WORKING PAPER NO. 58

# DETROIT RESERVOIR WATER QUALITY DATA REPORT
June 1965--December 1965

DISTRIBUTION

Prepared by GLB

Reviewed by RJC

Approved by JLA

Project Staff _____

Cooperating Agencies _____

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Federal Water Pollution Control Administration
Pacific Northwest

570 Pittock Block
Portland, Oregon 97205

January 1966

This working paper contains preliminary data and information primarily intended for internal use by the Columbia River Basin Project staff and cooperating agencies. The material presented in this paper has not been fully evaluated and should not be considered as final.

# DETROIT RESERVOIR WATER QUALITY DATA REPORT
June 1965 - December 1965

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Federal Water Pollution Control Administration, Pacific Northwest

570 Pittock Block
Portland, Oregon 97205

January 1966

# DETROIT RESERVOIR
# WATER QUALITY DATA REPORT
# JUNE 1965--DECEMBER 1965

## I. Introduction

A cooperative water quality study between the Federal Water Pollution Control Administration and the U. S. Army Corps of Engineers was initiated in June 1964. The surveys, conducted on a monthly schedule, were aimed at determining any significant changes in water quality attributed to the effects of storage or the seasonal variance of reservoir operations.

This report contains a description of methods and procedures employed and the raw data collected. Because field investigations are still continuing, no attempt has been made to analyze data to date. A data report for June 1964--May 1965 precedes this report.

## II. Field Procedure

### A. Stations

Present sampling stations (shown in Table 1) are pinpointed by use of a depth indicator and established station identification markers.

Stations 1-7 are sampled from a boat and stations 8-10 are taken from shore.

During late fall and winter, the reservoir drawdown prevents access to boat launching facilities. Only shore samples (stations 8-10) are taken during this period.

### B. Sampling

All sampling on the reservoir is done from a FWPCA boat.

Once on station, a vertical temperature profile was obtained by lowering a (450') bathythermograph to the bottom. The thermocline position together with conductivity readings recorded from a Whitney conductivity - temperature probe determined the depths for collection of chemical samples.

Water samples for chemical analysis were taken by a series of three-liter Van Dorn bottles placed in tandem on a hydrographic wire. Two-quart polyethylene bottles are filled with sample, then frozen on dry ice until time of analysis at the Portland laboratory.

Dissolved oxygen samples were drawn off of the Van Dorn samplers, then dosed and prepared for titration upon completion of the day's sampling.

pH was determined in the field by using a Hellige Model 600-CA color comparitor, or later determined in the laboratory by the use of a Beckman Model-G pH meter.

Light penetration as percent of light remaining was obtained by using a Whitney deck-sea cell, readings being recorded every two feet.

III. Laboratory Procedures

On the run conducted in July and all previous surveys, the chemical analyses were performed in the field using a Hach Model DR-EL field laboratory.

The following analytical methods were used at the Portland laboratory:

Ortho Phosphate--The Stannous chloride method as described in "Standard Methods." 1/

1/ STANDARD METHODS FOR THE EXAMINATION OF WASTE WATER, 11th Edition, APHC, AWWA, WPCF, published by American Public Health Association.

Total Phosphate--The method for total and polyphosphate as described in "Standard Methods." Beginning with the 10-21 samples, a new method was used in the detection of total phosphate. The method, published by Menzel and Corwin (LIMNOLOGY AND OCEANOGRAPHY, Vol. 10, No. 2, April 1965) has superior detection limits and is soon to be accepted in all FWPCA laboratories as routine analytical procedure.

Nitrate--The phenoldisulfonic acid method as found in "Standard Methods."

On all the above determinations, the photometric results were obtained through the use of a Beckman Model-DB spectrophotometer. The readings were made with 1 cm optical cells.

IV. Data Presentation

The data is arranged by each survey with the first survey (6-17-65) in front and proceeding through each survey in sequence. The station data (within each survey section) is arranged by station, starting from the station nearest the dam (1) and working upstream.

The data headings are explained as follows:

Station--Identified as to location, range, etc.

Date--Month, day, year station was occupied.

Time--The local time messenger was released on the most significant cast.

Depth--Descent from surface (in feet) at which sample was obtained.

Temperature--Temperature in $^{o}F$ recorded from bathythermograph slide.

Conductivity--Specific conductance in micromhos per centimeter.

pH--The logarithm of the reciprocal of the hydrogen ion concentration in moles per liter.

DO--Concentration of dissolved oxygen milligrams per liter of water.

DO/% Saturation--Ratio of the amount of oxygen dissolved in the sample, compared to the amount of oxygen necessary to saturate a sample of the same water, as per calculations made by Whipple and Whipple.

TABLE 1
DETROIT RESERVOIR SAMPLING STATIONS
U. S. Public Health Service

| Sta. No. | Location | |
|---|---|---|
| 1 | Corps of Engineers Sedimentation Range D | Log Boom |
| 2 | Corps of Engineers Sedimentation Range G | Above Kinney Creek |
| 3 | Corps of Engineers Sedimentation Range J | Above Blowout Creek |
| 4 | Corps of Engineers Sedimentation Range L | South Channel side off West end Piety Knob |
| 5 | Corps of Engineers Sedimentation Range L | North Channel side off West Piety Knob |
| 6 | Corps of Engineers Sedimentation Range P | Beginning of pool backup on Breitenbush River |
| 7 | Corps of Engineers Sedimentation Range W | Beginning of pool backup on North Santiam River |
| 8 | U. S. Geological Survey Gaging Station | Upstream approximately 4 miles on Breitenbush River |
| 9 | Idahna Bridge | Upstream on North Santiam River at Idahna Bridge |
| 10 | Tailrace | Taken off concrete approach near powerhouse |

All sampling points located at midchannel of station.

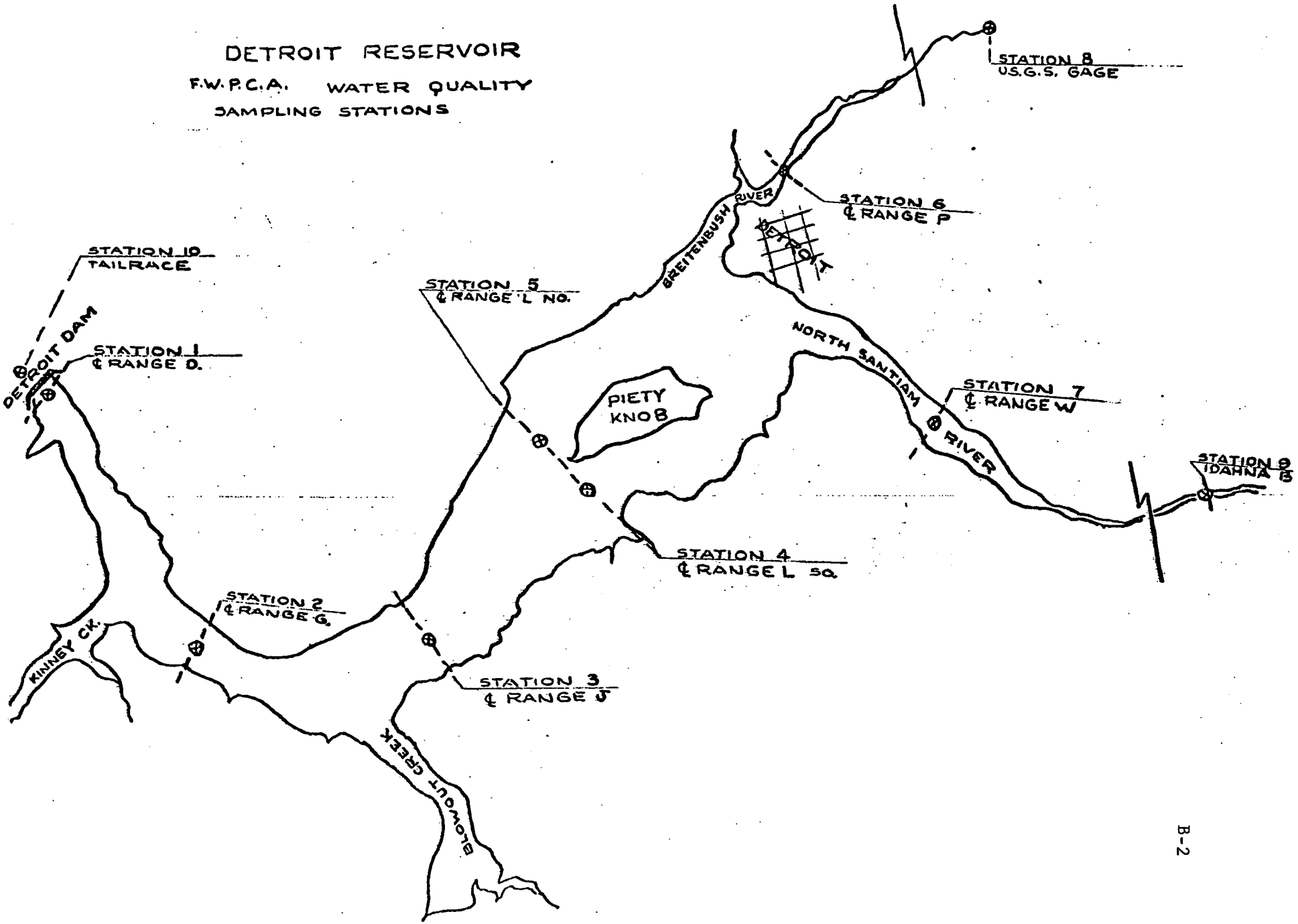
# DETROIT RESERVOIR WATER QUALITY DATA REPORT
June 17-18, 1965

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Federal Water Pollution Control Administration, Pacific Northwest

570 Pittock Block
Portland, Oregon 97205

November 1965


DETROIT RESERVOIR
F.W.P.C.A. WATER QUALITY
SAMPLING STATIONS
STATION 8
U.S.G.S. GAGE
STATION 6
℄ RANGE P
BREITENBUSH RIVER
DETROIT
STATION 10
TAILRACE
DETROIT DAM
STATION 1
℄ RANGE D.
STATION 5
℄ RANGE L NO.
PIETY
KNOB
NORTH SANTIAM
RIVER
STATION 7
℄ RANGE W
STATION 9
IDAHNA
STATION 4
℄ RANGE L SO.
STATION 2
℄ RANGE G.
KINNEY CK.
STATION 3
℄ RANGE J
BLOWOUT CREEK

# TABULATED DATA
## DETROIT RESERVOIR, OREGON
## June 17-18, 1965

STATION 1. Log boom: Corps of Engineers Range D.
Time: 1200 Weather: Rain
Date: June 17, 1965 Wind: Calm

| Depth Ft. | Temp. °F | Cond. umho/cm | D.O. mg/1 | D.O. % Sat. | pH | Alkalinity Total | Total Hardness | Phosphate Ortho |
|---|---|---|---|---|---|---|---|---|
| 2 | 55.6 | 24 | | | | | | |
| 5 | 55.4 | 24 | 9.94 | 99 | 6.9 | 16 | 10 | Nil |
| 75 | 52.2 | 22 | 10.44 | 100 | 6.9 | 19 | 21 | 0.04 |
| 150 | 44.2 | 20 | 11.08 | 96 | 6.8 | 16 | 14 | 0.06 |
| 250 | 41.7 | 19 | 11.08 | 93 | 6.6 | 16 | 20 | 0.10 |
| 320 | 41.0 | 18 | 7.46 | 61 | 6.2 | 19 | 24 | 0.60 |

STATION 2. Above Kinney Creek: Corps of Engineers Range G.
Time: 1300 Weather: Cloudy
Date: June 17, 1965 Wind: Calm

| Depth Ft. | Temp. °F | Cond. umho/cm | D.O. mg/1 | D.O. % Sat. | pH | Alkalinity Total | Total Hardness | Phosphate Ortho |
|---|---|---|---|---|---|---|---|---|
| 2 | 57.0 | 25 | | | | | | |
| 5 | 57.0 | 25 | 10.46 | 107 | 6.8 | 18 | 24 | 0.10 |
| 50 | 53.2 | 24 | 9.80 | 101 | 6.7 | 16 | 12 | 0.10 |
| 100 | 50.0 | 22 | 11.10 | 108 | 6.7 | 18 | 20 | 0.08 |
| 200 | 44.2 | 20 | 11.02 | 95 | 6.3 | 16 | 16 | 0.20 |
| 300 | 42.3 | 20 | 10.42 | 88 | 6.4 | 16 | 10 | 0.18 |

STATION 3. Above Blowout Creek; Corps of Engineers Range J.
Time: 1350 Weather: Cloudy
Date: June 17, 1965 Wind: S-15

| Depth Ft | Temp. °F | Cond. Umho/cm | D.O. mg/1 | D.O. % Sat. | pH | Alkalinity Total | Total Hardness | Phosphate Ortho |
|---|---|---|---|---|---|---|---|---|
| 2 | 59.0 | 27 | | | | | | |
| 5 | 58.6 | 27 | 9.72 | 110 | 6.9 | 14 | 12 | 0.10 |
| 50 | 55.0 | 25 | 8.04 | 88 | 6.8 | 14 | 11 | 0.12 |
| 100 | 48.6 | 22 | 10.28 | 106 | 7.6 | 30 | 10 | 0.16 |
| 170 | 44.8 | 21 | 9.24 | 80 | 6.7 | 16 | 12 | 0.20 |
| 230 | 42.6 | 20 | 10.20 | 88 | 6.6 | 16 | 18 | 0.12 |

