DEPARTMENT OF NATURAL RESOURCES
LAKE SURVEY

FIELD # NOR

DATE 3-1-76

TIME 13:05

LAKE NORTH LAKE COUNTY WAUPACA TN 24N R 11E SEC. 11

SAMPLE LOCATION DEEPEST AREA SEE MAP

WIND DIR. & INTEN. NE 15-25

CLOUD COVER HEAVY

WATER SURF. COND. ICE

TURBIDITY .6 JTU

SAMPLE DEPTH 1 METER

SAMPLE TYPE

SAMPLE VOLUME

CHLORO. a

BIOMASS

PRESERVATIVE/CONC.

FIELD REMARKS:

LAB DATA

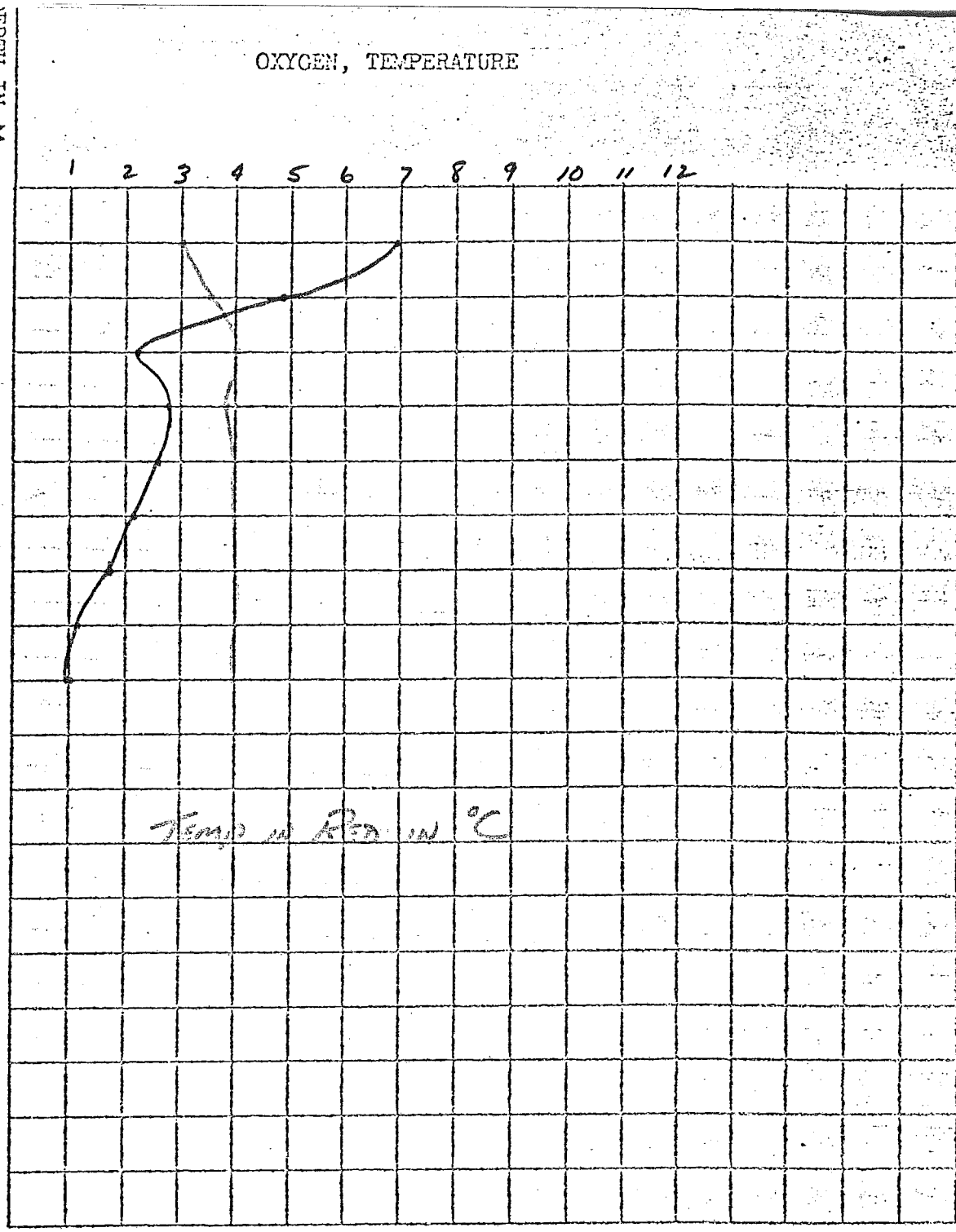
TOT. ALKALINITY ($CaCO_3$)	164	TOT. - P	.008
HARDNESS (AS $CaCO_3$)	174	SOL. - P	.005
		TOT. ORG. - N	.34
CHLOROPHYLL a		AMMONIA - N	.35
BIOMASS - VOL SOLIDS		NO_2-N+NO_3-N	.31
Ca	33.	K	1.3
Mg	21.	SO_4	6.
Na	2.	Cl^-	1.

