	Depth	D.O.	Temp.	pH	COND	Depth	D.O.	Temp.	pH
*	0	7.8	0.5	7.5	470	0			
	5	8.1	0.9						
	10	8.0	1.7						
	15	7.9	1.8						
	20	7.6	1.9						
*	25	6.2	1.9	7.4	840				
	30	4.6	2.0						
	35	2.4	2.1						
	40	0.4	3.0						
x	45	0.0	3.2	7.3	530				

Wind Speed and Direction	Cloud Cover
	0%

Macrophyte Sampling Information

Additional Comments or Remarks

ICE DEPTH 0.3 m

Prepared By
WAKEMAN

Date		4-13-88
Lake	FRIESS LAKE	
County	Lake Acreage	
Storet Number	Maximum Depth	
Water Body Number	Air Temperature	
Station Location		

Light Penetration Station	Secchi Disc Depth in Meters	1.3 m
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	Depth	D.O.	Temp.	pH
*	0	16.0	9.1	7.1	600				
	5	16.0	8.8						
	10	15.3	8.4						
	15	13.9	8.1						
	20	9.6	6.1						
	25	8.9	5.7						
	30	8.6	5.5						
	35	8.2	5.3						
	40	7.7	5.2						
*	45	7.6	5.2	6.6	600				

Wind Speed and Direction	Cloud Cover	100%
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

Date 6/1/88	
Lake FRIESS LAKE	Time 12:30
County WASHINGTON Co.	Lake Acreage 117
Storet Number 6 7 3 2 0 2	Maximum Depth 48 Ft.
Water Body Number 0 8 5 3 2 0 0	Air Temperature
Station Location Maximum depth	

Light Penetration Station	Secchi Disc Depth in Meters 2.5
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	CLOUD	Depth	D.O.	Temp.	pH
X	0	9.0	24.8	7.5	600				
	5	9.1	23.4						
	10	9.8	20.0						
	15	7.2	14.5						
X	20	4.5	9.2	7.6	620				
	25	1.6	7.8						
	30	0	7.4						
	35	0	7.2						
	40	0	7.1						
X	45	0	7.0	7.5	655				
	50	0	7.0						

Wind Speed and Direction W 5	Cloud Cover 15%
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By
Wilbert / Wakeman

Lake FRIESS Date 7-12-84
 Time 12:10
 County _____ Lake Acreage _____
 Storet Number _____ Maximum Depth _____
 Water Body Number _____ Air Temperature _____
 Station Location _____

Light Penetration Station _____ Secchi Disc Depth in Meters 2.5

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	Cont.	Depth	D.O.	Temp.	pH	Cont.
*	0	7.9	25.5	8.5	600 *	49	0.1	7.1	7.7	700
	5	7.9	25.7							
	10	7.9	25.5							
*	15	7.1	17.5	8.2	630					
	20	0.1	12.5							
	25	0.1	8.4							
	30	0.1	7.7							
	35	0.1	7.4							
	40	0.1	7.3							
	45	0.1	7.3							

Wind Speed and Direction _____ Cloud Cover 30%

Macrophyte Sampling Information _____

Additional Comments or Remarks _____

Prepared By Walter Campbell

Date 16 Aug 88	
Lake FRIESS	Time 1400
County Washington	Lake Acreage
Storet Number 673202	Maximum Depth ~48'
Water Body Number 0853200	Air Temperature 100
Station Location Deepest	

Light Penetration Station	Secchi Disc Depth in Meters 1.7 m
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH		Depth	D.O.	Temp.	pH
x	5	9.6	28.5		600	50	0.3	7.5	
	5	9.5	28.0						
	10	8.3	27.5						
x	15	1.9	22.5		690				
	20	0.3	12.2						
	25	0.3	9.0						
	30	0.3	8.0						
	35	0.3	7.8						
	40	0.3	7.5						
x	45	0.3	7.5		710				

Wind Speed and Direction 5-10 SW	Cloud Cover 10%
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Macrophyte Sampling Information

Additional Comments or Remarks

HeS noted at 45' and 20' ∴ subsample taken at 15'

Prepared By S. Mace / B. Wakema

	Date <i>2-22-89</i>
Lake <i>FRIESS</i>	Time <i>13:30</i>
County	Lake Acreage
Storet Number	Maximum Depth
Water Body Number	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters <i>1.7</i>
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	Cond	Depth	D.O.	Temp.	pH
*	0	16.4	7.0	8.05	385				
	5	13.8	3.1						
	10	13.3	3.1						
	15	12.8	3.2						
	20	12.0	3.2						
	25	11.4	3.2						
	30	9.2	3.2						
*	35	4.8	3.7	7.95	395				
	40	0.9	4.1						
*	45	0.4	4.5	7.81	425				

Wind Speed and Direction	Cloud Cover <i>0 1/2</i>
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Macrophyte Sampling Information

Additional Comments or Remarks

ICE = 0.3 m

SLOW 100% 4-6"

Prepared By
W. K. ... / ...

	Date <u>4-26-89</u>
Lake <u>FRIESS LAKE</u>	Time <u>14:12</u>
County <u>WASHINGTON Co.</u>	Lake Acreage <u>117</u>
Storet Number <u>6 7 3 2 0 2</u>	Maximum Depth <u>48 Ft.</u>
Water Body Number <u>0 8 5 3 2 0 0</u>	Air Temperature
Station Location <u>Maximum depth</u>	

Light Penetration Station	Secchi Disc Depth in Meters <u>1.0 m</u>
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	Depth	D.O.	Temp.	pH
	<u>0</u>	<u>15.0</u>	<u>14.0</u>	<u>8.1</u>	<u>550</u>				
	<u>5</u>	<u>15.0</u>	<u>12.6</u>						
	<u>10</u>	<u>12.5</u>	<u>10.0</u>						
	<u>15</u>	<u>11.1</u>	<u>8.0</u>						
	<u>20</u>	<u>10.4</u>	<u>7.5</u>						
	<u>25</u>	<u>8.5</u>	<u>6.7</u>						
	<u>30</u>	<u>8.0</u>	<u>6.2</u>						
	<u>35</u>	<u>7.2</u>	<u>6.0</u>						
	<u>40</u>	<u>7.2</u>	<u>6.0</u>						
	<u>45</u>	<u>6.2</u>	<u>6.0</u>	<u>8.0</u>	<u>525</u>				