STATION 4. South Channel off west end Piety Knob; C of E Range L
Time: 0910 Weather: Cloudy
Date: June 18, 1965 Wind: S-10

| Depth Ft. | Temp. °F | Cond. umho/cm | D.O. mg/1 | D.O. % Sat. | pH | Alkalinity Total | Total Hardness | Phosphate Ortho |
|---|---|---|---|---|---|---|---|---|
| 2 | 58.5 | 26 | 9.60 | 99 | 6.8 | 20 | 16 | 0.10 |
| 5 | 58.5 | 26 | | | | | | |
| 50 | 54.7 | 26 | 10.08 | 99 | 6.7 | 18 | 14 | 0.12 |
| 75 | 51.6 | 25 | | | | | | |
| 100 | 48.2 | 22 | 10.70 | 97 | 6.7 | 18 | 14 | 0.08 |
| 150 | 45.7 | 21 | 10.68 | 94 | 6.6 | 20 | 14 | 0.06 |

STATION 5. North Channel off west end Piety Knob; C of E Range L
Time: 0930 Weather: Cloudy
Date: June 18, 1965 Wind: S-15

| Depth Ft. | Temp. °F | Cond. umho/cm | D.O. mg/1 | D.O. % Sat. | pH | Alkalinity Total | Total Hardness | Phosphate Ortho |
|---|---|---|---|---|---|---|---|---|
| 2 | 58.6 | 25 | 9.66 | 99 | 6.8 | 16 | 12 | 0.04 |
| 10 | 58.6 | 25 | | | | | | |
| 50 | 55.4 | 24 | 9.90 | 98 | 6.8 | 18 | 10 | 0.08 |
| 75 | 51.1 | 24 | | | | | | |
| 100 | 47.6 | 22 | 10.50 | 103 | 6.7 | 16 | 20 | 0.10 |
| 150 | 45.3 | 21 | | | | | | |
| 160 | 44.6 | 21 | 10.78 | 93 | 6.0 | 12 | 30 | 0.16 |

STATION 6. Beginning of Pool backup on Breitenbush River; C of E Range P
Time: 1000 Weather: Cloudy
Date: June 18, 1965 Wind: Calm

| Depth Ft. | Temp. °F | Cond. umho/cm | D.O. mg/1 | D.O. % Sat. | pH | Alkalinity Total | Total Hardness | Phosphate Ortho |
|---|---|---|---|---|---|---|---|---|
| 2 | 61.0 | 27 | | | | | | |
| 5 | 61.0 | 27 | 9.50 | 101 | 6.7 | 16 | 22 | 0.10 |
| 10 | 61.0 | 27 | | | | | | |
| 20 | 58.6 | 27 | 9.62 | 99 | 6.7 | 12 | 16 | 0.06 |
| 30 | 58.1 | 27 | 9.90 | 101 | 6.7 | 16 | 20 | 0.02 |

STATION 7. Beginning of Pool backup on North Santiam River; C of E Range W
Time: 0820 Weather: Cloudy
Date: June 18, 1965 Wind: Calm

| Depth Ft. | Temp. °F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Alkalinity Total | Total Hardness | Phosphate Ortho |
|---|---|---|---|---|---|---|---|---|
| 2 | 51.3 | 28 | | | | | | |
| 5 | 51.3 | 28 | 9.90 | 93 | 6.8 | 18 | 12 | 0.08 |
| 10 | 51.4 | 27 | | | | | | |
| 20 | 49.8 | 27 | 10.30 | 96 | 6.8 | 14 | 16 | 0.08 |
| 30 | 49.1 | 27 | 9.89 | 91 | 6.8 | 16 | 16 | 0.06 |

STATION 8. U.S.G.S. Gage; - 2 miles up Breitenbush River
Time: 1600 Weather: Cloudy
Date: June 17, 1965 Wind: Calm

| Depth Ft. | Temp. °F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Alkalinity Total | Total Hardness | Phosphate Ortho |
|---|---|---|---|---|---|---|---|---|
| 2 | 50.0 | | 10.58 | 99 | 6.9 | 14 | 10 | 0.22 |

STATION 9. Idahna Bridge; 5 miles up North Santiam River
Time: 1510 Weather: Cloudy
Date: June 17, 1965 Wind: Calm

| Depth Ft. | Temp. °F | Cond. umho/cm | D.O. mg/1 | D.O. % Sat. | pH | Alkalinity Total | Total Hardness | Phosphate Ortho |
|---|---|---|---|---|---|---|---|---|
| 2 | 50.0 | | 11.35 | 106 | 6.9 | 14 | 16 | 0.16 |

STATION 10. Detroit Dam Tailrace
Time: 0950 Weather: Rain
Date: June 17, 1965 Wind: Calm

| Depth Ft. | Temp. F | Cond. umho/cm | D.O. mg/1 | D.O. % Sat. | pH | Total Alkalinity | Total Hardness | Phosphate Ortho |
|---|---|---|---|---|---|---|---|---|
| 2 | 46.4 | | 11.20 | 99 | 6.8 | 14 | 26 | 0.04 |

# Hydrologic Data

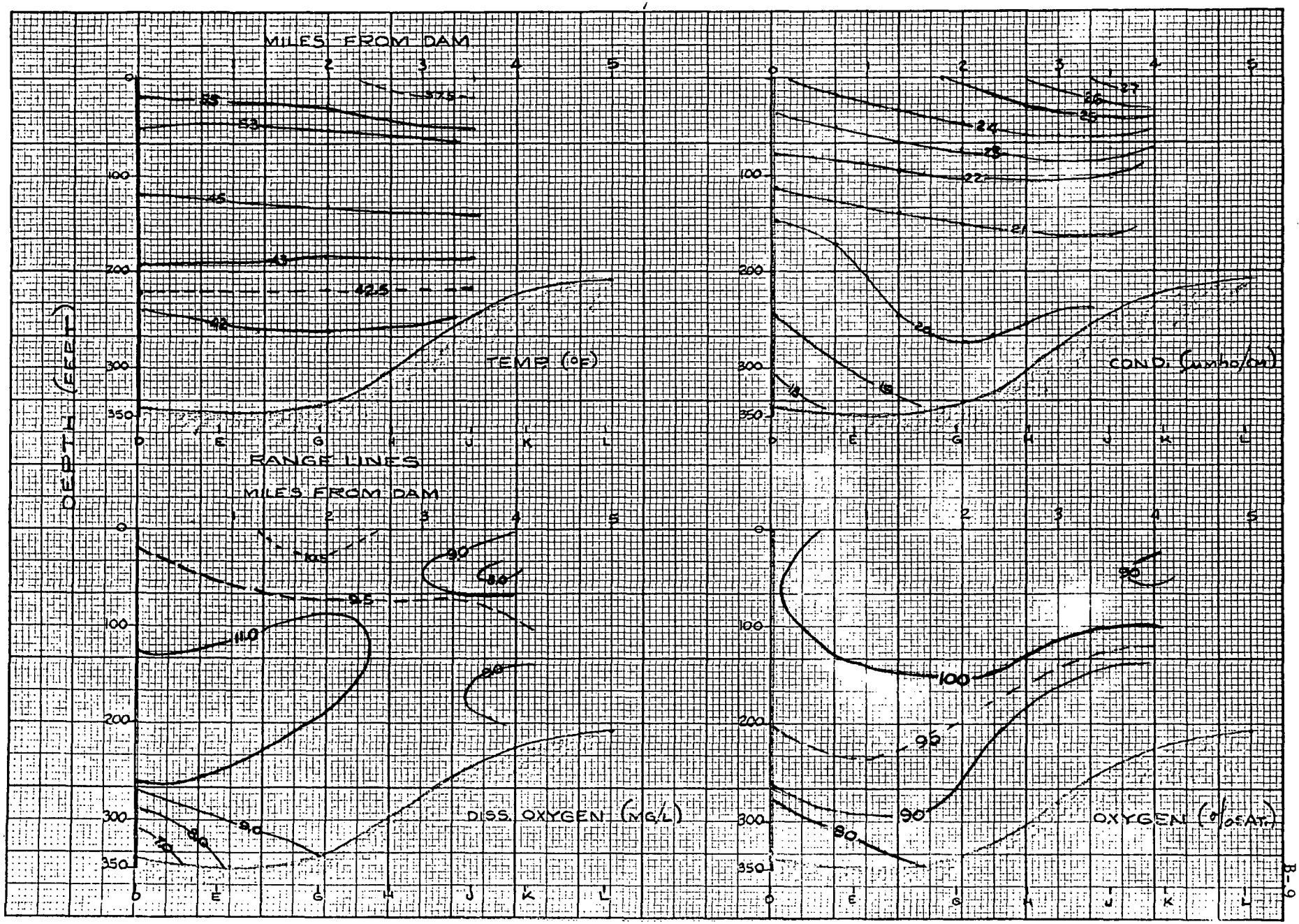
Project DETROIT RESERVOIR Comp.

Subject BT SOUNDINGS 6/17-18/61 Chkd.

Date:

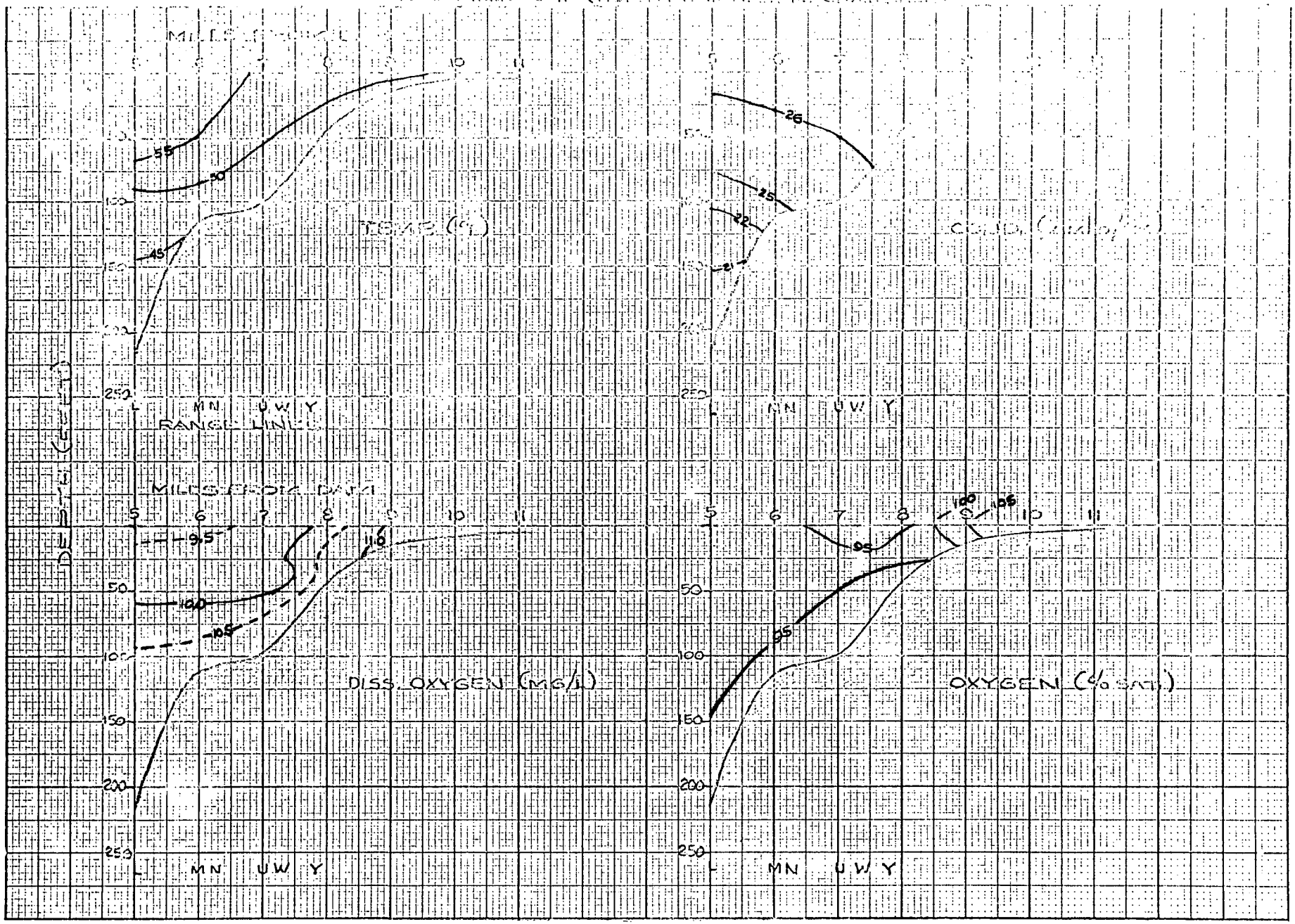
| LOCATION | LOG BOOM | RANGE G | RANGE J | RANGE L SOUTH | RANGE L NORTH | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TIME | 1200 | 1300 | 1350 | 0910 | 0930 | | | | | |
| AIR TEMP | 55° F | 55 | 57 | 52 | 53 | | | | | |
| DEPTH ↓ | | | | | | | | | | |
| 0 | 55.6 | 56.2 | 59.4 | 58.2 | 58.1 | | | | | |
| 10 | 55.4 | 56.2 | 57.8 | 58.2 | 58.1 | | | | | |
| 20 | 55.0 | 56.2 | 57.0 | 58.2 | 58.1 | | | | | |
| 30 | 54.6 | 55.4 | 56.6 | 58.1 | 57.8 | | | | | |
| 40 | 53.6 | 53.8 | 56.2 | 56.8 | 56.0 | | | | | |
| 50 | 52.8 | 53.0 | 55.0 | 53.4 | 54.2 | | | | | |
| 60 | 51.6 | 52.0 | 52.4 | 51.8 | 52.6 | | | | | |
| 70 | 50.6 | 51.0 | 50.2 | 50.2 | 50.8 | | | | | |
| 80 | 49.2 | 49.4 | 49.6 | 49.0 | 49.8 | | | | | |
| 90 | 48.0 | 47.6 | 48.2 | 47.6 | 47.2 | | | | | |
| 100 | 46.8 | 46.8 | 47.8 | 47.0 | 46.2 | | | | | |
| 110 | 46.2 | 46.2 | 46.8 | 46.4 | 45.8 | | | | | |
| 120 | 45.0 | 45.6 | 46.0 | 46.0 | 45.2 | | | | | |
| 130 | 44.6 | 45.0 | 45.4 | 45.2 | 45.0 | | | | | |
| 140 | 44.2 | 44.4 | 45.0 | 44.4 | 44.4 | | | | | |
| 150 | 43.8 | 43.8 | 44.4 | 44.0 | 44.2 | | | | | |
| 160 | 43.6 | 43.6 | 44.2 | 43.2 | 43.8 | | | | | |
| 180 | 43.2 | 43.0 | 43.2 | 160' BOTTOM | 43.2 | | | | | |
| 200 | 42.6 | 42.6 | 42.6 | | 190' BOTTOM | | | | | |
| 210 | 42.4 | 42.4 | 42.4 | | | | | | | |
| 220 | 42.2 | 42.2 | 42.2 | | | | | | | |
| 240 | 42.0 | 42.1 | 42.2 | | | | | | | |
| 260 | 41.6 | 42.0 | 258 BOTTOM | | | | | | | |
| 280 | 41.4 | 41.8 | | | | | | | | |
| 300 | 41.2 | 41.6 | | | | | | | | |
| 320 | 41.2 | 41.2 | | | | | | | | |
| 340 | 41.2 | 325' BOTTOM | | | | | | | | |
| | 345' BOTTOM | | | | | | | | | |