COLLECTED BY DH JKH

EPTH	TEMP.	O_2
1	3.0	6.9
2	3.5	4.8
3	4.0	2.3
4	3.8	2.8
5	4.0	2.6
6	4.0	2.2
7	4.0	1.7
8	4.0	1.2
9	4.0	1.0

DEPTH IN METERS

OXYGEN, TEMPERATURE



FIELD DATA

CONDUCTIVITY 294

pH 7.2

SECCHI DISK

MAXIMUM DEPTH

COLLECTION DATE

DEPTH

DEPTH 1 METER

35 FEET

3-1-76

LOCATION	DATE	TIME	DEPTH	LAB-SLIP-#	END-DATE	END-TIME
693026	760301	1305	M001	057317		
	NORTH LAKE					

TEST-#	STORET-#	TEST--NAME--AND--UNITS			TEST-VALUE
		EXTRA INFORMATION ABOUT SAMPLE: HELF			
		EXTRA INFORMATION ABOUT SAMPLE: NOR			
131	00010	WATER	TEMP	CENT	3.0
091	00300	DO		MG/L	6.9
096	00400	PH		SU	7.2
032	00916	CALCIUM	CA-TOT	MG/L	33
076	00927	MGNSIUM	MG,TOT	MG/L	21
101	00937	PTSSIUM	K,TOT	MG/L	1.3
113	00929	SODIUM	NA,TOT	MG/L	2
116	00945	SULFATE	SO4-TOT	MG/L	6
097	00403	LAB	PH	SU	8.0
100	00665	PHOS-TOT		MG/L P	.008
136	00671	PHOS-DIS	ORTHO	MG/L P	.005
088	00605	ORG N	N	MG/L	.34
086	00610	NH3-N	TOTAL	MG/L	.35
085	00630	NO2&NO3	N-TOTAL	MG/L	.31
002	00410	T ALK	CACO3	MG/L	164
035	00940	CHLORIDE	CL	MG/L	1
114	00095	CNDUCTVY	AT 25C	MICROMHO	294
068	00900	TOT HARD	CACO3	MG/L	174
119	00076	TURB	TRBIDMTR	HACH FTU	.6

Department of Natural Resources — SURFACE WATER CHEMISTRY & BACTERIOLOGY — FORM 3200-35

Collected By HELF — Field No. NOR — Basin No. 112 — Sta. Est. Form Required Yes ☐ No ☒

Misc. Sample Only

Sample Description NORTH LAKE - DEEPEST AREA

BOD Estimate _____ MFFCC Estimate _____

Send Report To:

Name UNR

Address PO 3600

City, State, Zip Code GREEN BAY, WIS 54303

Shaded Areas for Lab Use Only

Primary Sta. No. 693026

Collection Date 76 03 01 (Y Y M M D D)

Time (24 Hr. Clock) 13:05

Depth of Sample O-Surface W (F or M) 1

131	Temp (°C) Field	3.0	☐ 025	BOD-5 Tot.		
091	DO Field	6.9	☐ 194	MFFCC*		
096	pH (su) Field	7.2	☐ 097	pH (su) Lab.		
128	Flow cfs		☐ 138	Tot. Solids		
122	Secchi Depth (Meters)		☐ 107	Vol. Tot. Solids		
133	Cloud Cover		☐ 106	Susp. Solids		
			☐ 109	Vol. Susp. Solids		
☒ 032	Calcium	33	☒ 100	Tot.-P	.008	
☒ 076	Magnesium as	21	☒ 136	Sol.-P	.005	
☒ 101	Potassium	1.3	☒ 088	Tot. Org-N	.34	
☒ 113	Sodium	2	☒ 086	Ammonia-N	.35	
☒ 116	Sulfates	6	☒ 085	NO_2 - N + NO_3 - N	.31	
☐			☒ 002	Tot. Alkalinity (as $CaCO_3$)	164	
☐			☒ 035	Chlorides	1	
☐			☐ 043	Color (su)		
☐			☒ 114	Conductivity (µmhos)	294	
☒ 068	Hardness (as $CaCO_3$)	174				
☒ 119	Turbidity (JTU)	.6				

All analyses reported in mg/1 unless otherwise specified.
*Samples for both water chemistry and water bacteriology should be submitted in separate bottles.

S. L. Johnson, M.D., Director
Wisconsin State Laboratory of Hygiene
Madison, Wisconsin 53706

Date Received MAR 17 1976
Lab. No. 57317

Date Reported MAR 17 1976 - 3

DEPARTMENT OF NATURAL RESOURCES
LAKE SURVEY

FIELD # NOR

DATE 5-11-76

TIME 12:30

LAKE NORTH LAKE COUNTY WAUPACA TN 24N R 11E SEC. 11

SAMPLE LOCATION DEEPEST AREA

WIND DIR. & INTEN. NNW VAR - MOD TO MOD HIGH SAMPLE TYPE KEMMER

CLOUD COVER SUNNY SAMPLE VOLUME

WATER SURF. COND. 0-1 FEET CHLORO. a

TURBIDITY .90 BIOMASS

SAMPLE DEPTH 5 METERS PRESERVATIVE/CONC.

FIELD REMARKS:

LAB DATA

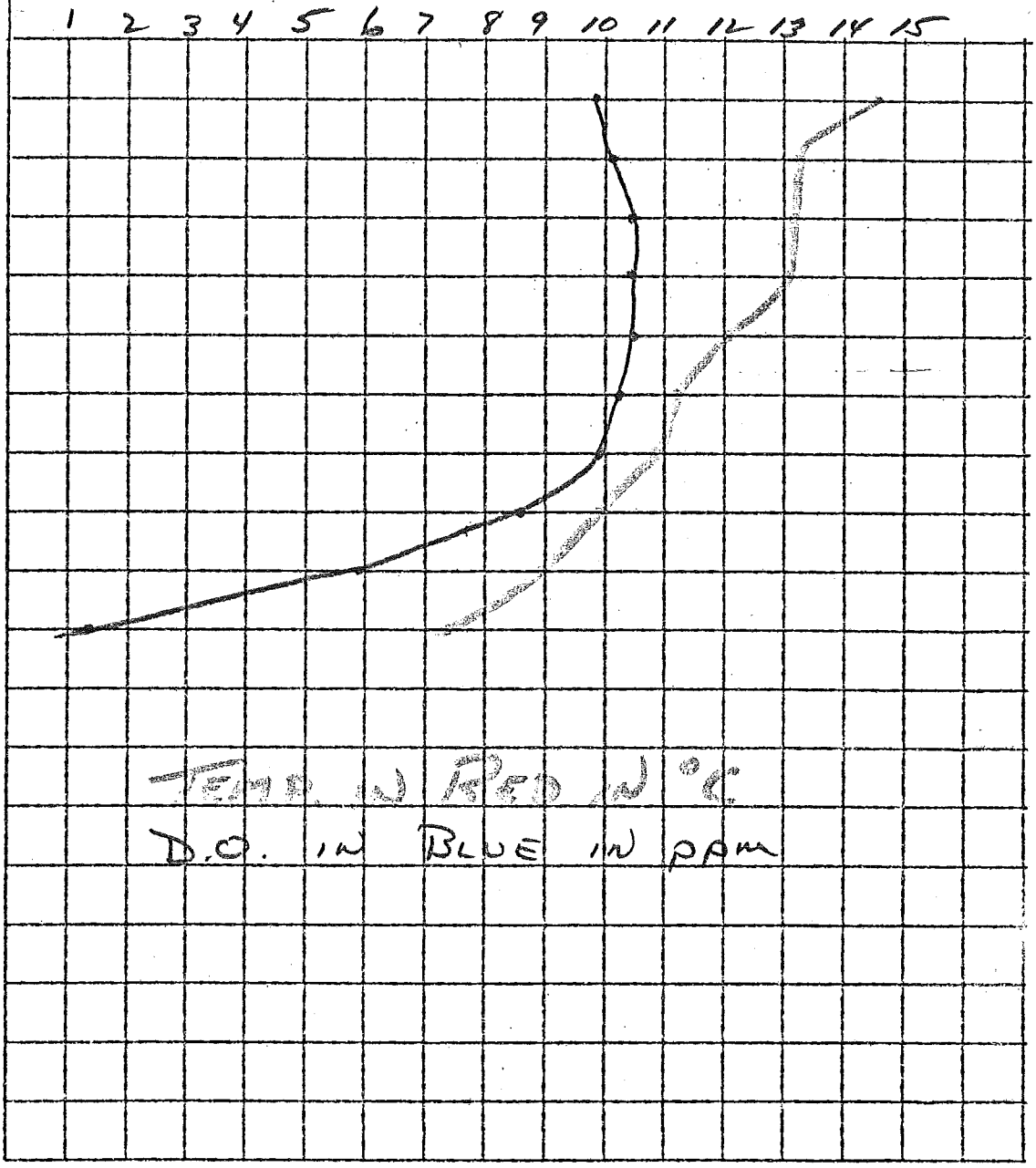
TOT. ALKALINITY ($CaCO_3$)	174	TOT. - P	.024
HARDNESS (AS $CaCO_3$)	182	SOL. - P	.006
		TOT. ORG. - N	.46
CHLOROPHYLL a		AMMONIA - N	.12
BIOMASS - VOL SOLIDS		NO_2-N+NO_3-N	.09
Ca	38.	K	1.2
Mg	21.	SO_4	7.
Na	2.	Cl^-	1.

COLLECTED BY ORH, KFH

DEPTH	TEMP.	O_2
1	14.6	9.8
2	13.3	10.1
3	13.2	10.4
4	13.1	10.4
5	12.0	10,5
6	11.2	10.3
7	10.8	9.9
8	9.9	8.6
9	8.9	5.9
10	7.4	1.4

DEPTH IN M

OXYGEN, TEMPERATURE



FIELD DATA

CONDUCTIVITY 328 DEPTH 5 METERS

pH 8.2 DEPTH 8 " "

SECCHI DISK 3¼ METERS

MAXIMUM DEPTH 33 FEET

COLLECTION DATE 5-11-76

Department of Natural Resources — SURFACE WATER CHEMISTRY & BACTERIOLOG
FORM 3200-35

Collected By	Field No.	Basin No.	Sta. Est. Form Required
999 HELF Misc. Sample Only	NOR	112	Yes ☐ No ☒

Sample Description: NORTH LAKE - DEEPEST AREA (LAKE SURVEY)

BOD Estimate _____ MFFCC Estimate _____

Send Report To:

Name	Department of Natural Resources
Address	P. O. Box 3600
City, State, Zip Code	Green Bay, Wisconsin 54303

Shaded Areas for Lab Use Only: 0814440

Primary Sta. No.: 693026

Collection Date: 76 05 11 (Y Y M M D D)

Time (24 Hr. Clock): 12:30

Depth of Sample O-Surface: M (F or M) 5

131	Temp (°C) Field	12.0
091	DO Field	10.5
006	pH (su) Field	8.2
120	Flow cfs	
132	Secchi Depth (Meters)	3.25
133	Cloud Cover	
☒ 032	Calcium	38
☒ 076	Magnesium	21
☒ 101	Potassium	1.2
☒ 113	Sodium	2
☒ 116	Sulfates	1
☐		

☐ 026	BOD-5 Tot.	
☐ 134	MFFCC*	
☒ 097	pH (su) Lab.	8.
☐ 130	Tot. Solids	
☐ 107	Vol. Tot. Solids	
☐ 106	Susp. Solids	
☐ 109	Vol. Susp. Solids	
☒ 100	Tot.-P	.02
☒ 136	Sol.-P	.001
☒ 089	Tot. Org-N	.46
☒ 086	Ammonia-N	.1
☒ 095	NO_2 - N + NO_3 - N	.09
☒ 002	Tot. Alkalinity (as $CaCO_3$)	174
☒ 035	Chlorides	1
☐ 043	Color (su)	
☒ 114	Conductivity (μmhos)	328
☒ 068	Hardness (as $CaCO_3$)	182
☒ 119	Turbidity (JTU)	.90
☐		
☐		
☐		

All analyses reported in mg/1 unless otherwise specified.
*Samples for both water chemistry and water bacteriology should be submitted in separate bottles.