Wind Speed and Direction <u>0-7 NE</u>	Cloud Cover <u>20%</u>
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By GO + TA

	Date <i>6-27-89</i>
Lake <i>FICISS</i>	Time <i>4:30</i>
County	Lake Acreage
Storet Number	Maximum Depth
Water Body Number	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters <i>1.0</i>
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH		Depth	D.O.	Temp.	pH
*	0	12.5	25.0	8.5	COND 670				
	5	12.4	24.0						
	10	6.7	18.1						
	15	4.2	15.0						
*	20	2.2	10.5	8.15	710				
	25	0.2	7.5						
	30	0.2	7.0						
	35	0.2	6.6						
	40	0.2	6.5		710				
*	45	0.2	6.5	8.0					

Wind Speed and Direction	Cloud Cover <i>30%</i>
--------------------------	---------------------------

Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

	Date 7-25-89
Lake FRIZESS	Time 16:20
County	Lake Acreage
Storet Number	Maximum Depth
Water Body Number	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters 2.0 m
---------------------------	--------------------------------------

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	Depth	D.O.	Temp.	pH	COND
*	0	10.5	26.9	8.0	650*	50	0.3	6.7	7.8	710
	5	9.8	24.9							
*	10	6.4	21.3	8.05	650					
	15	0.6	17.6							
	20	0.5	11.5							
	25	0.4	8.2							
	30	0.4	7.4							
	35	0.3	7.2							
	40	0.3	7.0							
	45	0.3	7.0							

Wind Speed and Direction	Cloud Cover 70%
--------------------------	--------------------

Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By
WASKEMAN / KATORA

Date 8-21-89	
Lake FREISS	Time 14:00
County	Lake Acreage
Storet Number	Maximum Depth
Water Body Number	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters 1.1 M
---------------------------	--------------------------------------

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit
ft./m

Depth	D.O.	Temp.	pH	COND	Depth	D.O.	Temp.	pH	COND
0	9.6	24.5	8.7	610	48	0.2	7.0	7.55	700
5	9.7	24.5							
* 10	6.8	21.8	8.0	660					
15	0.3	17.2							
20	0.2	13							
25	0.2	8.4							
30	0.2	7.5							
35	0.2	7.5							
40	0.2	7.2							
45	0.2	7.0							

Wind Speed and Direction	Cloud Cover 0%
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

Date		28 Feb 90	
Lake	Friss	Time	1315
County	Washington	Lake Acreage	
Storet Number	-----	Maximum Depth	49 ft.
Water Body Number	-----	Air Temperature	30° F
Station Location	-----		

Light Penetration Station	Secchi Disc Depth in Meters
	1 m

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	Cond	Depth	D.O.	Temp.	pH	Cond
<	1	17.6	0	7.6	375 x	49'	1.5	4.0	7.6	480
	5	10.4	1							
	10	10.4	2							
	15	10.2	2							
	20	10.0	2							
	25	8.7	2.5							
	30	6.6	3.0							
>	35	2.3	3.0	7.5	465					
	40	1.8	3.0							
<	45	1.6	3.0							

Wind Speed and Direction	Cloud Cover
10 SW	0%

Macrophyte Sampling Information

Additional Comments or Remarks

15-18" ice 3" packed snow

Water appears green

Prepared By

Date		4-18-90		
Lake	FRIESS LAKE		Time	11:30
County	WASHINGTON Co.		Lake Acreage	117
Storet Number	6 7 3 2 0 2		Maximum Depth	48 Ft.
Water Body Number	0 8 5 3 2 0 0		Air Temperature	

Station Location
Maximum depth

Light Penetration Station	Secchi Disc Depth in Meters
	2.0

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	Depth	D.O.	Temp.	pH	COND
	0	13.3	5.5	8.20	510	48	11.2	4.9	8.15	510
	5	13.4	5.5							
	10	13.4	5.5							
	15	13.2	5.3							
	20	13.0	5.2							
	25	13.0	5.2							
	30	13.0	5.1							
	35	12.5	5.1							
	40	12.4	5.0							
	45	11.8	5.0							

Wind Speed and Direction	Cloud Cover
0-5 SW	0%

Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By
KATHY ARON, JOANNE KLINE, BOB WAKEMAN

Date	26 JUNE 90
Lake	FRIESS
Time	09:18
County	
Lake Acreage	
Storet Number	
Maximum Depth	48'
Water Body Number	0853200
Air Temperature	23°C
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters
	1.4

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH
	5	8.7	20	
	10	8.0	19	
mid	15	3.4	12	
	20	3.6	10	
	25	1.6	7.0	
	30	0.6	7.0	
	35	0.3	6.0	
	40	0.2	6.0	
bot	45	0.2	6.0	
	48	0.2	6.0	

Depth	D.O.	Temp.	pH

Wind Speed and Direction	Cloud Cover
N.W. 5 mph	80%

Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By
Meltzer & Sheridan

Date	7/26/90
Lake	FRIESS
Time	1700
County	WASHINGTON
Lake Acreage	
Storet Number	673202
Maximum Depth	48'
Water Body Number	0853200
Air Temperature	20.5
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters
	0.95m

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND
x	0	9.6	24.5	8.7	600
	5	9.5	24.5		
	10	5.5	24.5		
x	15	1.5	19.5	7.7	600
	20	0.4	10.0		
	25	0.2	9.0		
	30	0.2	7.0		
	35	0	7.0		
	40	0	6.5		
	45	0	6.5		

Depth	D.O.	Temp.	pH	COND
48	0	6.5	7.4	700

Wind Speed and Direction	5-10 SE	Cloud Cover	90%
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Macrophyte Sampling Information

Additional Comments or Remarks

H2S in bottom

Prepared By *Klein + Mace*

	Date
Lake FRIZZ LK	8-27-96
County	Time 4:30
Storet Number	Lake Acreage
Water Body Number	Maximum Depth
Station Location	Air Temperature

Light Penetration Station	Secchi Disc Depth in Meters 0.7
---------------------------	------------------------------------

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit
ft./m

Depth	D.O.	Temp.	pH
5	12.2	25.1	8.7
5	12.8	24.5	
10	6.6	21.6	
* 15	0.5	18.9	7.5
20	0.0	15.0	
25	0.0	8.7	
30	0.0	7.6	
35	0.0	7.2	
40	0.0	7.0	
45	0.0	7.0	7.6

Depth	D.O.	Temp.	pH

Wind Speed and Direction	Cloud Cover 0/6
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By
D. [Name], B. [Name]