# DETROIT RESERVOIR 6-18-65



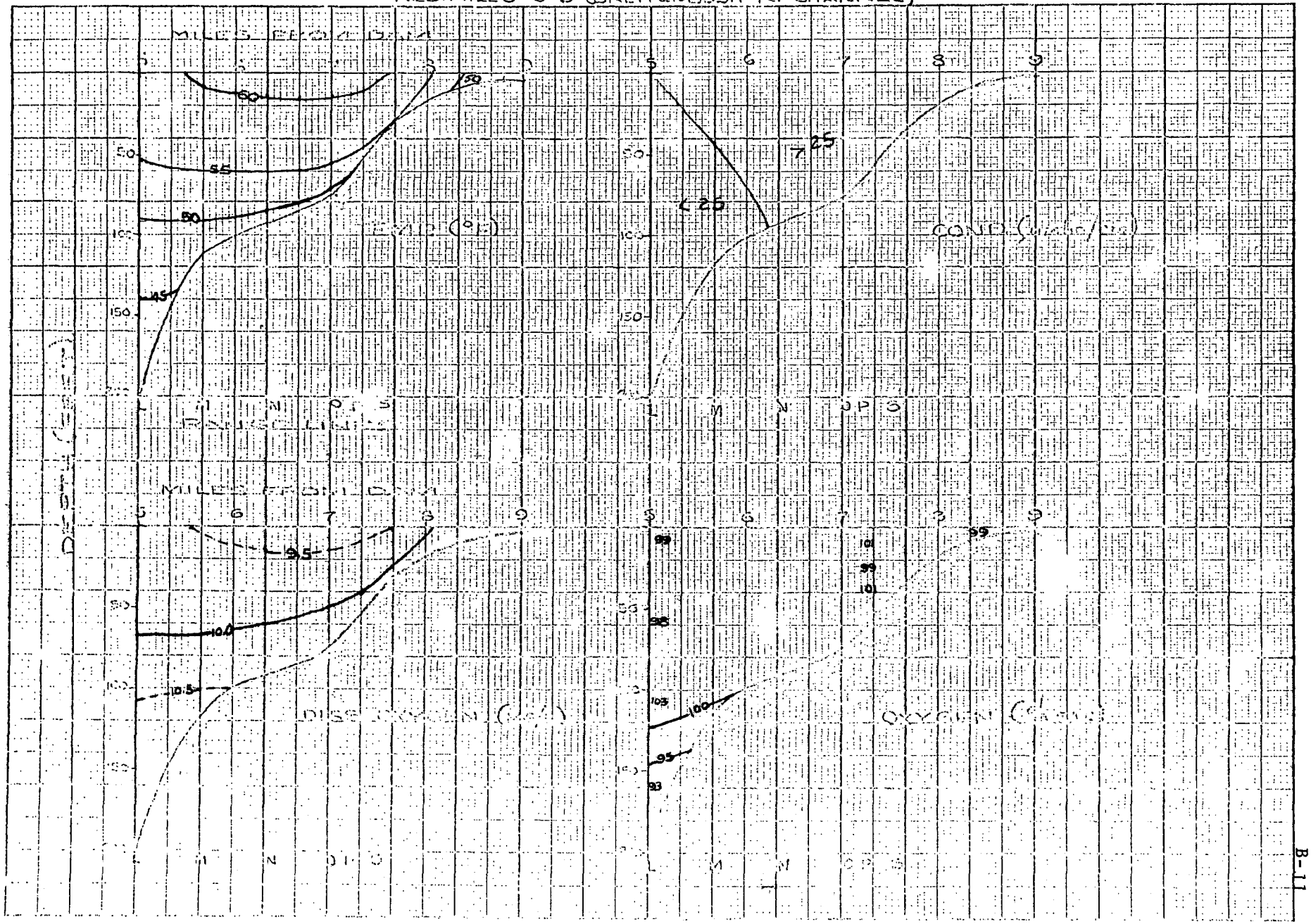
DETROIT RIVER 6-17-18/65

RS 5 MILES 5-11 (NORTH CHANNEL & CHANNEL)

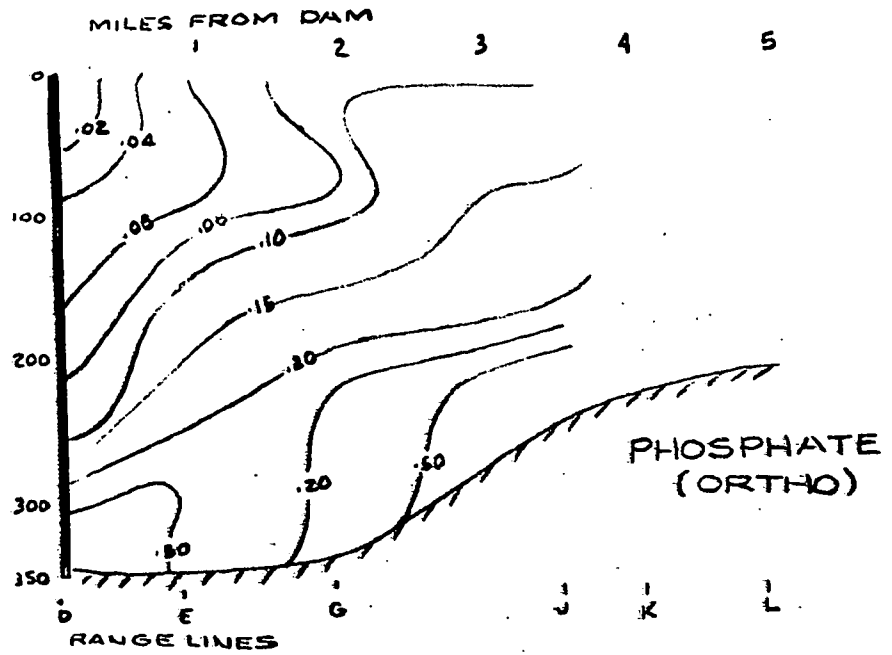


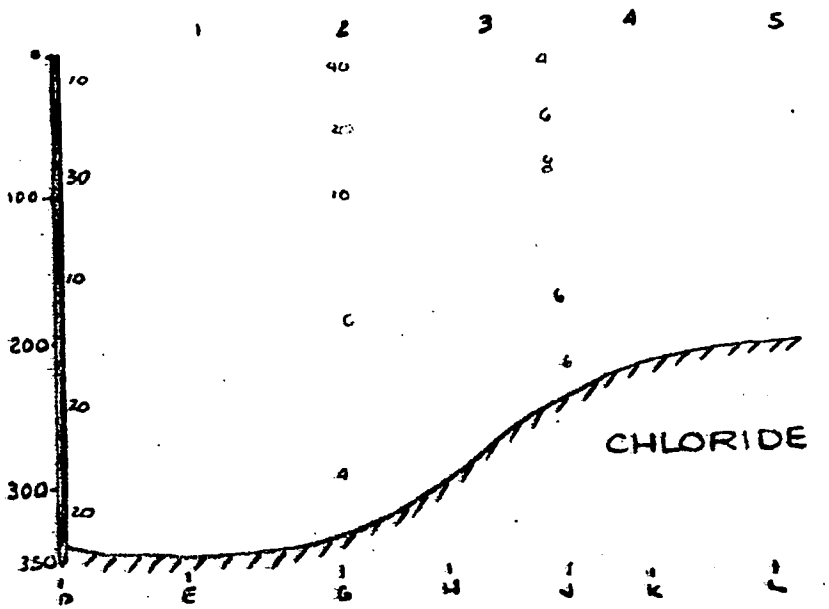
# DETROIT RESERVOIR

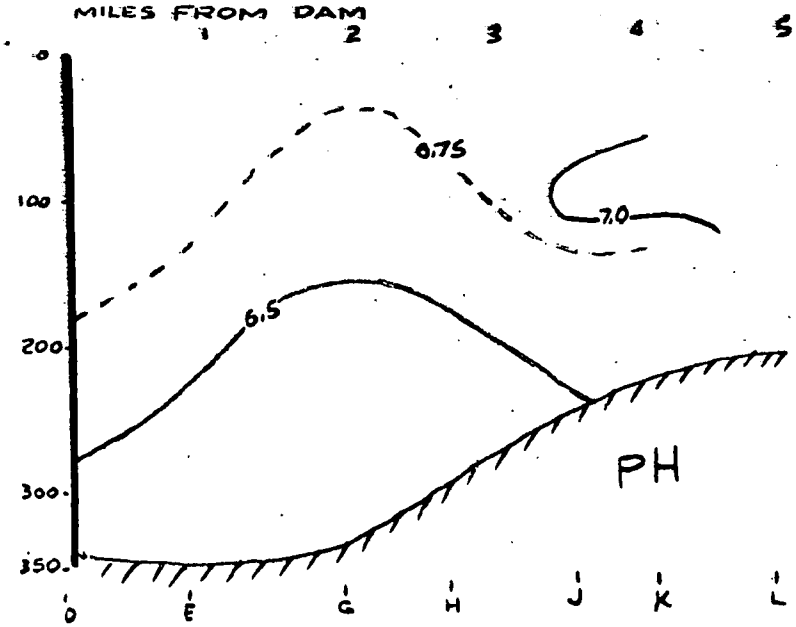
## RES. MILES 5-9 (BREITENBUSH R. CHANNEL)