Date Received MAY 1276 71723

Lab. No.

S. L. Inhorn, M.D., Director
Wisconsin State Laboratory of Hygiene
Madison, Wisconsin 53706

Date Reported MAY 26 1976 - 3

DEPARTMENT OF NATURAL RESOURCES
LAKE SURVEY

FIELD # NOR

DATE 7-8-76

TIME 12:45

LAKE North Lake COUNTY Waupaca TN 24 R 11E SEC. 11

SAMPLE LOCATION Deepest Area

WIND DIR. & INTEN. _____ SAMPLE TYPE Kemmer

CLOUD COVER Scattered SAMPLE VOLUME _____

WATER SURF. COND. _____ CHLORO. a _____

TURBIDITY _____ BIOMASS _____

SAMPLE DEPTH 6 m PRESERVATIVE/CONC. _____

FIELD REMARKS:

LAB DATA

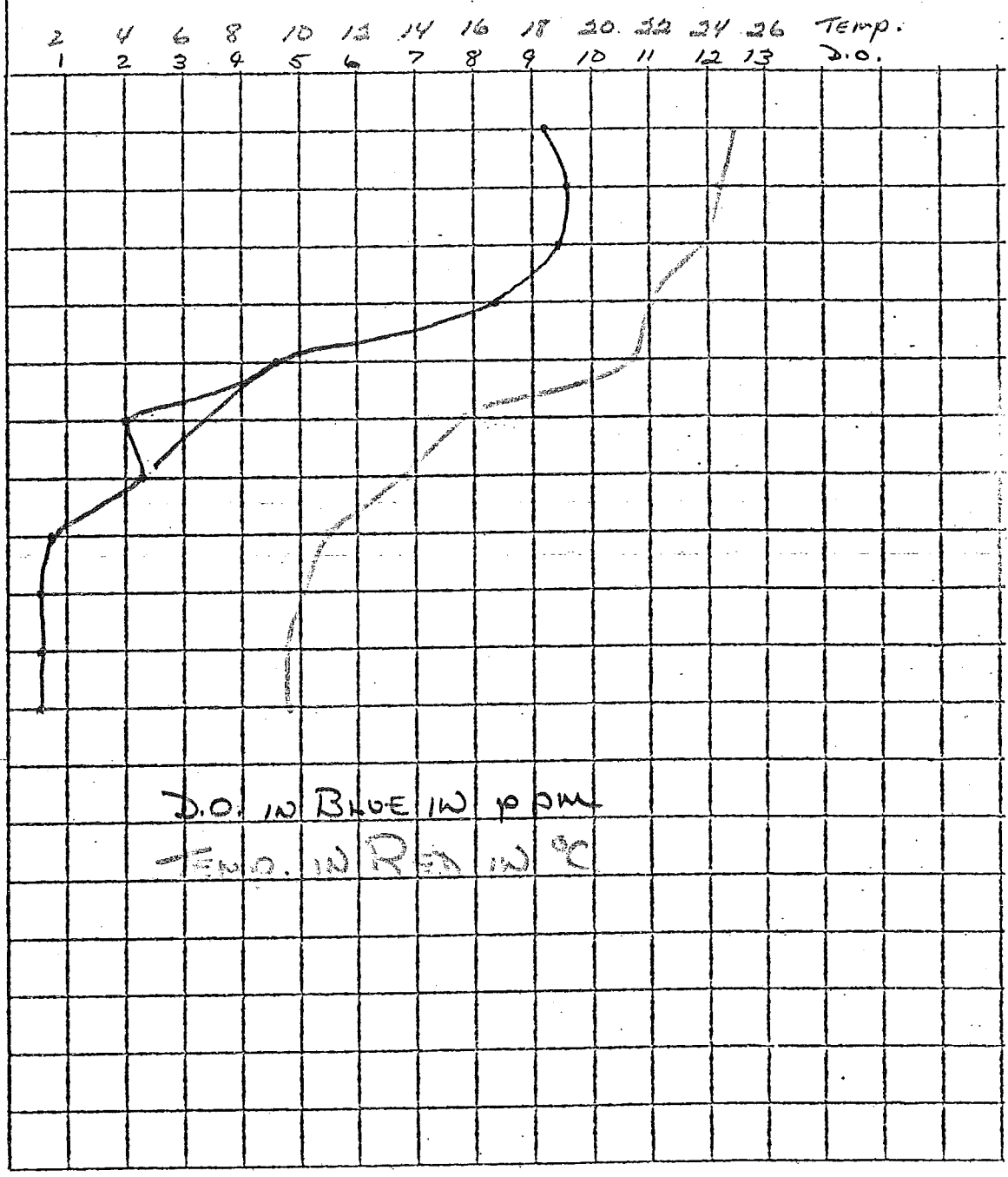
TOT. ALKALINITY ($Ca\ CO_3$)	166	TOT. - P	.02
HARDNESS (AS $Ca\ CO_3$)	172	SOL. - P	.005
		TOT. ORG. - N	.55
CHLOROPHYLL a		AMMONIA - N	.11
BIOMASS - VOL SOLIDS		NO_2-N+NO_3-N	<.02
Ca	32.	K	1.
Mg	22.	SO_4	6.
Na	2.	Cl^-	1.