Date		3-4-91	
Lake	FRIESS LAKE		
County	WASHINGTON Co.		
Storet Number	6 7 3 2 0 2		
Water Body Number	0 8 5 3 2 0 0		
Station Location		Maximum depth	
Light Penetration Station		Secchi Disc Depth in Meters	

Light Penetration Station	Secchi Disc Depth in Meters
	1

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	Depth	D.O.	Temp.	pH
	0	10.0	0.9°C	7.6	235				
	5	11.0	1.3°						
	10	10.2	2.0°						
	15	10.2	1.9°						
	20	10.1	1.9°						
	25	10.0	1.9°						
	30	8.6	1.9°						
*	35	5.0	2.0°	7.4	467				
	40	3.0	2.1°						
	45	2.5	2.3°	7.4	497				

Wind Speed and Direction	Cloud Cover
	20%

Macrophyte Sampling Information

ICE 14"

SNOW 0%

Additional Comments or Remarks

Prepared By

B. WAKEMAN L. WASKO
PILOT

Time 0900

FRIESS LAKE 4/18/91

SECCHI 1.75 m

	TEMP	D.O.	PH	COND					
0	8.0	12.5							
5	8.0	12.5							
10	8.0	12.4							
15	7.0	11.8							
20	6.8	11.5							
25	6.2	11.2							
30	6.0	11.0							
35	6.0	10.8							
40	5.9	10.7							
45	5.9	10.5							
50	5.9	10.4							
55									
				Cloud cover 0%					

FRIESS LAKE G-26-91
11:00 AM

Secchi - 1.0 m

DEPTH	TEMP	D.O.								
0	23	12								
5	22.9	12								
10	20.8	11.8								
15	15	7.5								
20	10	4								
25	7.9	2.2								
30	7	1.25								
35	7	1.1								
40	7	1								
45	7	1								
50	7	1								

20 ft - 75

FROISS LAKE 7-23-91

.75

TIME 9:30

SECHCHI DEPTH .75

DEPTH	TEMP	DO								
0 SURF	25	9.8								
5	24.9	7.8								
10	22.9	0.5								
15	16.5	0.5								
20	12.2	0.55								
25	9	0.65								
30	8	0.65								
35	7.5	0.6								
40	7.2	0.6								
45	8.0	0.55								

DEGREE 100% CLOUDY

FRIEDS LAKE 8-19-51

Secchi 2.25m

<u>DEPTH</u>	<u>TEMP</u>	<u>T.D.</u>
0	21.2	8.6
5	21.2	8.6
10	20.0	6.5
15	18.0	0.5
20	12.2	0.5
25	8.5	0.6
30	7.5	0.65
35	7.0	0.6
40	7.0	0.6
45	7.5	0.6

Date <u>4-15-92</u>	
Lake <u>FRIESS LAKE</u>	Time <u>2:25 P.M.</u>
County <u>WASHINGTON Co.</u>	Lake Acreage <u>117</u>
Storet Number <u>6 7 3 2 0 2</u>	Maximum Depth <u>48 Ft.</u>
Water Body Number <u>0 8 5 3 2 0 0</u>	Air Temperature <u>40°F</u>
Station Location <u>Maximum depth</u>	

Light Penetration Station	Secchi Disc Depth in Meters
	<u>1.5</u>

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m

Depth	D.O.	Temp.	pH		Depth	D.O.	Temp.	
0	15.6	1.5	7.3	<i>COLD 510</i>	50	15.3	1.5	<i>.450</i>
5	15.5	1.5						
10	15.5	1.5						
15	15.4	1.5						
20	15.4	1.5						
25	15.4	1.5						
30	15.4	1.5						
35	15.3	1.5						
40	15.3	1.5						
45	15.3	1.5	7.2	<i>510</i>				<i>.454</i>

Conductance w/ PSI meter 32 at 2 mV

Wind Speed and Direction <u>SE 5 mph</u>	Cloud Cover <u>100%</u>
--	-------------------------

Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By _____

Triess Lake

6-25-92 12:30

Z	D.O	T °C	PH	COND	SECCHI (m)
					2.25
0	12.3	15.1	7.0	680	
5	12.5	14.2			
10	11.6	13.8			
* 15	4.0	10.8	7.2	680	
20	2.6	5.9			
25	2.4	4.0			
30	2.2	3.1			
35	2.1	3.0			
40	1.9	3.0	7.2	690	
45	1.9	3.0			

13:00
7-13-97

FRIESS LIC

Z	D.O	T °C	pH	COND	SECCHI					
0	10.2	17.8			1.6 m					
5	10.2	17.8								
10	10.2	17.8								
* 15	1.5	10.1								
20	1.4	5.0								
25	1.3	3.6								
30	1.2	3.1								
35	1.1	3.0								
40	1.0	3.0								
45	1.0	2.9								

Friess Lake

02 SEP 92

WX: overcast

time: 1410

winds South 10-15 mph

feet depth	Temp	DO mg l ⁻¹	pH	cond											
surf	15.8	9.9	8.3	514											
5	15.7	9.5													
10	15.5	9.3													
15	14.4	9.2													
20	8.9	3.6													
25	4.3	3.4													
30	3.8	3.1													
35	3.1	2.7													
40	3.0	2.6													
B 44	3.0	2.5	7.8	601											
M 16	12.8	5.5	8.0	526											
Secchi:	1.4m														

FRIESS LK

3-18-93

Z	D.O	T °C		pH	Cond	SECHCHI =	1.7 m	13:30	
0	8.7	1.2		8.0	880				
5	6.7	1.1				ICE =	14"		
10	7.2	1.4				SNOW	0" 100%		
15	7.3	1.4							
20	7.2	1.5							
25	6.6	1.7							
*30	5.4	2.0		7.7	686				
35	1.7	2.7							
40	0.6	0.6 - 3.0							
45	0.2	3.0		7.6	678				

Date	7-30-86
Lake	FRIESS LAKE
County	WASHINGTON Co.
Storet Number	6 7 3 2 0 2
Water Body Number	0 8 5 3 2 0 0
Station Location	Maximum depth
Time	10:00
Lake Acreage	117
Maximum Depth	48 Ft.
Air Temperature	75-80°