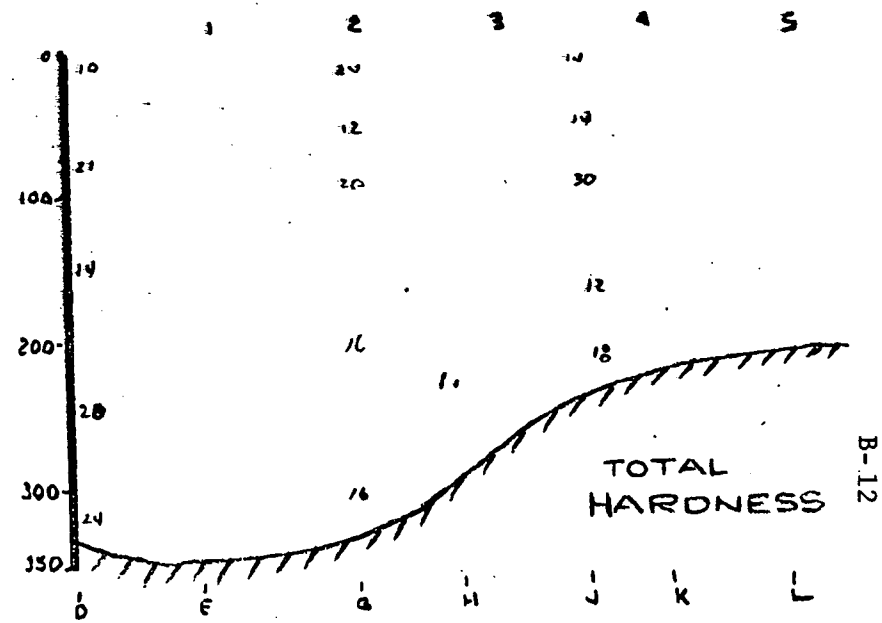


# DETROIT RESERVOIR 6-17-65



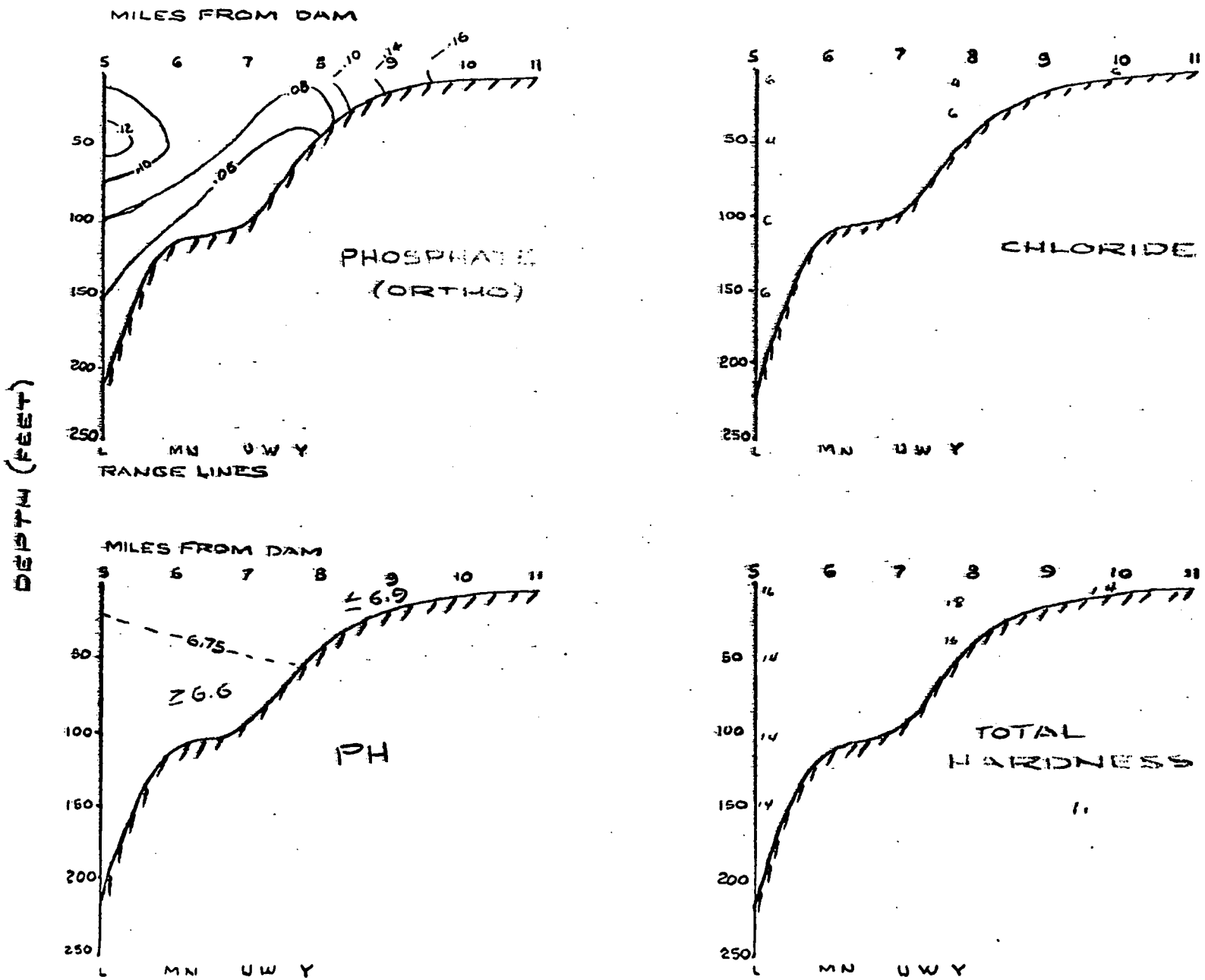



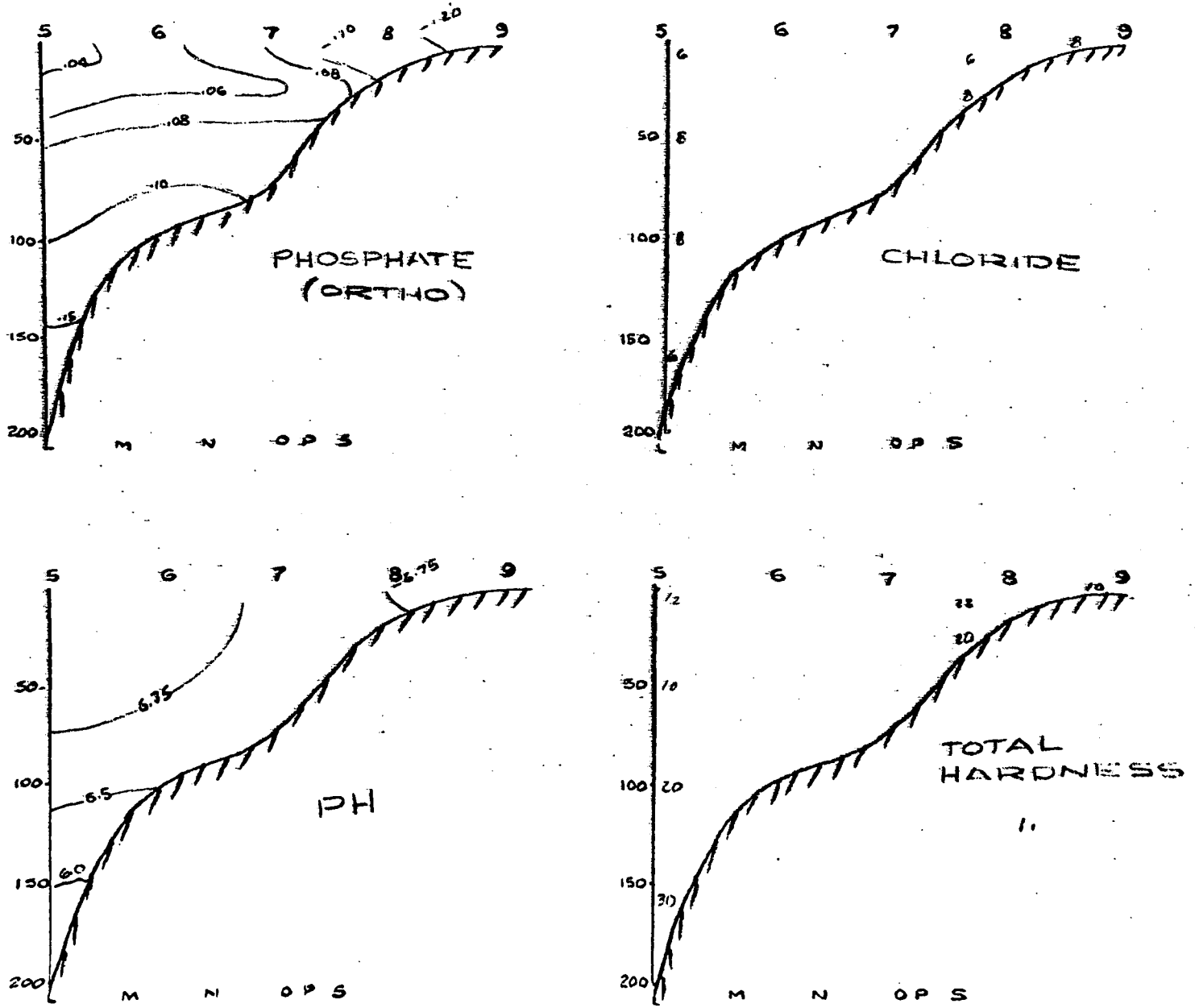




DEPTH (FEET)

# DETROIT RESERVOIR 6-17-65
RES. MILES 5-11 (NORTH SANTIAM R. CHANNEL)



DETROIT RESERVOIR 6-17-65
RES. MILES 5-9 (BREITENBUSH R. CHANNEL)



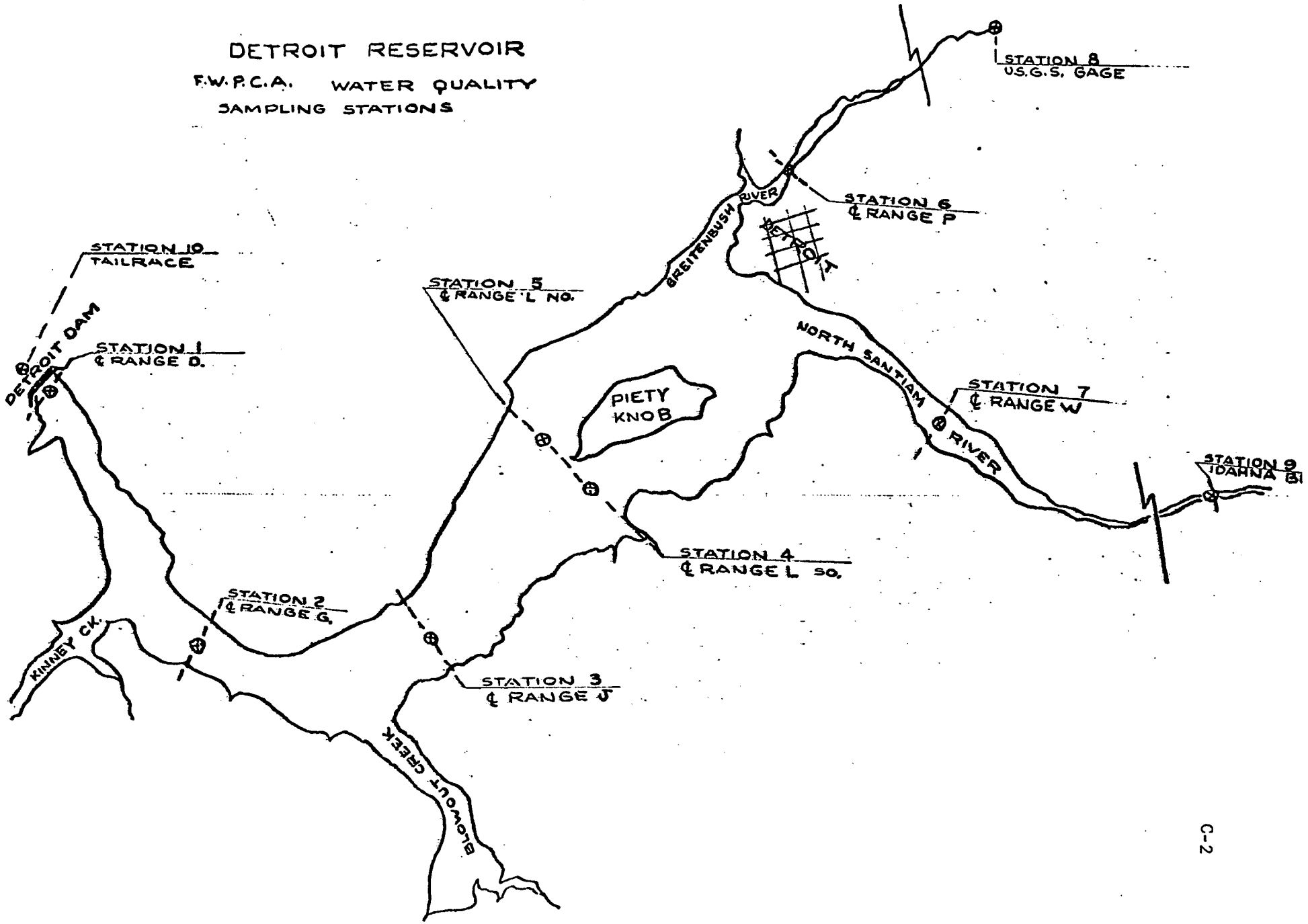
# DETROIT RESERVOIR WATER QUALITY DATA REPORT
July 15-16, 1965

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Federal Water Pollution Control Administration, Pacific Northwest

570 Pittock Block
Portland, Oregon 97205

August 1965


DETROIT RESERVOIR
F.W.P.C.A. WATER QUALITY
SAMPLING STATIONS
STATION 8
U.S.G.S. GAGE
STATION 6
℄ RANGE P
BREITENBUSH RIVER
STATION 10
TAILRACE
DETROIT DAM
STATION 5
℄ RANGE L NO.
STATION 1
℄ RANGE D.
PIETY KNOB
NORTH SANTIAM RIVER
STATION 7
℄ RANGE W
STATION 9
IDAHNA BR
STATION 4
℄ RANGE L SO.
STATION 2
℄ RANGE G.
KINNEY CK.
STATION 3
℄ RANGE J
BLOWOUT CREEK

# TABULATED DATA
# DETROIT RESERVOIR, OREGON
July 15-16, 1965

STATION 1. Log boom; Corps of Engineers Range D.
Time: 0715 Weather: Clear
Date: July 16, 1965 Wind: Calm

| Depth ft. | Temp. °F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. |
|---|---|---|---|---|
| 0 | 63.0 | 27 | 9.20 | 100 |
| 40 | 61.1 | 26 | 9.68 | 97 |
| 90 | 53.1 | 22 | 9.60 | 93 |
| 140 | 49.3 | 20 | 10.28 | 95 |
| 240 | 44.6 | 19 | 10.56 | 99 |
| 340 | 43.3 | 18 | 10.05 | 85 |

STATION 2. Above Kinney Creek; Corps of Engineers Range G.
Time: 0750 Weather: Clear
Date: July 16, 1965 Wind: E-3

| Depth ft. | Temp. °F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | : | % Light Remain. | Depth ft. |
|---|---|---|---|---|---|---|---|
| 0 | 64.9 | 29 | 9.04 | 100 | : | 100 | 0 |
| 50 | 57.9 | 25 | 9.29 | 96 | : | 63 | 2 |
| 100 | 51.8 | 22 | 9.80 | 94 | : | 42 | 4 |
| 150 | 47.6 | 21 | 10.45 | 95 | : | 29 | 6 |
| 250 | 44.6 | 20 | 10.25 | 88 | : | 23 | 8 |
| | | | | | : | 18 | 10 |
| | | | | | : | 14 | 12 |
| | | | | | : | 11 | 14 |
| | | | | | : | 8 | 16 |
| | | | | | : | 7 | 18 |

STATION 3. Above Blowout Creek; Corps of Engineers Range J.
Time: 0820 Weather: Clear
Date: July 16, 1965 Wind: Calm

| Depth ft. | Temp. °F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | % Light Remain. | Depth ft. |
|---|---|---|---|---|---|---|
| 0 | 68.2 | 31 | 8.80 | 101 | 100 | 0 |
| 50 | 56.8 | 25 | 9.18 | 93 | 63 | 2 |
| 100 | 51.8 | 23 | 9.88 | 93 | 45 | 4 |
| 150 | 48.0 | 22 | 10.29 | 94 | 34 | 6 |
| 250 | 43.5 | 20 | 10.11 | 86 | 25 | 8 |
| | | | | | 20 | 10 |
| | | | | | 16 | 12 |
| | | | | | 13 | 14 |
| | | | | | 10 | 16 |
| | | | | | 8 | 18 |
| | | | | | 6 | 20 |

STATION 4. South Channel off west end Piety Knob; Corps of Engineers Range L.
Time: 1340 Weather: Clear
Date: July 15, 1965 Wind: W-15

| Depth ft. | Temp. °F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | % Light Remain. | Depth ft. |
|---|---|---|---|---|---|---|
| 0 | 69.8 | 34 | 9.10 | 106 | 70 | 2 |
| 25 | 65.8 | 32 | 9.10 | 102 | 63 | 4 |
| 50 | 57.9 | 30 | 9.10 | 92 | 50 | 6 |
| 100 | 53.1 | 26 | 9.70 | 94 | 43 | 8 |
| 150 | 47.7 | 23 | 9.80 | 97 | 35 | 10 |
| | | | | | 28 | 12 |
| | | | | | 25 | 14 |
| | | | | | 19 | 16 |
| | | | | | 15 | 18 |
| | | | | | 12 | 20 |

STATION 5. North Channel off west end Piety Knob; Corps of Engineers Range L.