COLLECTED BY DRH, RS

DEPTH	TEMP.	O_2
1	25	9.3
2	24.5	9.6
3	23.8	9.5
4	22.0	8.4
5	19.3	4.6
6	15.5	2.0
7	13.5	2.3
8	11.0	.7
9	10.0	.6
10	9.3	.6
11	9.5	.6

DEPTH IN METERS

OXYGEN, TEMPERATURE



FIELD DATA

CONDUCTIVITY 324

pH 7.6

SECCHI DISK 2.0 m

MAXIMUM DEPTH

COLLECTION DATE

DEPTH

DEPTH

Department of Natural Resources

SURFACE WATER CHEMISTRY & BACTERIOLOGY

FORM 3200-35

Collected By	Field No.	Basin No.	Sta. Est. Form Required
999 HELF Misc. Sample Only	NOR	112	Yes ☐ No ☒

Sample Description: NORTH LAKE - DEEPEST AREA (LAKE SURVEY)

BOD Estimate _____ MFFCC Estimate _____

Send Report To:

Name: Department of Natural Resources

Address: P. O. Box 3600

City, State, Zip Code: Green Bay, Wisconsin 54303

Shaded Areas for Lab Use Only: 081440

Primary Sta. No.: 693026

Collection Date: 760708 (Y Y M M D D)

Time (24 Hr. Clock): 12:45

Depth of Sample O-Surface: F or M: M — 6

131	Temp (°C) Field	15.5
091	DO Field	2.0
090	pH (su) Field	7.6
129	Flow cfs	
132	Secchi Depth (Meters)	2.0
133	Cloud Cover	
☒ 032	Calcium	32
☒ 076	Magnesium	22
☒ 101	Potassium	1
☒ 113	Sodium	2
☒ 116	Sulfates	6
☐		

☐ 020	BOD-5 Tot.	
☐ 134	MFFCC*	
☒ 097	pH (su) Lab.	8.0
☐ 130	Tot. Solids	
☐ 107	Vol. Tot. Solids	
☐ 106	Susp. Solids	
☐ 109	Vol. Susp. Solids	
☒ 100	Tot.-P	.02
☒ 136	Sol.-P	.005
☒ 088	Tot. Org-N	.55
☒ 086	Ammonia-N	.11
☒ 085	NO_2 - N + NO_3 - N	<.02
☒ 002	Tot. Alkalinity (as $CaCO_3$)	168
☒ 035	Chlorides	1
☐ 013	Color (su)	
☒ 114	Conductivity (μmhos)	324
☒ 068	Hardness (as $CaCO_3$)	172
☒ 119	Turbidity (JTU)	1.5
☐		
☐		
☐		

All analyses reported in mg/1 unless otherwise specified.

*Samples for both water chemistry and water bacteriology should be submitted in separate bottles.

Date Received: JUL 976 01858

Lab. No.: _____

Date Reported: JUL 22 76

S. L. Inhorn, M.D., Director
Wisconsin State Laboratory of Hygiene

DEPARTMENT OF NATURAL RESOURCES
LAKE SURVEY

FIELD # NoR

DATE 11-1-76

TIME 13:00

LAKE North Lake COUNTY Waupaca TN 24N R 11E SEC. 11

SAMPLE LOCATION Deepest Area

WIND DIR. & INTEN. _____ SAMPLE TYPE Kemmer

CLOUD COVER _____ SAMPLE VOLUME _____

WATER SURF. COND. _____ CHLORO. a _____

TURBIDITY 1.0 Jtu BIOMASS _____

SAMPLE DEPTH 4 Meters PRESERVATIVE/CONC. _____

FIELD REMARKS:

All Cold

Waterfowl

LAB DATA

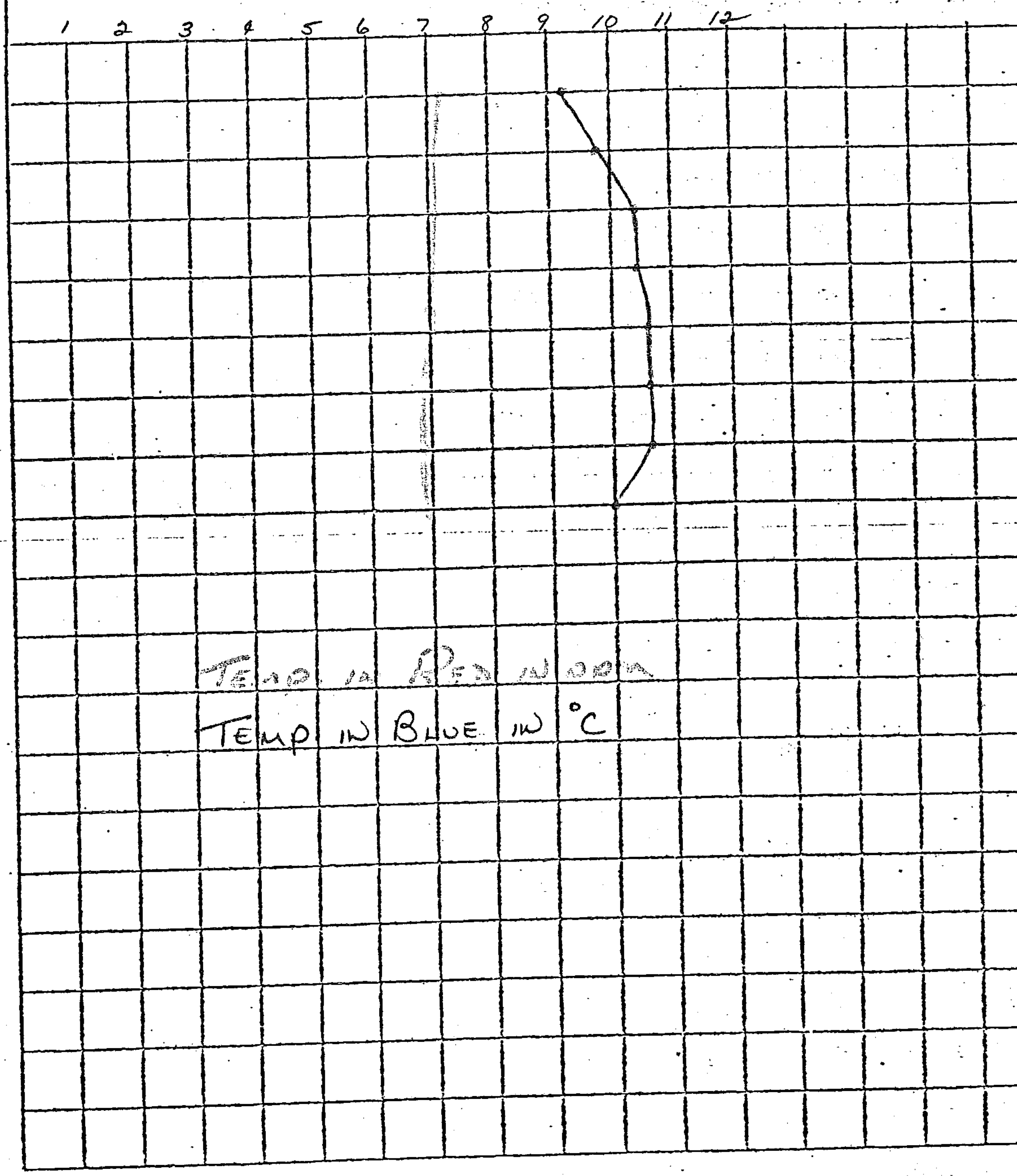
TOT. ALKALINITY (Ca CO_3)	168	TOT. - P	.02
HARDNESS (AS Ca CO_3)	178	SOL. - P	.006
		TOT. ORG. - N	.71
CHLOROPHYLL a		AMMONIA - N	.19
BIOMASS - VOL SOLIDS		NO_2-N+NO_3-N	.04
Ca	32.	K	1.3
Mg	24.	SO_4	6.
Na	3.	Cl^-	3.