Light Penetration Station	Secchi Disc Depth in Meters
	1.2

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	Cond.	Depth	D.O.	Temp.	pH
	0	10.5	26.0	8.0	Surface	50	0.15	7.0	7.5
	5	10.6	25.0		500				
	10	1.00	23.1		Middle				
17*	15	0.15	19.9	7.8	510				
	20	0.15	13.4		Bottom				
	25	0.175	9.5		490				
	30	0.175	7.9						
	35	0.175	7.3						
	40	0.175	7.1						
	45	0.15	7.1						

Wind Speed and Direction	Cloud Cover
0-5 SE	90%

Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

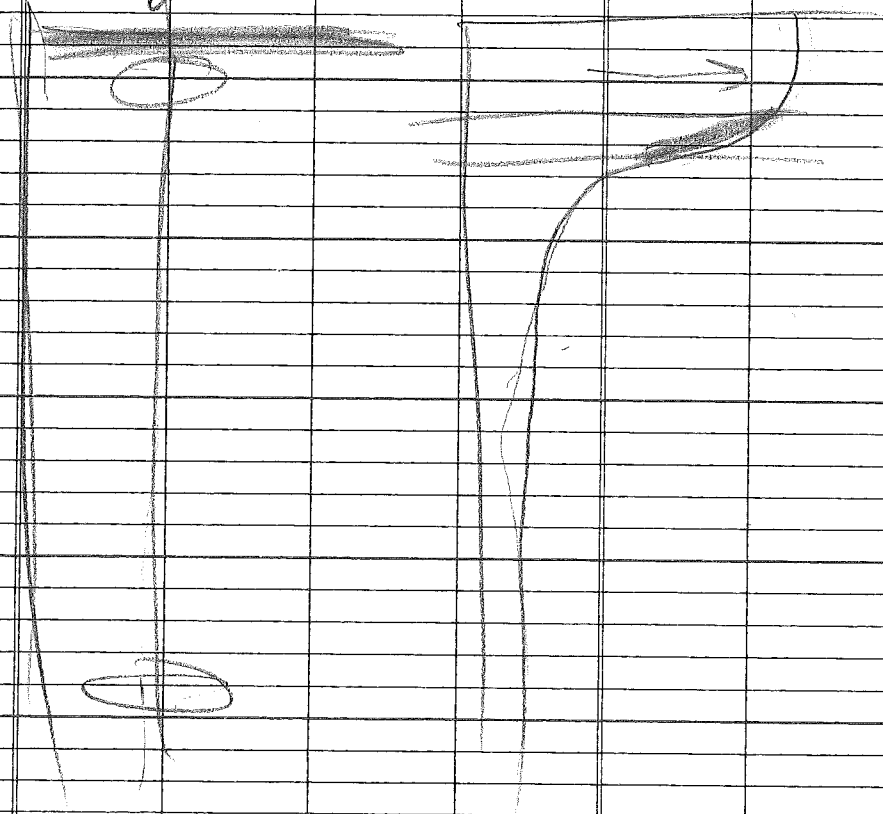
15:00
5-11-93

FRIESS LK

Z	D.O	T °C	pH	COND	Secchi				
0	17.1	20.7	8.5	567	1.2 m				
5	15.1	19.0							
10	9.8	14.9							
15	9.3	10.3							
20	9.3	7.3							
25	8.6	6.0							
30	8.2	5.3							
35	7.9	5.1							
40	7.6	5.1							
* 45	7.2	5.1							
50	0.5	5.0	8.3	565					

Spring

Sum.



Wind 3-15 mph
partly cloudy 75°
2:45
6-10-93

Freiss Lake

Z	D.O	T°C	pH	COND.	Secchi				
					2.6 meters				
0	10.6	19.0°	8.2	575					
5	10.2	17.9°							
10	8.3	16.5							
15	9.3	14.5							
20	8.0	11.9							
* 25	3.4	6.9	8.0	576					
30	2.4	6.0							
35	2.4	5.9							
40	1.3	5.5							
45	0.9	5.2							
50	0.2	5.2	7.9	586					

T° 80
WIND SW 7-15
10% CLOUD
13:45
7-19-93

FRUZZ LK

Z	D.O	TEMP	pH	COND	SECCHI DISK
0	8.9	23.8	8.5	599	2.0m
5	8.6	23.1			
10	4.1	20.4			
15	1.3	16.0			
*20	0.4	10.2	7.8	606	
25	0.4	7.0			
30	0.2	6.5			
35	0.2	6.2			
40	0.2	6.0			
45	0.2	6.0	7.6	608	

DATA SHEET
FORM 3600-49

DEPARTMENT OF NATURAL RESOURCES

Wind 5 to 15 mph
Temp 80
13:00
8-30-93 100% Cloud

FRIESS LK

Z	D.O.	Temp	pH	Cond	Secchi					
0	7.7	24.0	8.6	629	3.5m					
5	7.0	23.3								
10	4.0	21.5								
(*) 15	0.4	16.1	7.9	634						
20	0.3	9.2								
25	0.3	7.1								
30	0.2	6.9								
35	0.2	6.5								
40	0.2	6.4								
45	0.2	6.2								
48	6.2	6.2	7.6	615						

	Date 03-09-94
Lake Friess Lake	Time 9:25 AM
County Washington	Lake Acreage 117
Storet Number 6 7 3 2 0 2	Maximum Depth 48 Ft.
Water Body Number 0 8 5 3 2 0 0	Air Temperature
Station Location Maximum Depth	

Light Penetration Station	Secchi Disc Depth in Meters 0.7 m
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH		Depth	D.O.	Temp.	pH
	0	8.1	1.2	8.0	Cond 405				
	5	8.1	1.5						
	10	9.0	2.0						
	15	9.0	2.2						
	20	8.6	2.2						
	25	7.2	2.3						
	30	4.1	2.7						
X	35	0.9	3.1	7.6	770				
	40	0.4	3.4						
	45	0.4	4.0	7.6	725				

Wind Speed and Direction	Cloud Cover 0%
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Macrophyte Sampling Information

Additional Comments or Remarks

43° 14' 46 N 88° 16' 53 W

Prepared By

WS 19418 EH

Date	4-20-74
Lake	FRIESS
Time	15:00
County	
Lake Acreage	
Storet Number	
Maximum Depth	
Water Body Number	
Air Temperature	
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters
	1.9 m

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH
	0	12.8	9.9	9.1
	5	11.7	9.7	8.9
	10	11.4	9.3	8.5
	15	11.1	9.3	8.5
	20	11.0	9.1	8.3
	25	10.5	8.7	7.9
	30	10.3	8.6	7.4
	35	9.9	8.0	7.2
	40	9.5	5.9	7.1
	45	9.4	5.8	7.0