Time: 1310 Weather: Clear
Date: July 15, 1965 Wind: Calm

| Depth ft. | Temp. °F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | % Light Remain. | Depth ft. |
|---|---|---|---|---|---|---|
| 0 | 73.2 | 32 | 8.98 | 108 | 97 | 2 |
| 25 | 65.8 | 35 | 9.04 | 90 | 61 | 4 |
| 50 | 60.4 | 31 | 9.46 | 99 | 53 | 6 |
| 100 | 54.7 | 28 | 10.10 | 100 | 44 | 8 |
| 170 | 48.9 | 23 | 8.24 | 76 | 37 | 10 |
| | | | | | 29 | 12 |
| | | | | | 26 | 14 |
| | | | | | 18 | 16 |
| | | | | | 15 | 18 |
| | | | | | 12 | 20 |

STATION 6. Beginning of pool backup on Breitenbush River; Corps of Engineers Range P.

Time: 1240 Weather: Clear
Date: July 15, 1965 Wind: W-2

| Depth ft. | Temp. °F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | % Light Remain. | Depth ft. |
|---|---|---|---|---|---|---|
| 0 | 73.0 | 33 | 8.34 | 101 | 52 | 2 |
| 50 | 56.3 | 31 | 9.72 | 97 | 43 | 4 |
| | | | | | 39 | 6 |
| | | | | | 30 | 8 |
| | | | | | 26 | 10 |
| | | | | | 21 | 12 |
| | | | | | 17 | 14 |
| | | | | | 10 | 16 |

STATION 7. Beginning of pool backup on North Santiam River; Corps of Engineers Range W.

Time: 1435 Weather: Calm
Date: July 15, 1965 Wind: W-10

| Depth ft. | Temp. °F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | % Light Remain. | Depth ft. |
|---|---|---|---|---|---|---|
| 0 | 73.0 | 35 | 9.46 | 115 | 67 | 2 |
| 50 | 57.9 | 34 | 9.00 | 93 | 62 | 4 |
| | | | | | 48 | 6 |
| | | | | | 38 | 8 |
| | | | | | 30 | 10 |
| | | | | | 25 | 12 |
| | | | | | 20 | 14 |
| | | | | | 16 | 16 |
| | | | | | 13 | 18 |
| | | | | | 10 | 20 |

STATION 8. U.S.G.S. Gaging Station; Breitenbush River.

Time: 1435 Weather: Clear
Date: July 15, 1965 Wind: W-10

| Depth ft. | Temp. °F | D.O. mg/l | D.O. % Sat. |
|---|---|---|---|
| 2 | 58.6 | 9.58 | 99 |

STATION 9. Idahna Bridge; North Santiam River

Time: 1625 Weather: Clear
Date: July 15, 1965 Wind: Calm

| Depth ft. | Temp. °F | D.O. mg/l | D.O. % Sat. |
|---|---|---|---|
| 2 | 61.7 | 9.40 | 100 |

STATION 10. Detroit Dam tailrace.
Time: 1020 Weather: Clear
Date: July 15, 1965 Wind: Calm

| Depth ft. | Temp. °F | D.O. mg/l | D.O. % Sat. |
|---|---|---|---|
| 2 | 47.3 | 10.24 | 92 |

NPD Form
July 1959 14

# Hydrologic Data

C-8

Page

Project DETROIT RESERVOIR

Comp.

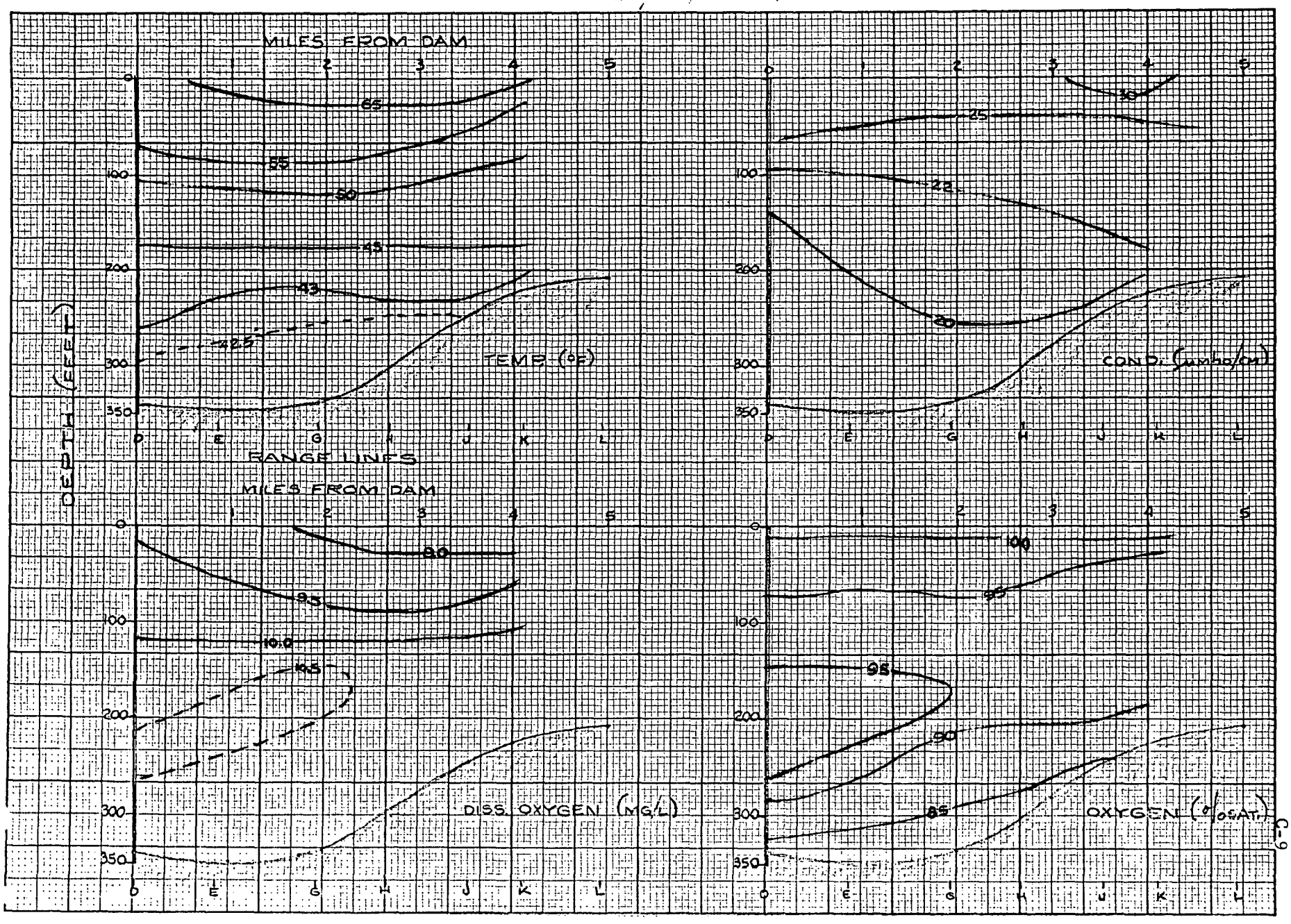
Subject BT SOUNDINGS 7/15-16/58

Chkd.

Date:

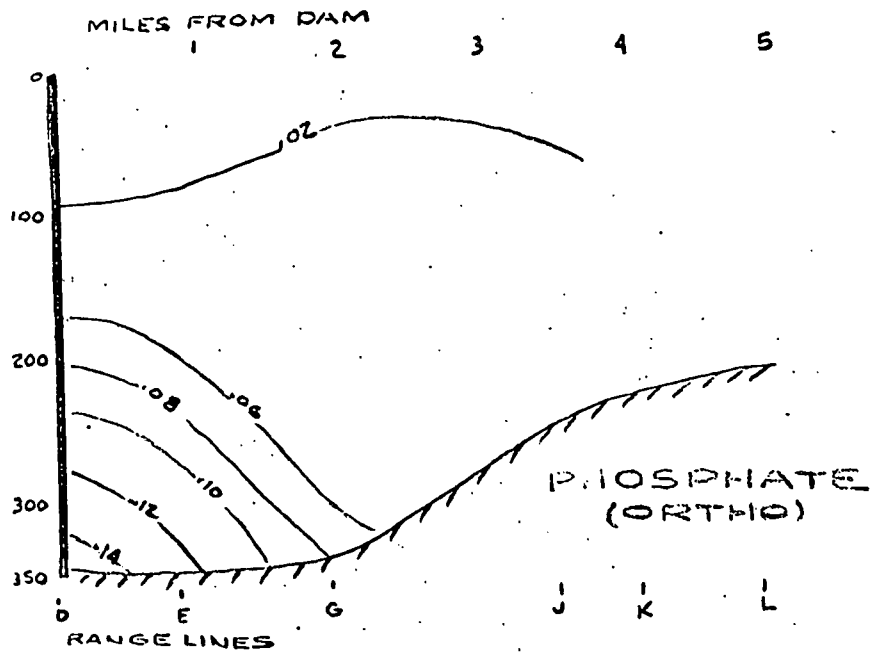
| | LOG, BOOM | RANGE G | RANGE J | RANGE L SOUTH | RANGE L NORTH | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 7-16 | 7-16 | 7-16 | 7-15 | 7-15 | | | | | |
| | 0715 | 0755 | 0820 | 1340 | 1310 | | | | | |
| | ? | | | | | | | | | |
| | 65.6 | 65.2 | 68.4 | 70.0 | 69.2 | | | | | |
| | 63.6 | 65.0 | 66.4 | 67.0 | 65.0 | | | | | |
| | 62 | 63.4 | 65.0 | 65.0 | 63.2 | | | | | |
| | 62.6 | 61.0 | 61.0 | 61.8 | 60.8 | | | | | |
| | 60.0 | 59.2 | 58.2 | 58.6 | 57.4 | | | | | |
| | 56.4 | 57.8 | 56.4 | 57.0 | 55.8 | | | | | |
| | 56.0 | 56.2 | 55.2 | 55.8 | 55.0 | | | | | |
| | 54.2 | 54.8 | 53.8 | 54.8 | 53.6 | | | | | |
| | 52.4 | 53.8 | 53.2 | 53.2 | 52.6 | | | | | |
| | 51.2 | 51.4 | 52.2 | 52.8 | 51.8 | | | | | |
| | 50.4 | 50.8 | 51.0 | 51.8 | 50.8 | | | | | |
| | 49.6 | 49.2 | 50.0 | 50.2 | 49.6 | | | | | |
| | 48.6 | 48.0 | 49.4 | 49.4 | 48.8 | | | | | |
| | 47.8 | 47.2 | 47.8 | 48.6 | 47.6 | | | | | |
| | 47.0 | 46.2 | 47.2 | 47.0 | 47.0 | | | | | |
| | 46.2 | 46.0 | 46.4 | | 46.2 | | | | | |
| | 45.4 | 44.8 | 45.6 | | 45.0 | | | | | |
| | 44.4 | 44.2 | 45.0 | | 17C' BOTTOM | | | | | |
| | 43.6 | 43.6 | 44.2 | | | | | | | |
| | 43.2 | 43.2 | 43.8 | | | | | | | |
| | 42.6 | 43.0 | 43.2 | | | | | | | |
| | 42.6 | 25G' BOTTOM | 25G' BOTTOM | | | | | | | |
| | 42.4 | | | | | | | | | |
| | 42.2 | | | | | | | | | |
| | 42.1 | | | | | | | | | |
| | 42.1 | | | | | | | | | |
| | 34C' BOTTOM | | | | | | | | | |