COLLECTED BY _____

DEPTH	TEMP.	O_2
1	7.2	[illegible]
2	7.1	9.7
3	7.1	10.4
4	7.0	10.4
5	7.0	10.6
6	6.9	10
7	6.9	10.6
8	6.9	10.8

DEPTH IN METERS

OXYGEN, TEMPERATURE



FIELD DATA

CONDUCTIVITY 297 DEPTH METERS

pH 7.2 DEPTH "

SECCHI DISK 4 m "

MAXIMUM DEPTH 35 FEET

COLLECTION DATE

Department of Natural Resources

SURFACE WATER CHEMISTRY & BACTERIOLOGY

FORM 3200-35

Collected By	Field No.	Basin No.	Sta. Est. Form Required
999 AELF Misc. Sample Only	NOR	112	Yes ☐ No ☒

Sample Description: NORTH LAKE (LAKE SURVEY)

BOD Estimate _____ MFFCC Estimate _____

Send Report To:

Name: Department of Natural Resources
Address: P. O. Box 3600
City, State, Zip: Green Bay, Wisconsin 54303

Shaded Areas for Lab Use Only: 081440

Primary Sta. No.: 693026

Collection Date: 76 11 01 (Y Y M M D D)

Time (24 Hr. Clock): 13:00

Depth of Sample O-Surface: M (F or M) 4m

131	Temp (°C) Field	7.0
091	DO Field	10.4
096	pH (su) Field	7.3
128	Flow cfs	
132	Secchi Depth (Meters)	4.0
133	Cloud Cover	
☒ 032	Calcium	32
☒ 076	Magnesium	24
☒ 101	Potassium	1.3
☒ 113	Sodium	3
☒ 116	Sulfates	6
☐		

☐ 026	BOD-5 Tot.	
☐ 134	MFFCC*	
☒ 097	pH (su) Lab.	8.0
☐ 138	Tot. Solids	
☐ 107	Vol. Tot. Solids	
☐ 100	Susp. Solids	
☐ 109	Vol. Susp. Solids	
☒ 100	Tot.-P	.02
☒ 136	Sol.-P	.006
☒ 008	Tot. Org-N	.71
☒ 086	Ammonia-N	.19
☒ 085	NO_2 - N + NO_3 - N	.04
☒ 002	Tot. Alkalinity (as $CaCO_3$)	168
☒ 035	Chlorides	3
☐ 043	Color (su)	
☒ 114	Conductivity (μmhos)	297
☒ 068	Hardness (as $CaCO_3$)	178
☒ 119	Turbidity (JTU)	1.0
☐		
☐		
☐		

All analyses reported in mg/1 unless otherwise specified.
*Samples for both water chemistry and water bacteriology should be submitted in separate bottles.