Depth	D.O.	Temp.	pH
50			

Wind Speed and Direction	NW 5-15	Cloud Cover	100%
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

	Date 7-6-94
Lake Friess Lake	Time 4:30 pm
County Washington	Lake Acreage 117
Storet Number <u>6 7 3 2 0 2</u>	Maximum Depth 48 Ft.
Water Body Number <u>0 8 5 3 2 0 0</u>	Air Temperature
Station Location Maximum Depth	

Light Penetration Station	Secchi Disc Depth in Meters 5.0 (FT) 1.5m
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	Cond
	0	12.0	27.1	8.4	.600
	5	12.4	26.4	8.4	.600
	10	7.8	22.5	8.2	.611
	15	2.5	20.6	7.9	.640
	20	0.04	16.3	7.8	.696
*	25	0.0	10.6	7.8	.702
	30	0.0	8.6	7.7	.705
	35	0.0	8.3	7.6	.709
	40	0.0	8.1	7.6	.714
	45	0.0	8.0	7.6	.715

Depth	D.O.	Temp.	pH	COND
50				

Wind Speed and Direction	Cloud Cover 30%
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Macrophyte Sampling Information

	TDS
	0 .384
	5 .384
	10 .390
	15 .410
	20 .446
	25 .450
	30 .451
	35 .453
	40 .457
	45 .458
	50

Additional Comments or Remarks

Prepared By

Friess Lake

~~Friess~~ Lake

1100 - 12:00

8/4/94

2nd Screen

Depth	°C	DO	Depth	Cond	pH	Redox	Turb	Samples
1	23.74	6.57	0.3	0.58	8.24		.371	X
5	23.70	8.54	2.9	0.58	8.24		.372	
10	22.45	1.50	7.8	.609	7.80		.390	X
15	20.20	.04	12.9	.614	7.60		.391	
20	14.90	.01	18.0	.698	7.67		.449	
25	10.10	.00	22.9	.720	7.58		.460	
30	8.80	.00	27.6	.722	7.30		.482	X
35								
40								
45								
SD = 1.4m								
phyto tow								
zoo tow								
160% cloud cover								
Rains last night (~2 inches)								

Lake <u>Fries Lake</u> County _____ Storet Number _____ Water Body Number _____ Station Location _____	Date <u>Sept 9th 1994</u> Time <u>11:52</u> Lake Acreage _____ Maximum Depth _____ Air Temperature _____
--	---

Light Penetration Station _____	Secchi Disc Depth in Meters <u>1.5m</u>
---------------------------------	---

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	D.O.	TDS	Depth	D.O.	Temp.	pH	D.O.	TDS
	0	9.3	19.4	8.2	601	385	0	0	8.2	7.1	1153	4182
	5	9.27	14.3	8.2	601	385	1181					
	10	7.5	18.8	8.1	608	389						
	15	7.6	18.8	8.1	608	389						
	20	0.6	14.2	7.6	690	413						
	25	0.01	10.9	7.4	724	461						
	30	0.0	9.2	7.3	726	464						
	35	0	8.7	7.3	728	466						
	40	0	8.5	7.2	732	469						
	45	0	8.4	7.2	739	473						

Wind Speed and Direction _____	Cloud Cover <u>100%</u>
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By _____

	Date <i>2-22-95</i>
Lake <i>FRIESS LK</i>	Time <i>1400</i>
County	Lake Acreage
Storet Number	Maximum Depth
Water Body Number	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters <i>7.0 m</i>
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	TDS	Depth	D.O.	Temp.	pH
	0	10.1	1.7	7.9	.672	.433	5'0			
	5	9.6	2.8	7.9	.708	.453				
	10	9.5	2.8	7.9	.714	.457				
	15	9.5	2.8	7.9	.713	.456				
	20	9.4	2.8	7.9	.713	.457				
	25	9.4	2.8	7.9	.714	.457				
	30	8.2	3.0	7.8	.713	.456				
*	35	3.7	3.3	7.7	.715	.458				
	40	0.2	4.0	7.5	.737	.472				
	45	0.1	4.0	7.5	.743	.476				

Wind Speed and Direction	Cloud Cover <i>10% Part</i>
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

	Date 4-24-95
Lake FRISSE LK	Time 1420
County	Lake Acreage
Storet Number	Maximum Depth
Water Body Number	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters 2.6 m
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	Conduct	TDS	Depth	D.O.	Temp.	pH	Conduct	TDS
	0	13.7	7.5	8.2	.677	.433	9	11.3	6.5	8.1	.686	.439
	5											
	10											
	15											
	20											
	25											
	30											
	35											
	40											
	45											

Wind Speed and Direction	Cloud Cover 100%
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

	Date <p style="text-align: center;">10-21-95</p>
Lake <p style="text-align: center;">FICISS LK</p>	Time <p style="text-align: center;">1120</p>
County	Lake Acreage
Storet Number -----	Maximum Depth
Water Body Number -----	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters <p style="text-align: center;">2.5 m</p>
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	TDS	Depth	D.O.	Temp.	pH
	0	7.8	27.6	8.0	639	.409				
	5	7.9	27.5	8.1	640	.409				
	10	9.8	20.1	8.2	637	.408				
*	15	7.6	15.4	8.0	657	.421				
	20	6.7	12.0	7.8	657	.420				
	25	6.1	8.7	7.6	661	.425				
	30	4.4	7.9	7.6	663	.425				
	35	4.0	7.7	7.5	663	.424				
	40	3.5	7.7	7.5	665	.425				
	45	3.5	7.6	7.5	666	.426				

Wind Speed and Direction <p style="text-align: center;">ENE 0-7 mph</p>	Cloud Cover <p style="text-align: center;">0%</p>
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

	Date 7-25-95
Lake FRIESS LAKE	Time 14:15
County	Lake Acreage
Storet Number -----	Maximum Depth 47 FT.
Water Body Number -----	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters 4.0 m
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	TDS	Depth	D.O.	Temp.	pH
	0	9.37	27.19	8.49	581	.370				
	5	9.66	26.55	8.50	578	.371				
	10	8.77	25.56	8.46	585	.375				
	15	2.20	20.88	8.10	612	.391				
*	20	0.06	12.81	7.86	624	.400				
	25	0.00	9.16	7.80	632	.403				
	30	0.00	8.27	7.76	633	.404				
	35	0.00	7.97	7.72	636	.407				
	40	0.00	7.85	7.70	638	.408				
	45	0.0	7.8	7.7	640	.410				