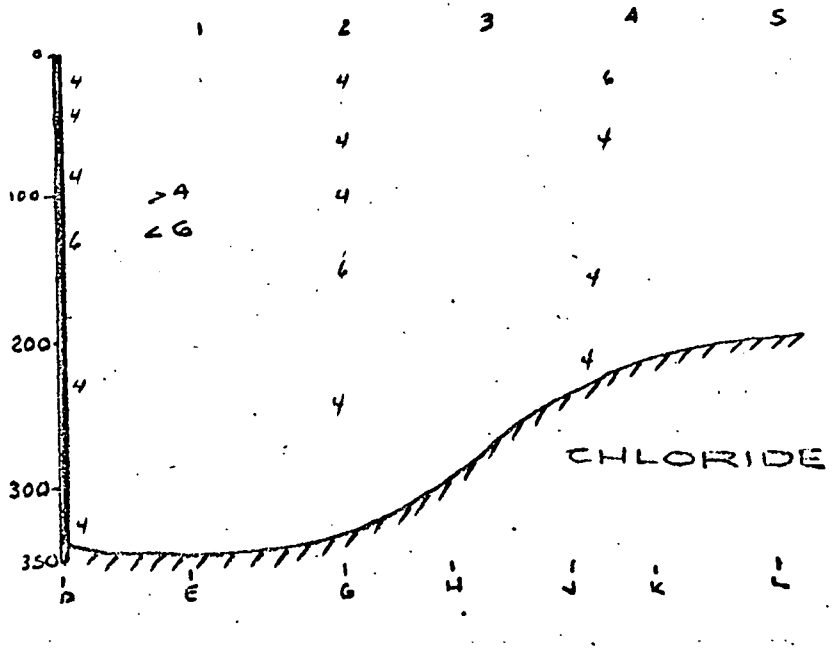
# DETROIT RESERVOIR 7-15-1971



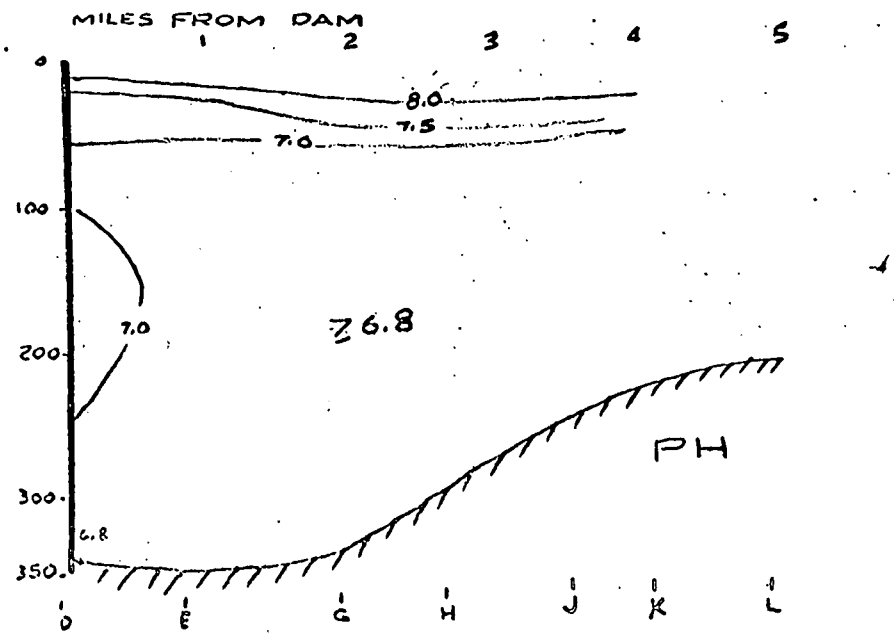

C-6

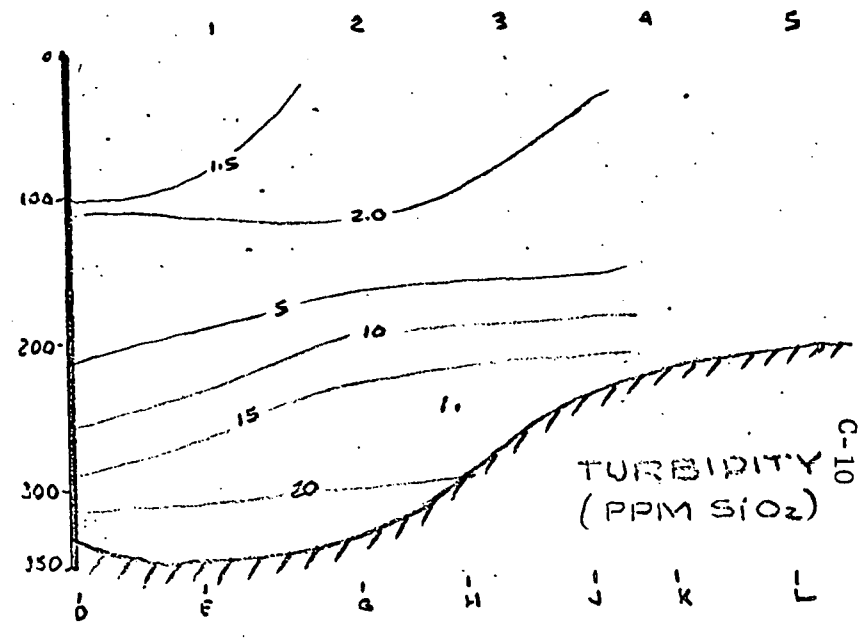
# DETROIT RESERVOIR 7-16-65



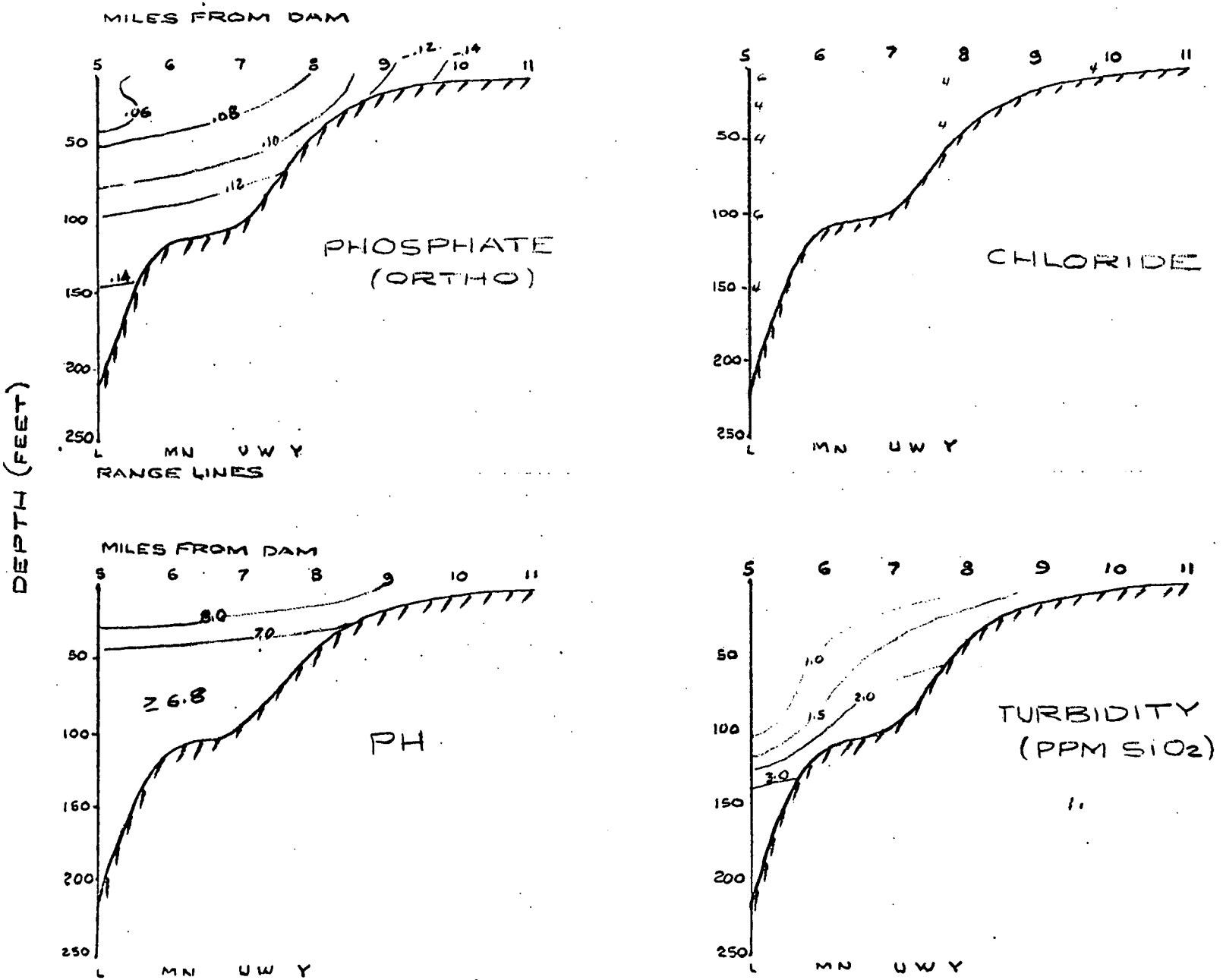




DEPTH (FEET)



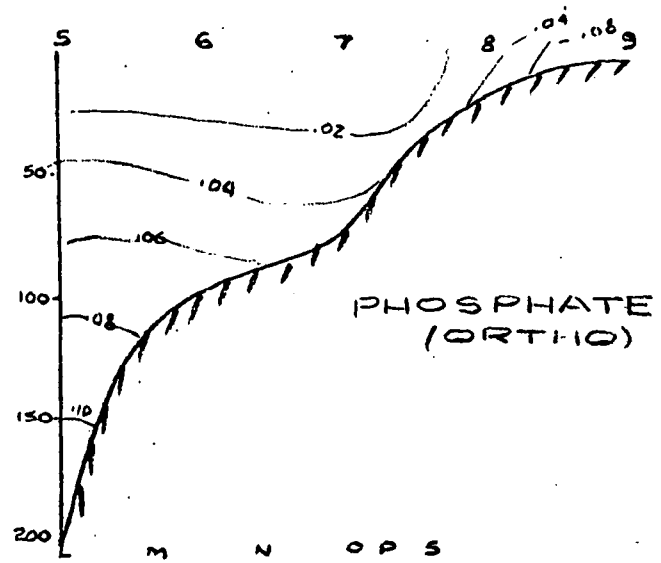



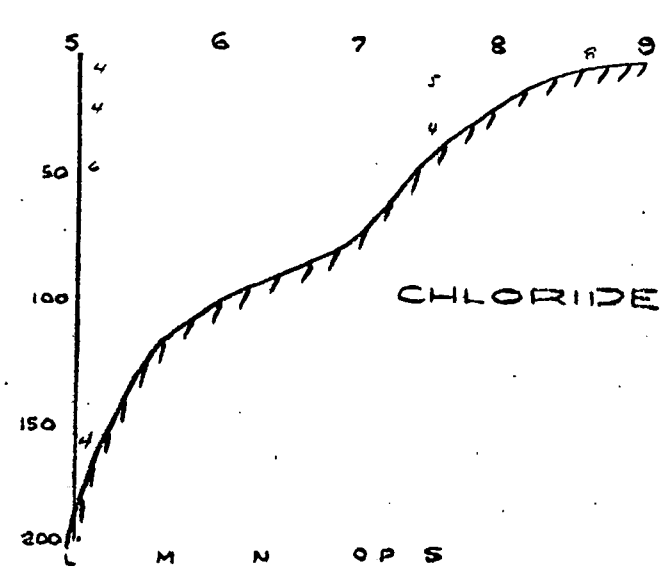
# DETROIT RESERVOIR 7-16-65
RES. MILES 5-11 (NORTH SANTIAM R. CHANNEL)

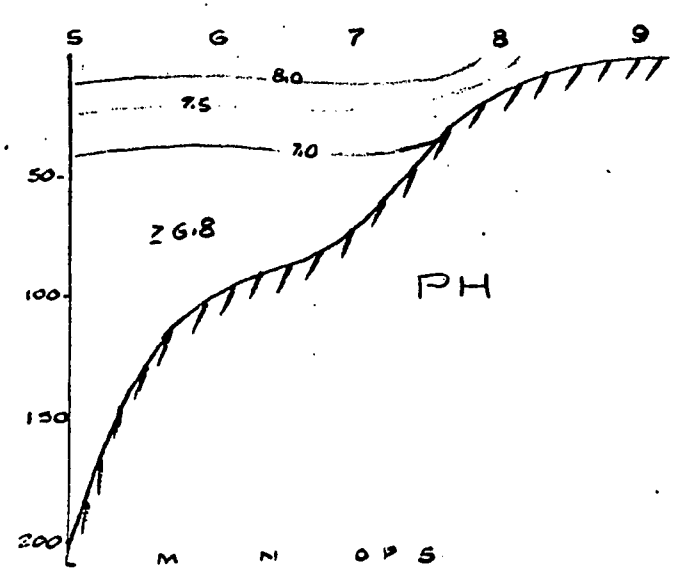


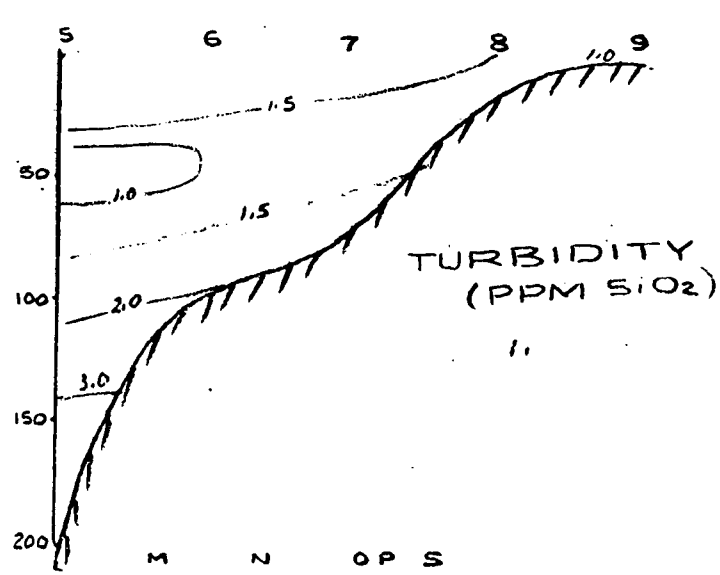
# DETROIT RESERVOIR 7-16-65
## RES. MILES 5-9 (BREITENBUSH R. CHANNEL)