S. L. Inhorn, M.D., Director
Wisconsin State Laboratory of Hygiene
Madison, Wisconsin 53706

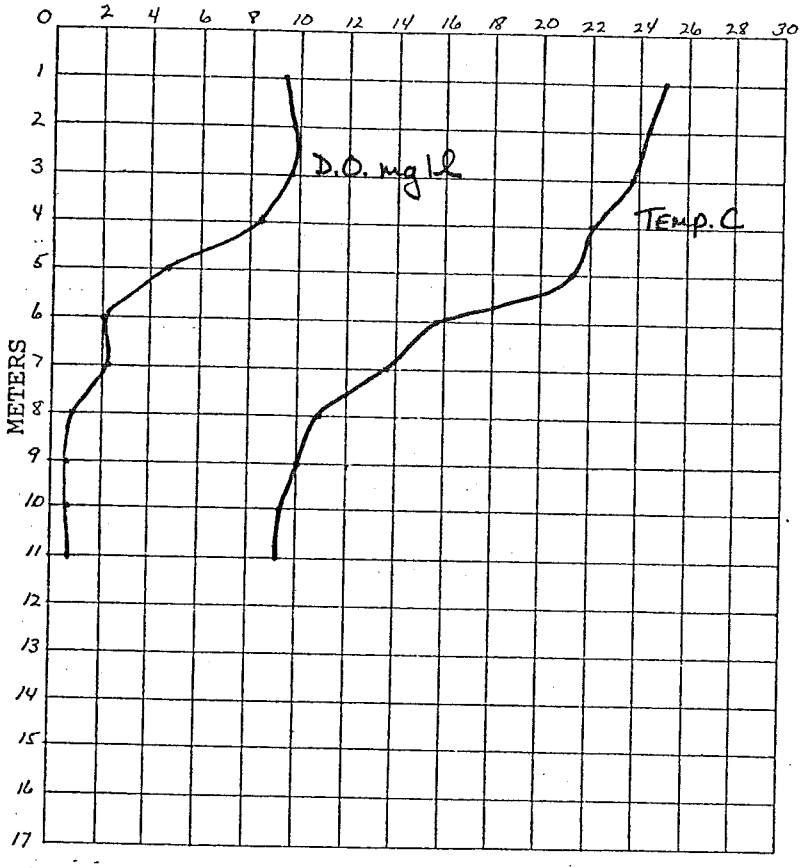
Date Received: Nov 27 76

Lab. No.: 32559

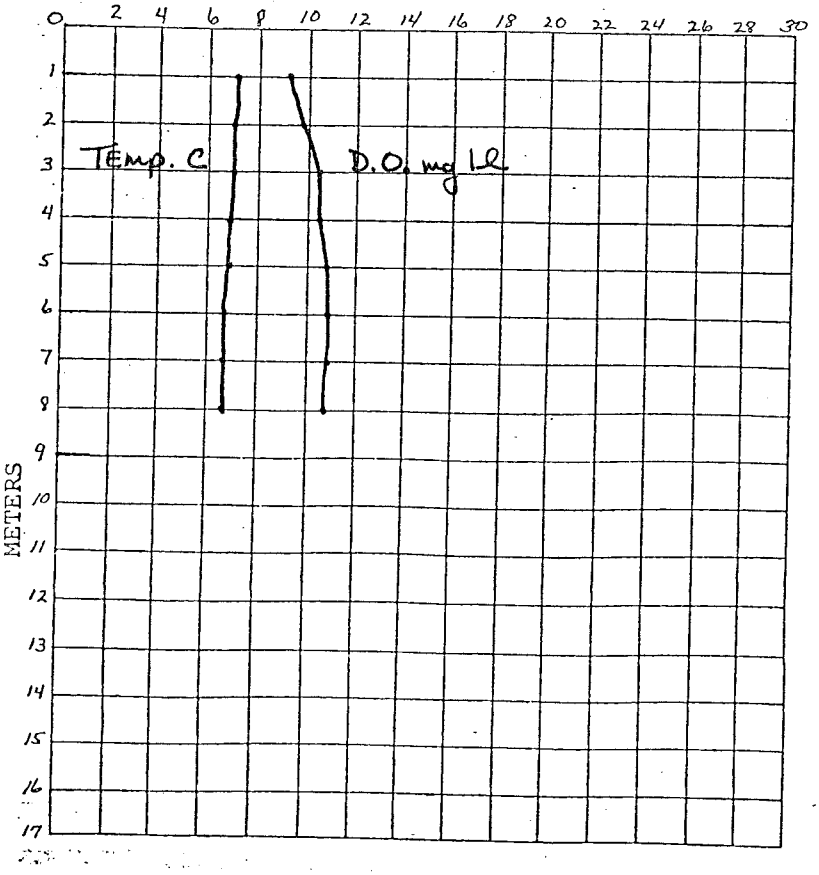
Date Reported: NOV 17 1976

Lake Name: NORTH LAKE - Waupaca Co.

Conducted By Lake Michigan District Staff



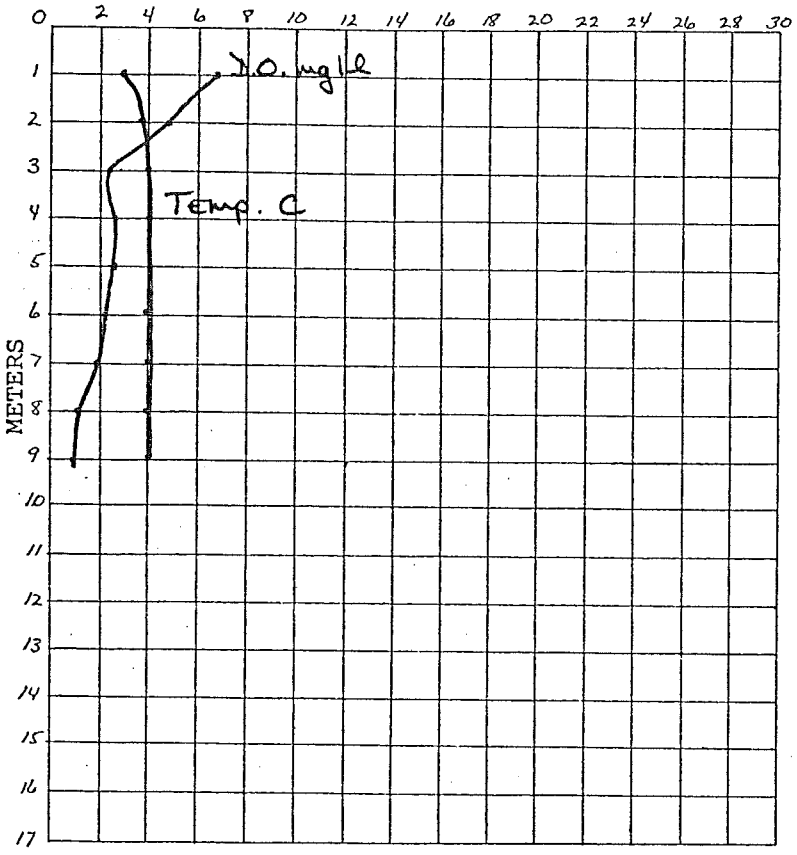
Date:	7-8-76
Sample Depth	6 meters
pH	8.0 su
Calcium	32 mg/l
Magnesium	22 mg/l
Potassium	1 mg/l
Sodium	2 mg/l
Chloride	1 mg/l
Sulfate	6 mg/l
Phosphorus-total	.02 mg/l
Phosphorus-ortho	.005 mg/l
Nitrogen-organic	.55 mg/l
NH_3-N	.11 mg/l
NO_2+NO_3-N	<.02 mg/l
Alkalinity (as $CaCO_3$)	166 mg/l
Conductivity	324 uhmos
Hardness (as $CaCO_3$)	172 mg/l
Turbidity	1.5 JTV
Secchi	2.0 m