Wind Speed and Direction	Cloud Cover 0%
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

A	A	B	C	D	E	F
91	Friess Lake					
92	8/31/95					
93						
94	Depth	Temp	pH	Cond	TDS	DO
95						
96	0	25.68	7.84	0.533	0.341	10.07
97	5	25.26	7.73	0.534	0.342	9.16
98	10	24.26	7.49	0.543	0.347	6.94
99	15	23.66	7.32	0.553	0.354	4.98
100	20	15.66	7.03	0.623	0.399	0.13
101	25	10.61	7.33	0.629	0.402	0
102	30	9	7.26	0.633	0.405	0
103	35	8.53	7.22	0.634	0.406	0
104	40	8.19	7.17	0.637	0.408	0
105	45	8.05	7.12	0.641	0.41	0
106	50	7.87	6.96	0.66	0.423	0

Secchi = 2.9 m

Friess Lake, Washington Co.

Sample Date: 2/21/96

Secchi Depth 3.8 m

	Temp.	pH	SpCond	TDS	DO	Depth
100005	1.22	7.49	0.579	0.371	7.87	2
100249	1.81	7.52	0.626	0.4	8.23	5
100501	2.38	7.6	0.623	0.399	8.23	10
100650	2.39	7.61	0.624	0.399	8.22	15
100835	2.38	7.62	0.624	0.399	8.21	20
101059	2.55	7.63	0.623	0.399	7.82	25*
101348	2.9	7.57	0.623	0.399	5.6	30
101600	3.07	7.52	0.628	0.402	4.18	35
101736	3.47	7.43	0.64	0.41	1.81	40
101931	3.75	7.39	0.644	0.412	0.63	45

	Date <i>5-7-96</i>
Lake <i>FRIESS LK</i>	Time <i>0915</i>
County	Lake Acreage
Storet Number _____	Maximum Depth
Water Body Number _____	Air Temperature
Station Location _____ _____	

Light Penetration Station	Secchi Disc Depth in Meters <i>2.9m</i>
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	TDS	Depth	D.O.	Temp.	pH	COND	TDS
	<i>1</i>	<i>12.3</i>	<i>9.8</i>	<i>8.2</i>	<i>591</i>	<i>.378</i>	<i>50</i>	<i>8.4</i>	<i>6.5</i>	<i>7.7</i>	<i>607</i>	<i>.389</i>
	<i>5</i>	<i>12.2</i>	<i>9.8</i>	<i>8.2</i>	<i>591</i>	<i>.378</i>						
	<i>10</i>	<i>12.2</i>	<i>9.8</i>	<i>8.2</i>	<i>591</i>	<i>.378</i>						
	<i>15</i>	<i>12.1</i>	<i>9.8</i>	<i>8.2</i>	<i>591</i>	<i>.378</i>						
	<i>20</i>	<i>11.6</i>	<i>9.6</i>	<i>8.2</i>	<i>593</i>	<i>.379</i>						
	<i>25</i>	<i>11.3</i>	<i>9.0</i>	<i>8.1</i>	<i>595</i>	<i>.381</i>						
	<i>30</i>	<i>10.9</i>	<i>7.9</i>	<i>8.1</i>	<i>594</i>	<i>.380</i>						
	<i>35</i>	<i>10.4</i>	<i>7.4</i>	<i>8.0</i>	<i>598</i>	<i>.383</i>						
	<i>40</i>	<i>9.1</i>	<i>6.8</i>	<i>7.8</i>	<i>605</i>	<i>.387</i>						
	<i>45</i>	<i>8.9</i>	<i>6.6</i>	<i>7.7</i>	<i>606</i>	<i>.388</i>						

Wind Speed and Direction <i>ESE - 10-20 MPH</i>	Cloud Cover <i>100%</i>
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Macrophyte Sampling Information

Additional Comments or Remarks

SPRING TURNOVER SAMPLING

Prepared By

Date	7-2-96
Lake	FRIESS
Time	13:50
County	
Storet Number	
Water Body Number	
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters
	1.6 m

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	TDS	Depth	D.O.	Temp.	pH
	SURF	6.91	25.15	7.6	459	.294				
	5	6.82	25.13	7.6	459	.294				
*	10	3.25	17.61	7.3	456	.290				
	15	4.10	15.15	7.5	492	.313				
	20	3.64	10.64	7.7	606	.387				
	25	0.83	8.97	7.5	608	.389				
	30	0.11	8.29	7.4	611	.391				
	35	0.11	7.94	7.3	614	.393				
	40	0.08	7.83	7.3	616	.395				
	45	0.07	7.76	7.3	618	.395				

Wind Speed and Direction	Cloud Cover
N 15-20	90%

Macrophyte Sampling Information

Additional Comments or Remarks

JUNE SAMPLING

Prepared By TG

	Date <p style="text-align: center;">7-24-96</p>
Lake <p style="text-align: center;">FRIESS LK</p>	Time <p style="text-align: center;">1516</p>
County	Lake Acreage
Storet Number	Maximum Depth
Water Body Number	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters <p style="text-align: center;">2.3 m</p>
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	TDS	Depth	D.O.	Temp.	pH
	0	9.5	23.4	8.0	576	.368	50			
	5	9.3	22.8	8.0	577	.369				
	10	8.0	21.6	7.8	600	.379				
*	15	1.9	14.7	7.5	623	.400				
	20	0.6	11.0	7.5	691	.441				
	25	0.2	8.6	7.4	700	.448				
	30	0.1	8.3	7.3	701	.449				
	35	0.1	8.1	7.2	703	.449				
	40	0.1	7.9	7.2	707	.453				
	45	0.1	7.8	7.7	710	.454				

Wind Speed and Direction <p style="text-align: center;">SSW 0-10 mph</p>	Cloud Cover <p style="text-align: center;">70%</p>
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

Date	8 - 27 - 96
Lake	FZIESS LK
County	Lake Acreage
Storet Number	Maximum Depth
Water Body Number	Air Temperature

