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ANALYST: S. M. Usman
DATE SAMPLED: September 14, 1970
TIME: 10:00 - 3:00
LOCATION: Tyrone Township
NAME OF LAKE: Runyon Lake
DATE OF ANALYSIS: September 16, 17, 18, 1970
METHOD OF ANALYSIS: 1. Hach Method (Quick Method)
2. Standard Method
i, Chloride - Mercuric Nitrate Method
Standard Methods for Examination of Water and Waste Water 12th Edition, 87-89.
ii, Phosphate - Chlorostanuous Reduced Molybdophosphoric Blue Color Method, in Sulfuric Acid System Method I. Soil Chem. Analysis (Jackson, M. L.); 141-144 (1964).
iii, Rapid Method for Nitrate Determination (Agr. Food Chem. 15:359-61)

SITE OF SAMPLING	HACH METHOD			STANDARD METHOD		
	Cl^- ppm	$PO^{=}_4$ ppm	NO^-_3 ppm	Cl^- ppm	$PO^{=}_4$ ppm	NO^-_3 ppm
R_1 = Inlet (small creek) wooded area	22.88	0-2	0-.1	8.42	0.017	0.194
R_2 = Ditch - cottages in vicinity	22.88	0-2	0-.1	19.00	0.072	0.194
R_3 = Inlet (small creek)	22.88	0-2	0-.1	8.42	0.066	0.350
R_4 = Outlet - sample taken from other side of the road	22.88	0-2	0-.1	14.59	0.045	0.156
R_5 = Steepy slope - many cottages	22.88	0-2	0-.1	14.59	0.111	0.168
R_6 = Inlet (small creek) wooded area and cottages in vicinity	22.88	0-2	0-.1	10.42	0.094	0.271
R_7 = Lagoon - just at its mouth - cottages in vicinity	22.88	0-2	0-.1	19.80	0.048	0.168
R_8 = Inlet (small creek) wooded area and cottages in vicinity	22.88	0-2	0-.1	5.21	0.033	0.245
R_9 = Inlet (small creek) wooded area and cottages in vicinity	22.88	0-2	0-.1	12.50	0.063	0.297
R_{10} = Inlet (small creek) - a few cottages in vicinity	22.88	0-2	0-.1	16.67	0.409	1.000