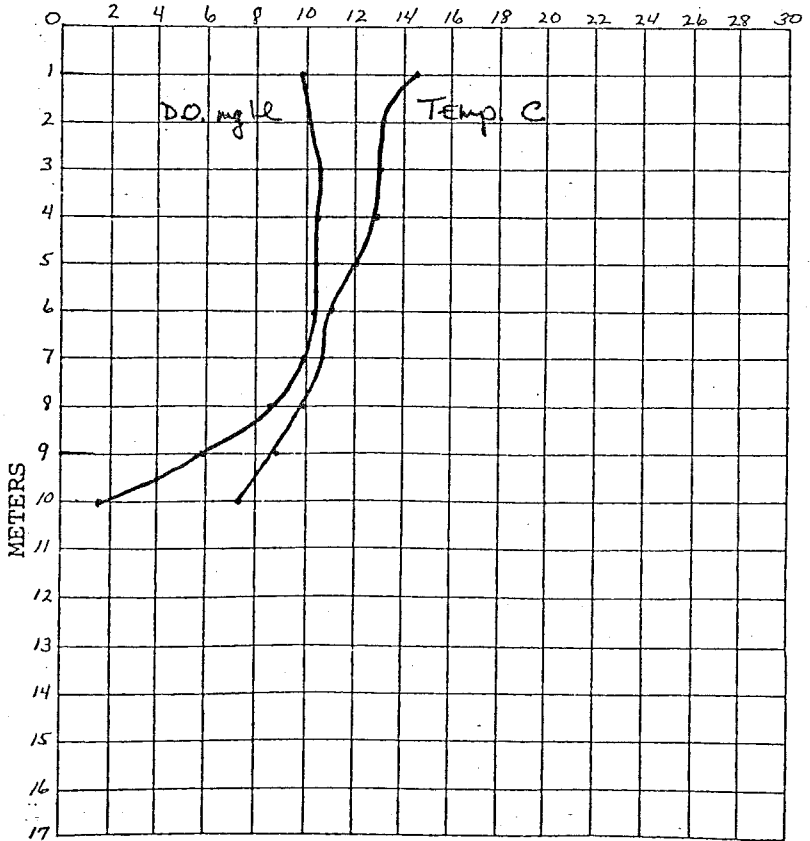
Date:	11-1-76
Sample Depth	4 meters
pH	8.0 su
Calcium	32 mg/l
Magnesium	24 mg/l
Potassium	1.3 mg/l
Sodium	3 mg/l
Chloride	3 mg/l
Sulfate	6 mg/l
Phosphorus-total	.02 mg/l
Phosphorus-ortho	.006 mg/l
Nitrogen-organic	.71 mg/l
NH_3-N	.19 mg/l
NO_2+NO_3-N	.04 mg/l
Alkalinity (as $CaCO_3$)	168 mg/l
Conductivity	297 uhmos
Hardness (as $CaCO_3$)	178 mg/l
Turbidity	1.0 JTV

Lake Name: NORTH LAKE - WAUPACA CO.

Conducted By Lake Michigan District Staff



Date:	3-1-76	
Sample Depth	1	meters
pH	8.0	su
Calcium	33	mg/l
Magnesium	21	mg/l
Potassium	1.3	mg/l
Sodium	2	mg/l
Chloride	1	mg/l
Sulfate	6	mg/l
Phosphorus-total	.008	mg/l
Phosphorus-ortho	.005	mg/l
Nitrogen-organic	.34	mg/l
NH_3-N	.35	mg/l
NO_2+NO_3-N	.31	mg/l
Alkalinity (as $CaCO_3$)	164	mg/l
Conductivity	294	uhmos
Hardness (as $CaCO_3$)	174	mg/l
Turbidity	.6	JTV



Date:	5-11-76	
Sample Depth	5	meters
pH	8.3	su
Calcium	38	mg/l
Magnesium	21	mg/l
Potassium	1.2	mg/l
Sodium	2	mg/l
Chloride	1	mg/l
Sulfate	7	mg/l
Phosphorus-total	.024	mg/l
Phosphorus-ortho	.006	mg/l
Nitrogen-organic	.46	mg/l
NH_3-N	.12	mg/l
NO_2+NO_3-N	.09	mg/l
Alkalinity (as $CaCO_3$)	174	mg/l
Conductivity	328	uhmos
Hardness (as $CaCO_3$)	182	mg/l
Turbidity	.90	JTV