Station Location

Light Penetration Station	Secchi Disc Depth in Meters
	1.8m

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	TDS	Depth	D.O.	Temp.	pH
	1	8.8	23.2	8.4	579	.371				
	5	8.7	23.2	8.4	580					
	10	5.6	22.6	8.1	604	.385				
	15	0.4	15.4	7.6	638					
	20	0.3	10.4	7.5	686	.439				
	25	0.2	8.7	7.4	697					
	30	0.2	8.3	7.4	696	.446				
	35	0.1	8.1	7.3	701					
	40	0.1	8.0	7.3	705	.451				
	45	0.1	7.9	7.3	710	.453				

Wind Speed and Direction	Cloud Cover
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

	Date <i>5/6/97</i>
Lake <i>FRIESS</i>	Time <i>1430</i>
County	Lake Acreage
Storet Number	Maximum Depth
Water Body Number	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters <i>1.7 m</i>
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	Cond	TDS	Depth	D.O.	Temp.	pH	Cond	TDS
	<i>0</i>	<i>13.0</i>	<i>11.1</i>	<i>8.3</i>	<i>666</i>	<i>.426</i>	<i>50</i>	<i>6.1</i>	<i>5.8</i>	<i>7.7</i>	<i>688</i>	<i>.440</i>
	<i>5</i>	<i>12.6</i>	<i>10.1</i>	<i>8.3</i>	<i>667</i>	<i>.427</i>						
	<i>10</i>	<i>11.7</i>	<i>9.9</i>	<i>8.3</i>	<i>667</i>	<i>.427</i>						
	<i>15</i>	<i>10.9</i>	<i>9.3</i>	<i>8.2</i>	<i>672</i>	<i>.430</i>						
	<i>20</i>	<i>10.8</i>	<i>8.9</i>	<i>8.2</i>	<i>672</i>	<i>.430</i>						
	<i>25</i>	<i>10.6</i>	<i>8.6</i>	<i>8.2</i>	<i>671</i>	<i>.429</i>						
	<i>30</i>	<i>8.7</i>	<i>6.9</i>	<i>7.9</i>	<i>682</i>	<i>.436</i>						
	<i>35</i>	<i>8.3</i>	<i>6.3</i>	<i>7.8</i>	<i>683</i>	<i>.437</i>						
	<i>40</i>	<i>7.8</i>	<i>5.9</i>	<i>7.8</i>	<i>686</i>	<i>.439</i>						
	<i>45</i>	<i>7.6</i>	<i>5.9</i>	<i>7.8</i>	<i>685</i>	<i>.439</i>						

Wind Speed and Direction	Cloud Cover <i>0%</i>
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

	Date 3/6/97
Lake FRISSE LK	Time 10:00
County	Lake Acreage
Storet Number	Maximum Depth
Water Body Number	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters 1.1
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	Cond	TDS	Depth	D.O.	Temp.	pH
	0	10.3	1.2	7.1	367	.238				
	5	9.4	1.6	7.2	497	.328				
	10	9.3	1.9	7.3	644	.424				
	15	9.3	2.1	7.4	674	.431				
*	20	9.0	2.3	7.4	675	.432				
	25	7.9	2.6	7.4	674	.431				
	30	6.2	3.1	7.3	674	.432				
	35	3.6	3.4	7.2	688	.440				
	40	1.2	4.0	7.1	705	.450				
	45	0.3	4.1	7.1	708	.453				

Wind Speed and Direction	Cloud Cover 20%
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

~~4/11/97~~

Lake <u>Friess</u> County _____ Storet Number _____ Water Body Number _____ Station Location _____	Date <u>7-1-97</u> Time <u>1426 - 1305</u> Lake Acreage _____ Maximum Depth <u>49.4 ft</u> Air Temperature _____
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Light Penetration Station _____	Secchi Disc Depth in Meters <u>0.6M</u>
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH
	0	15.37	27.89	8.57
	5	13.55	25.68	8.48
	10	4.60	22.16	7.81
	15	5.80	17.27	7.92
	20	4.67	12.64	7.82
	25	3.35	11.03	7.72
	30	0.50	9.28	7.56
	35	0.18	8.47	7.48
	40	0.15	8.15	7.45
	45	0.13	7.95	7.42

COND TDS			
Depth	D.O.	Temp.	pH
0	571	0.364	
5	581	0.372	
10	616	0.396	
15	667	0.426	
20	689	0.441	
25	690	0.442	
30	698	0.447	
35	699	0.447	
40	700	0.449	
45	703	0.451	

Wind Speed and Direction _____	Cloud Cover _____
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Macrophyte Sampling Information

Additional Comments or Remarks

FRI - 1ft

FR2 - 15ft

FR3 - 45ft

Doubled checked DO at 10 + 15 ft correct

Prepared By D. Loh

	Date 7-30-97
Lake FRIESS LAKE	Time 1300
County	Lake Acreage
Storet Number	Maximum Depth
Water Body Number	Air Temperature
Station Location	

Light Penetration Station	Secchi Disc Depth in Meters 1.4m
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Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	COND	TDS	Depth	D.O.	Temp.	pH
	0	10.2	25.2	8.5	578	.370	50			
	5	10.3	25.0	8.5	578	.370				
	10	8.3	23.7	8.4	595	.381				
*	15	0.2	18.9	7.7	650	.416				
	20	0.1	12.9	7.6	691	.442				
	25	0.1	10.2	7.6	704	.451				
	30	0.1	9.1	7.6	703	.450				
	35	0.1	8.7	7.5	705	.451				
	40	0.1	8.5	7.5	710	.454				
	45	0.1	8.4	7.5	710	.455				

Wind Speed and Direction NE 5-10	Cloud Cover 10%
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Macrophyte Sampling Information

Additional Comments or Remarks

Prepared By

Date		9-15-97	
Lake	Froiss	Time	11:39
County	Waukesha	Lake Acreage	
Storet Number	-----	Maximum Depth	40'
Water Body Number	-----	Air Temperature	
Station Location			

Light Penetration Station	Secchi Disc Depth in Meters
	0.6

Lake Stratification: Sampling for D.O. (ppm) and Temperature (°C)

Unit ft./m	Depth	D.O.	Temp.	pH	Cond	TDS	Depth	D.O.	Temp.	pH	Cond	TDS
		Surf	11.28	20.85	8.26	584	373	Surf				
	5	11.33	20.05	8.28	586	374						
	10	8.58	19.14	8.12	592	380						
	15	4.09	18.34	7.81	612	391						
	20	0.25	14.68	7.38	672	430						
	25	0.14	10.85	7.30	693	443						
	30	0.11	9.20	7.25	697	445						
	35	0.10	8.67	7.16	701	449						
	40	0.08	8.52	7.12	709	454						
	45	0.07	8.45	7.10	712	456						