RESEARCHER: S. M. Usman
LAKE: Runyon

Presumptive Test for E. Coli Bacteria

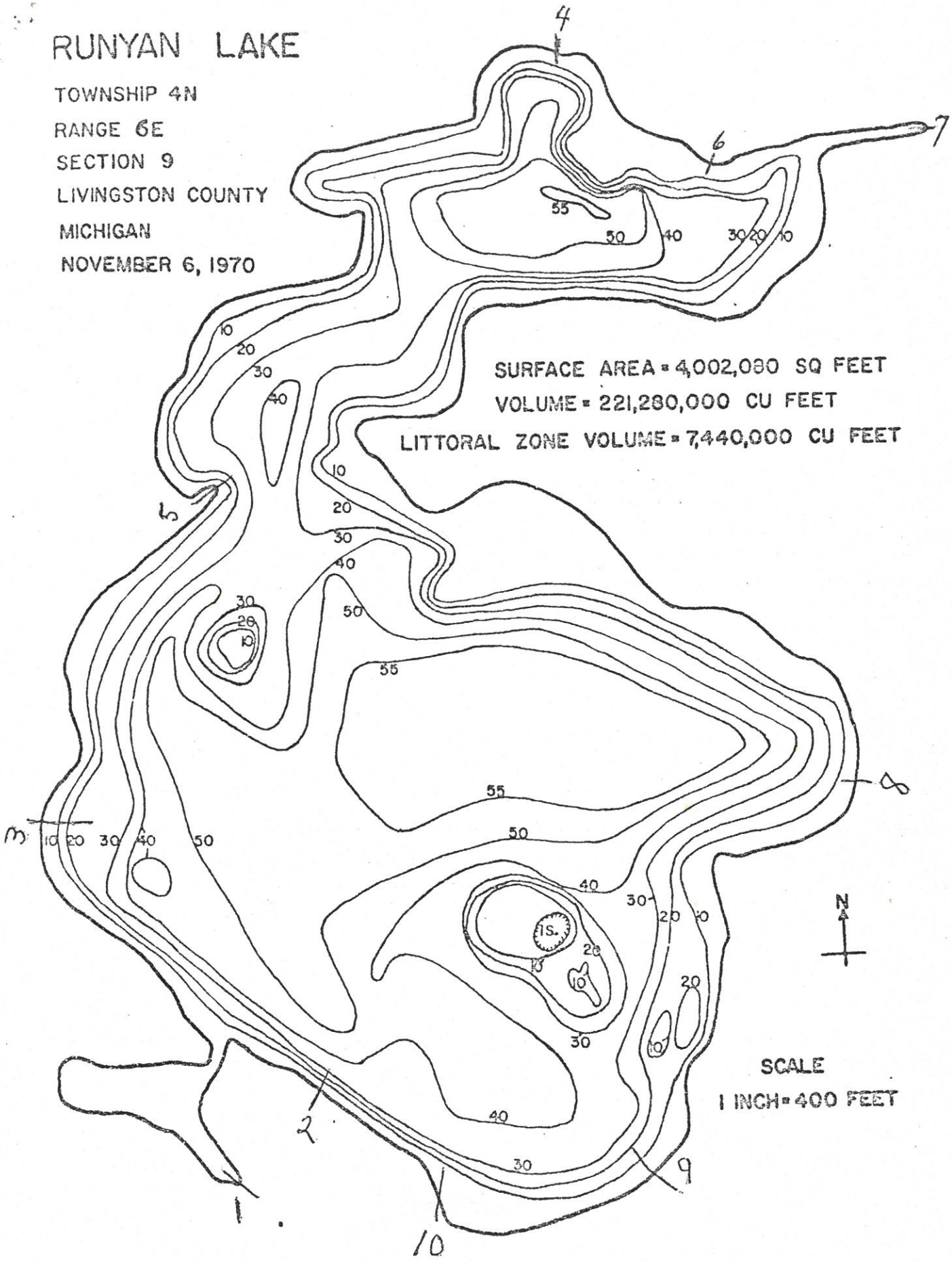
Multiple Tube Fermentation Technique
Standard Methods for the Examination of Water and Waste Water, 12th Edition, 594-609.

SAMPLED DATE: September 14, 1970 TIME: 10:00 - 3:00
RUN DATE: September 15, 1970 TIME: 8:00
READ DATE: September 17, 1970 TIME: 8:00

SITE OF SAMPLING	DILUTION 10^0	10^{-1}	10^{-2}	10^{-3}	MPN/100 ML
R_1 = Inlet (small creek)wooded	3	1	0	0	43 x 10 = 430
R_2 = Ditch - cottages in vicinity	3	3	1	0	460 x 10 = 4,600
R_3 = Inlet (small creek)	1	0	0	0	4 x 10 = 40
R_4 = Outlet - sample taken from the other side of the road	3	2	0	0	93 x 10 = 930
R_5 = Steepy Slope - many cottages	2	1	0	0	
R_6 = Inlet (small creek) wooded area and cottages in vicinity	3	3	2	0	1,100 x 10 = 11,000
R_7 = Lagoon - just at its mouth - cottages in vicinity	3	3	1	1	460 x 10 = 4,600
R_8 = Inlet (small creek) wooded area and cottages in vicinity	3	3	1	0	460 x 10 = 4,600
R_9 = Inlet (small creek) wooded area and cottages in vicinity	3	3	2	1	150 x 10^2 = 15,000
R_{10} = Inlet (small creek) a few cottages in vicinity	3	3	3	3	1,100 x 10^3 = 1100,000 over

RUNYAN LAKE

TOWNSHIP 4N
RANGE 6E
SECTION 9
LIVINGSTON COUNTY
MICHIGAN
NOVEMBER 6, 1970



SURFACE AREA = 4,002,080 SQ FEET
VOLUME = 221,280,000 CU FEET
LITTORAL ZONE VOLUME = 7,440,000 CU FEET

SCALE
1 INCH = 400 FEET