DEPTH (FEET)



# DETROIT RESERVOIR WATER QUALITY DATA REPORT
September 10-11, 1965

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Federal Water Pollution Control Administration, Pacific Northwest

570 Pittock Block
Portland, Oregon 97205

November 1965

# TABULATED DATA
## DETROIT RESERVOIR, OREGON
## September 10-11, 1965

STATION 1. Log boom; Corps of Engineers Range D.
Time: 0850 Weather: Clear
Date: September 11, 1965 Wind: 0

| Depth ft. | Temp. °F | Cond. µmho/cm | DO mg/l | DO % sat. | Phosphate Total | Phosphate Ortho | % Light Remaining | Depth Ft. |
|---|---|---|---|---|---|---|---|---|
| 0 | 63.1 | 29 | 8.64 | 95 | 0.15 | 0.08 | 67 | 2 |
| 50 | 62.6 | 28 | 8.50 | 92 | 0.03 | 0.03 | 60 | 4 |
| 100 | 56.1 | 24 | 8.48 | 85 | 0.07 | 0.06 | 53 | 6 |
| 200 | 45.9 | 20 | 9.36 | 82 | 0.10 | 0.05 | 45 | 8 |
| 300 | 45.0 | 20 | 9.64 | 85 | 0.12 | 0.06 | 43 | 10 |
| 315 | | | 9.08 | | | | 32 | 14 |
| | | | | | | | 23 | 18 |
| | | | | | | | 14 | 22 |

STATION 2. Above Kinney Creek; Corps of Engineers Range G.
Time: 0925 Weather: Clear
Date: September 11, 1965 Wind: 0

| Depth ft. | Temp. °F | Cond. µmho/cm | DO mg/l | DO % sat. |
|---|---|---|---|---|
| 0 | 64.2 | 31 | 8.66 | 96 |
| 50 | 63.0 | 31 | 8.28 | 90 |
| 100 | 56.7 | 28 | 8.12 | 82 |
| 150 | 50.0 | 22 | 8.90 | 83 |
| 250 | 45.7 | 22 | 9.40 | 83 |

STATION 3. Above Blowout Creek; C of E Range J.
Time: 1410 Weather: Clear
Date: September 10, 1965 Wind: W-5

| Depth ft. | Temp. °F | Cond. µmho/cm | DO mg/l | DO % sat. | % Light Remain. | Depth ft. |
|---|---|---|---|---|---|---|
| 0 | 66.7 | 33 | 8.68 | 99 | 67 | 2 |
| 5 | 66.7 | 33 | | | 60 | 4 |
| 10 | 66.4 | 32 | | | 53 | 6 |
| 20 | 65.8 | 32 | | | 49 | 8 |
| 30 | 64.8 | 32 | | | 40 | 10 |
| 40 | 60.8 | 34 | | | 29 | 15 |
| 50 | 56.5 | 35 | 9.68 | 99 | 18 | 20 |
| 55 | 56.3 | 35 | | | 12 | 25 |

STATION 4. South Channel off West End Piety Knob; C of E Range L.
Time: 1330 Weather: Clear
Date: September 10, 1965 Wind: W-15

| Depth ft. | Temp. °F | Cond. µmho/cm | DO mg/l | DO % sat. | % Light Remain. | Depth ft. |
|---|---|---|---|---|---|---|
| 0 | 67.6 | 34 | 8.82 | 101 | 89 | 2 |
| 50 | 63.3 | 35 | 8.08 | 88 | 67 | 4 |
| 100 | 57.9 | 31 | 7.74 | 80 | 61 | 6 |
| 125 | 55.4 | 31 | 7.74 | 77 | 56 | 8 |
| | | | | | 50 | 10 |
| | | | | | 49 | 12 |
| | | | | | 38 | 16 |
| | | | | | 33 | 20 |
| | | | | | 27 | 24 |

STATION 5. North Channel off West End Piety Knob; C of E Range L.
Time: 1000 Weather: Clear
Date: September 11, 1965 Wind: 0

| Depth ft. | Temp. °F | Cond. µmho/cm | DO mg/l | DO % sat. | Phosphate Total | Phosphate Ortho | % Light Remaining | Depth ft. |
|---|---|---|---|---|---|---|---|---|
| 0 | 65.1 | 33 | 8.76 | 98 | 0.03 | 0.02 | 68 | 2 |
| 50 | 63.0 | 30 | 7.90 | 86 | 0.04 | 0.03 | 63 | 4 |
| 100 | 57.2 | 28 | 8.00 | 82 | 0.05 | 0.04 | 53 | 6 |
| 150 | 52.9 | 25 | 8.56 | 82 | 0.06 | 0.05 | 48 | 8 |
| 225 | 49.8 | 23 | 8.50 | 79 | 0.07 | 0.05 | 46 | 10 |
| | | | | | | | 24 | 20 |
| | | | | | | | 12 | 30 |
| | | | | | | | 6 | 40 |

STATION 6. Beginning of Pool Backup on Breitenbush River; CofE Range P.
Time: 1034 Weather: Clear
Date: September 10, 1965 Wind: 0

| Depth ft. | Temp. °F | DO mg/l | DO % sat. | Phosphate Total | Phosphate Ortho |
|---|---|---|---|---|---|
| 0 | 51.4 | 9.04 | 86 | 0.1 | 0.07 |

STATION 7. Beginning of Pool Backup on No. Santiam River; CofE Range W.
Time: 1525 Weather: Clear
Date: September 10, 1965 Wind: 0

| Depth ft. | Temp. °F | DO mg/l | DO % sat. | Phosphate Total | Phosphate Ortho |
|---|---|---|---|---|---|
| 0 | 54.5 | 10.56 | 104 | 0.10 | 0.03 |

STATION 8. U.S.G.S. Gage, two miles up Breitenbush River.
Time: 1300 Weather: Clear
Date: September 10, 1965 Wind: W-15

| Depth ft. | Temp. °F | Cond. µmho/cm | DO mg/l | DO % sat. | % Light Remaining | Depth ft. |
|---|---|---|---|---|---|---|
| 0 | 66.7 | 30 | 8.60 | 99 | 78 | 2 |
| 10 | 66.4 | 30 | | | 67 | 4 |
| 20 | 65.8 | 30 | | | 55 | 6 |
| 30 | 65.7 | 30 | | | 50 | 8 |
| 40 | 65.3 | 30 | | | 44 | 10 |
| 50 | 61.2 | 31 | 8.98 | 98 | 41 | 15 |
| 60 | 59.7 | 31 | | | 31 | 20 |
| 70 | 58.1 | 31 | | | 22 | 25 |

STATION 9. Idanha Bridge; Five miles up North Santiam River.
Time: 1350 Weather: Clear
Date: September 10, 1965 Wind: W-10

| Depth ft. | Temp. °F | Cond. µmho/cm | DO mg/l | DO % sat. | % Light Remaining | Depth ft. |
|---|---|---|---|---|---|---|
| 0 | 67.5 | 34 | 8.72 | 100 | 72 | 2 |
| 50 | 62.6 | 36 | 8.18 | 89 | 54 | 4 |
| 100 | 57.6 | 33 | 6.86? | 70 | 54 | 6 |
| 150 | 52.5 | 28 | 8.10 | 77 | 50 | 8 |
| | | | | | 43 | 10 |
| | | | | | 32 | 15 |
| | | | | | 22 | 20 |
| | | | | | 17 | 25 |

STATION 10. Detroit Dam Tailrace.
Time: 1134 Weather: Clear
Date: September 10, 1965 Wind: W-5

| Depth ft. | Temp. °C | DO mg/l | DO % Sat. | $NO_3$ mg/l | Phosphate | |
|---|---|---|---|---|---|---|
| | | | | | Total | Ortho |
| 0 | 10.8 | 10.50 | 86 | 0.03 | 0.10 | 0.07 |

NPD Form
July 1959 14

Hydrologic Data

D-6 Page

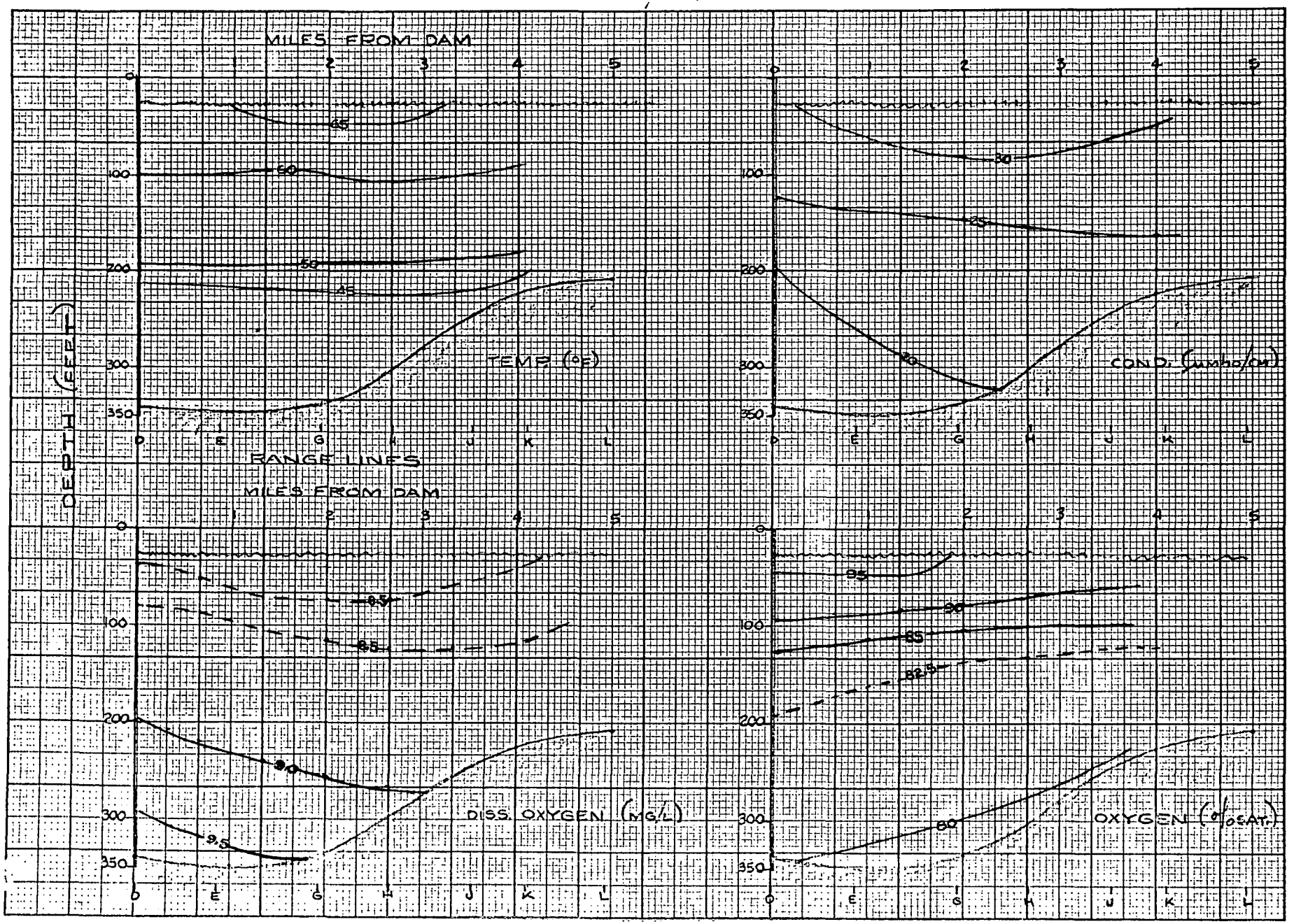
Project DETROIT RESERVOIR Comp.

Subject BT SOUNDINGS OF Chkd.