Wind Speed and Direction	Cloud Cover
calm	70%

Macrophyte Sampling Information

no data taken at 15'

Additional Comments or Remarks

Prepared By

Friess Lake
4/1/98

TEMP.	pH	SpCond	TDS	DO	Depth
8.11	8.5	566	0.362	13.62	1
8.07	8.51	567	0.363	13.43	5
8.07	8.51	571	0.365	13.61	10
8.05	8.52	579	0.37	13.7	15
7.07	8.45	610	0.39	14.03	20
6.66	8.42	615	0.394	14.22	25
5.87	8.39	619	0.396	14.22	30
5.68	8.38	619	0.396	14.12	35
5.43	8.36	618	0.396	13.97	40
5.33	8.35	619	0.396	13.81	45
5.03	8.28	622	0.398	12.64	50

Friess Lake
7-2-98

Temp	pH	SpCond	TDS	DO	Depth
26.65	8.72	505	0.323	12.01	1
25.33	8.68	507	0.325	11.11	5
23.29	8.19	541	0.346	5.67	10
15.05	7.82	586	0.375	0.49	15
9.41	7.72	590	0.378	0.27	20
8.2	7.66	594	0.38	0.23	25
7.9	7.61	593	0.38	0.18	30
7.62	7.57	597	0.382	0.17	35
7.48	7.53	600	0.384	0.14	40
7.39	7.51	603	0.386	0.13	45

SECCHI DEPTH = 0.7

Friess Lake
7-28-98

TEMP	pH	SpCOND	TDS	DO	DEPTH
24.79	8.1	507	0.324	10.02	1
24.62	8.12	507	0.324	10.07	5
23.17	7.87	526	0.337	6.3	10
17.27	7.39	579	0.37	0.39	15
10.27	7.32	595	0.381	0.22	20
8.18	7.25	601	0.385	0.19	25
7.89	7.22	603	0.386	0.17	30
7.72	7.19	608	0.389	0.16	35
7.6	7.16	613	0.392	0.15	40
7.52	7.11	619	0.396	0.14	45
7.4	7.04	637	0.408	0.15	50

SD = NOT TAKEN

EST (K 1.0 m)

DNR BASELINE MONITORING

Lake Name Friess Lake Date 9/1/18 Time 11:00 am

Sample Location (e.g., deepest point in basin) _____

WBIC 0853200 % Cloud Cover/Precip 0%

Observers Bob Wind Speed 5-15 mph from SW Direction
Lauren

Field Measurements and Observations

Secchi Disk 0.7 (m) or ft) Custer Color Strip Reading 8

Algae Development – Not apparent _____
Slight (just visible) _____
Moderate (quite noticeable) _____
Heavy (very green) X

Site depth 49 (m or ft)

pH at 1 meter 8.3

Profiles

Depth ft or m	DO mg/L	Temp °C	Cond µS	Depth ft or m	DO mg/L	Temp °C	Cond µS	Depth ft or m	DO mg/L	Temp °C	Cond µS

Meter Type and ID Number(s) _____

Water Samples

Depth of Integrated Water Sample 18 m or ft) SLH Field Number _____

Amount filtered for chlorophyll 300 mLs

Comments / Observations

Ambient

Wash Co.

DNR BASELINE MONITORING

Lake Name Freiss Lake Date 02 / 28 / 01 Time _____

Sample Location (e.g., deepest point in basin) _____

WBIC 08 53200 % Cloud Cover/Precip 20

Observers Wakeman
Callan Wind Speed _____ mph from _____ Direction

Field Measurements and Observations

Secchi Disk 1.1 (m or ft) Custer Color Strip Reading _____

Algae Development – Not apparent _____
Slight (just visible) _____
Moderate (quite noticeable) _____
Heavy (very green) _____

Site depth _____ (m or ft)
pH at 1 meter _____

Profiles

Depth ft or m	DO mg/L	Tmp °C	Cond µS	Depth ft or m	DO mg/L	Tmp °C	Cond µS	Depth ft or m	DO mg/L	Tmp °C	Cond µS

Meter Type and ID Number(s) _____

Water Samples

Depth of Integrated Water Sample _____ m or ft SLH Field Number _____

Amount filtered for chlorophyll _____ mLs

Comments / Observations

DNR BASELINE MONITORING

Lake Name Freiss Lake

Date 5 / 01 / 2001 Time 10:13 AM

Sample Location (e.g., deepest point in basin) Deep Spot

WBIC 0853200

% Cloud Cover/Precip 10% Dry

Observers Callan

Wind Speed 15 mph from SW Direction

Bunk

Field Measurements and Observations

Secchi Disk 0.8 (m or ft)

Custer Color Strip Reading _____

Algae Development – Not apparent _____

Slight (just visible) _____

Site depth 53 (m or ft)

Moderate (quite noticeable) X

Heavy (very green) _____

pH at 1 meter 8.54

DEPTH (HYDROLAB)

Profiles

CORD
DEPTH

Depth ft or m	DO mg/L	Temp °C	Cond µS	Depth ft or m	DO mg/L	Temp °C	Cond µS	Depth ft or m	DO mg/L	Temp °C	Cond µS
1	18.88	15.85	588	30	14.54	12.90	613	27	7.30	7.39	625
3	18.70	15.81	588	33	13.50	12.46	613	30	7.13	7.03	626
6	18.54	15.76	588	36	12.51	12.05	615	33	7.05	6.98	627
9	18.37	15.67	588	39	11.76	11.68	616	36	6.74	6.74	628
12	18.37	15.62	589	45	10.20	10.85	618	39	6.44	6.44	628
15	18.50	15.60	589	48	9.85	10.51	619	42	6.28	6.66	628
18	18.10	15.53	589	51	9.49	10.32	619	43	6.10	6.65	629
21	17.71	15.00	595	54	9.05	9.71	621				
24	17.16	14.52	600	57	8.80	9.23	621				
27	15.99	13.47	606	60	8.56	9.02	622				

Meter Type and ID Number(s) Hydrolab Surveyor 3

Water Samples

Depth of Integrated Water Sample 1 m or ft SLH Field Number FRE1

Amount filtered for chlorophyll 300 mLs FRE2 45'

Comments / Observations