Date: 9/10-11/

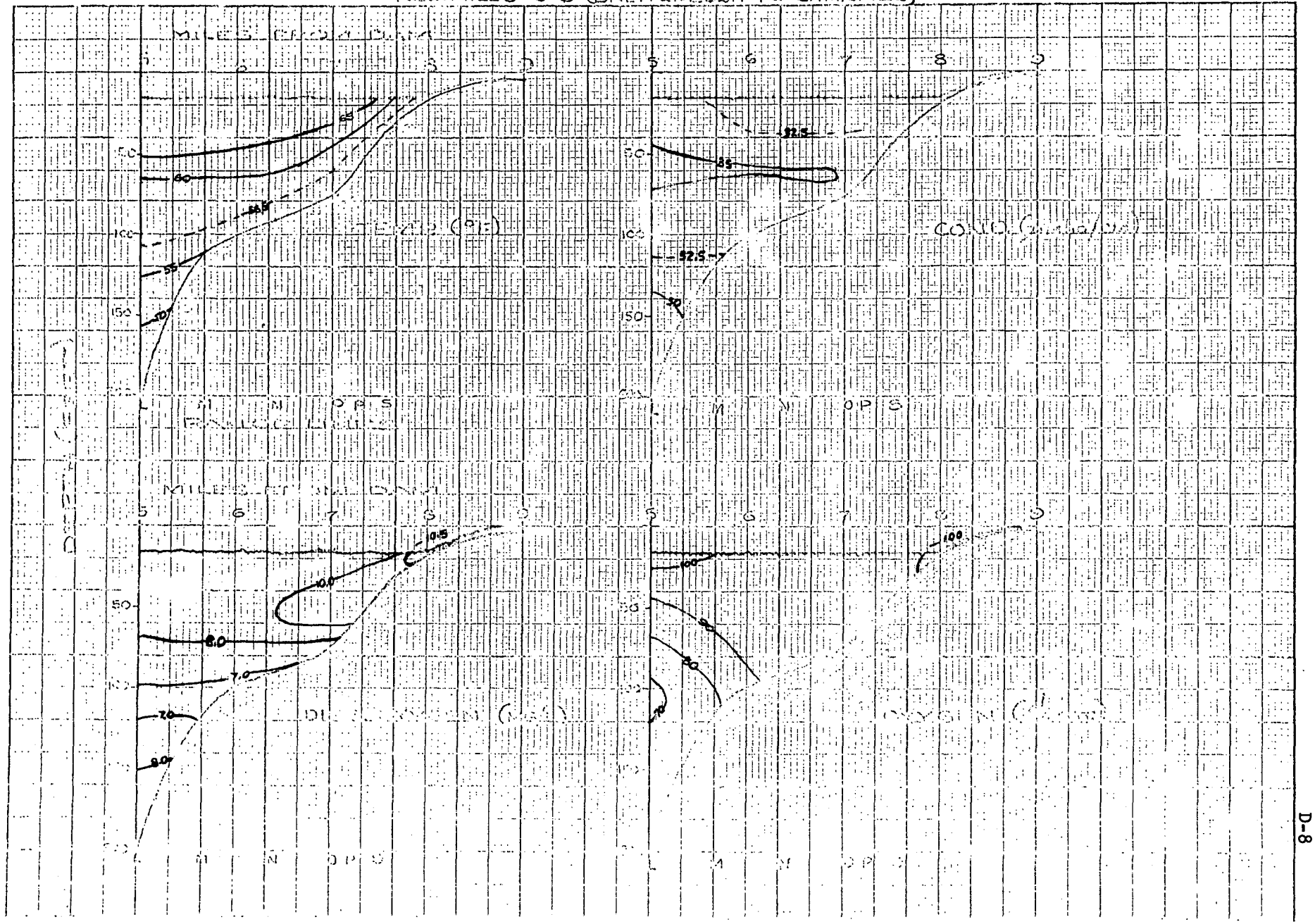
| LOCATION | LOG BOOM | RANGE G | RANGE J | RANGE L SOUTH | RANGE L NORTH | RANGE O | RANGE T | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DATE | 9-11-65 | 9-11-65 | 9-11-65 | 9-10-65 | 9-10-65 | 9-10-65 | 9-10-65 | | | |
| TIME | 0950 | 1025 | 1100 | 1425 | 1450 | 1510 | 1335 | | | |
| DEPTH ↓ | " | | | | | | | | | |
| 0 | 63.8 | 65.0 | 64.8 | 66.0 | 66.0 | 66.0 | 66.1 | | | |
| 10 | 63.8 | 65.0 | 64.6 | 66.0 | 65.8 | 65.8 | 65.8 | | | |
| 20 | 63.8 | 65.0 | 64.5 | 65.6 | 65.4 | 65.4 | 65.5 | | | |
| 30 | 63.8 | 64.9 | 64.3 | 65.4 | 65.0 | 64.2 | 65.4 | | | |
| 40 | 63.7 | 64.8 | 64.0 | 64.2 | 64.0 | 60.8 | 64.9 | | | |
| 50 | 63.4 | 63.8 | 61.4 | 62.0 | 61.4 | 56.8 | 61.4 | | | |
| 60 | 62.5 | 61.5 | 59.8 | 60.0 | 59.6 | BOTTOM 50' | BOTTOM 80' | | | |
| 70 | 60.0 | 60.0 | 58.6 | 58.8 | 58.4 | | | | | |
| 80 | 58.6 | 59.4 | 57.8 | 57.8 | 57.9 | | | | | |
| 90 | 56.8 | 58.2 | 56.6 | 57.2 | 56.8 | | | | | |
| 100 | 55.4 | 57.2 | 55.9 | 56.0 | 56.0 | | | | | |
| 110 | 54.6 | 55.4 | 54.6 | 55.2 | 54.8 | | | | | |
| 120 | 53.6 | 54.6 | 54.0 | 53.8 | 53.8 | | | | | |
| 130 | 52.6 | 52.6 | 52.8 | 53.2 | 53.0 | | | | | |
| 140 | 51.0 | 51.8 | 52.2 | BOTTOM 130' | 52.0 | | | | | |
| 150 | 50.0 | 50.5 | 51.0 | | 50.6 | | | | | |
| 160 | 47.8 | 48.8 | 49.2 | | 49.2 | | | | | |
| 170 | 45.5 | 47.6 | 48.0 | | 48.0 | | | | | |
| 180 | 44.8 | 46.6 | 46.8 | | BOTTOM 170' | | | | | |
| 190 | 44.2 | 45.8 | 45.8 | | | | | | | |
| 200 | 43.9 | 45.0 | 45.0 | | | | | | | |
| 220 | 43.7 | 44.8 | 43.9 | | | | | | | |
| 240 | 43.4 | 44.4 | BOTTOM 230' | | | | | | | |
| 260 | 43.2 | 44.2 | | | | | | | | |
| 280 | 43.1 | 44.1 | | | | | | | | |
| 300 | 43.0 | 44.1 | | | | | | | | |
| 320 | 42.9 | BOTTOM 310' | | | | | | | | |
| | BOTTOM 328' | | | | | | | | | |

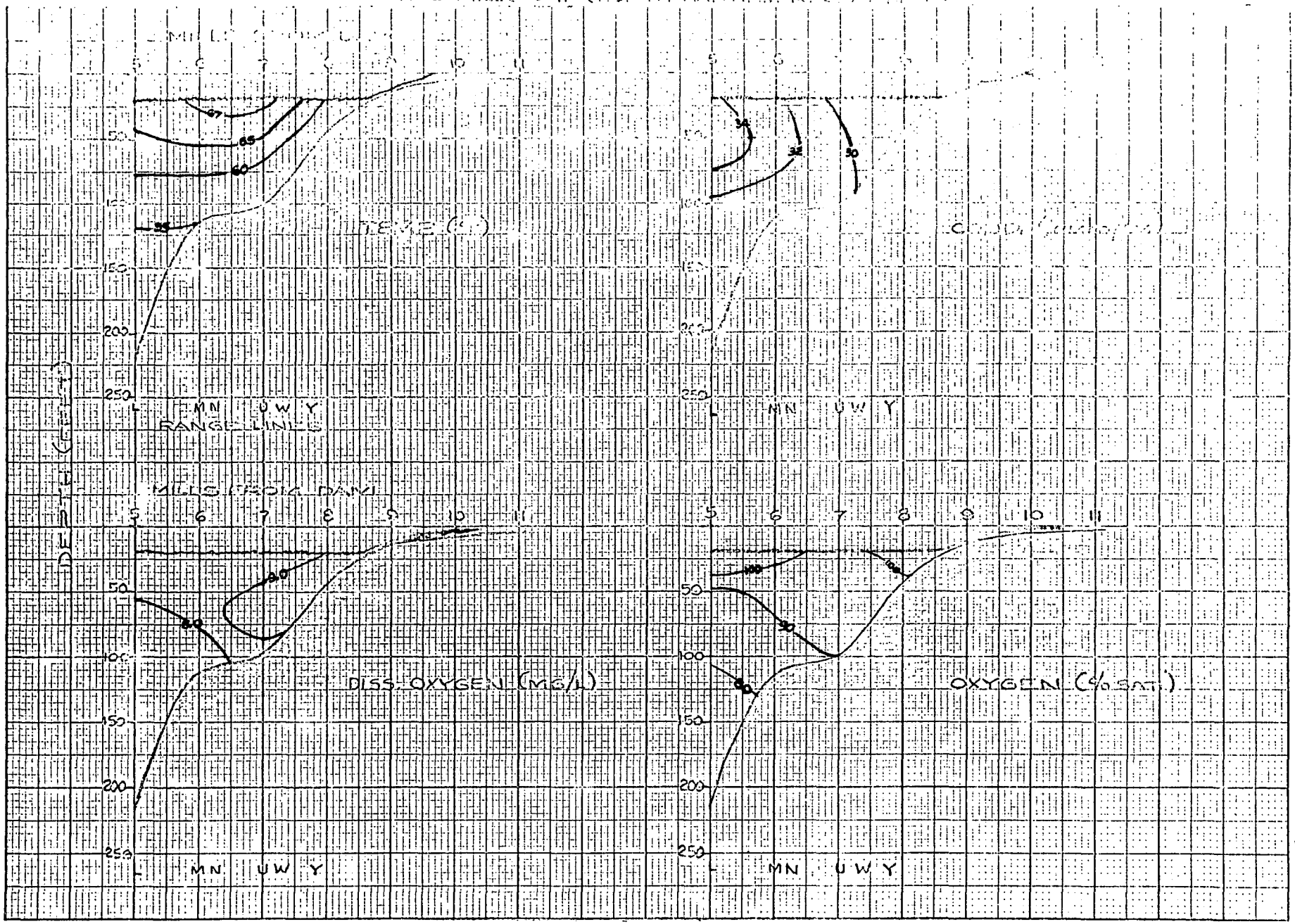
# DETROIT RESERVOIR 9/10-11 '65



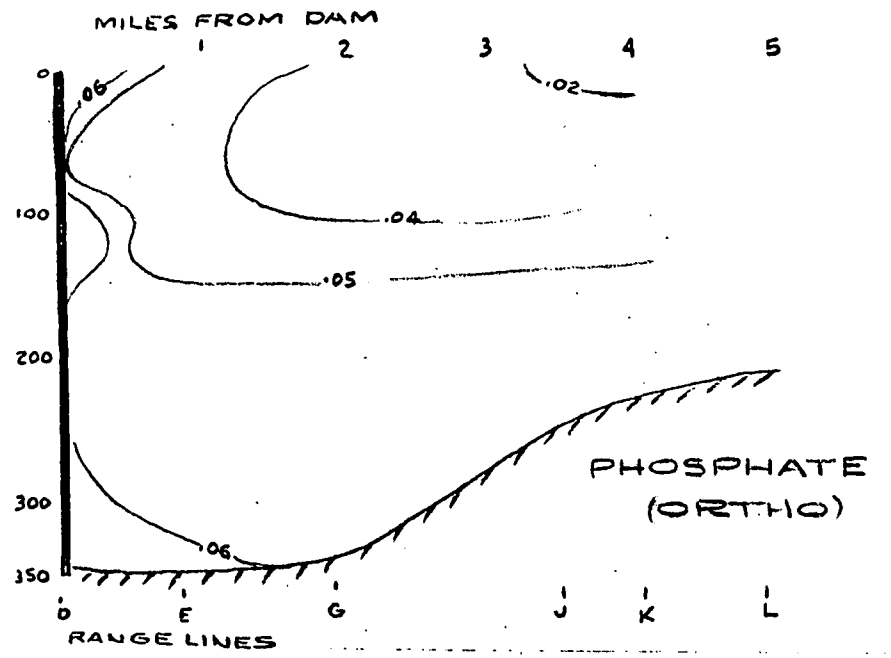
# DETROIT RESERVOIR 9/10-11/65

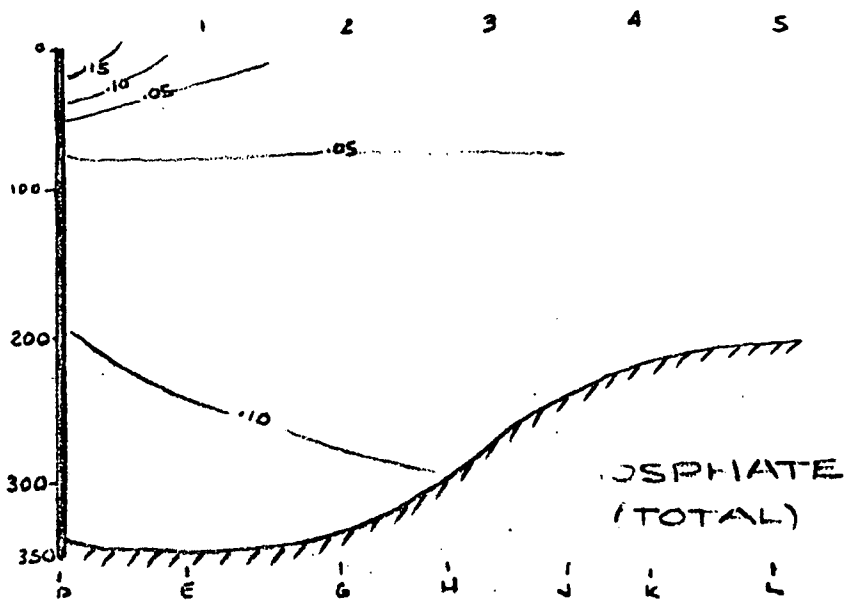
## RES. MILES 5-9 (BREITENBUSH R. CHANNEL)



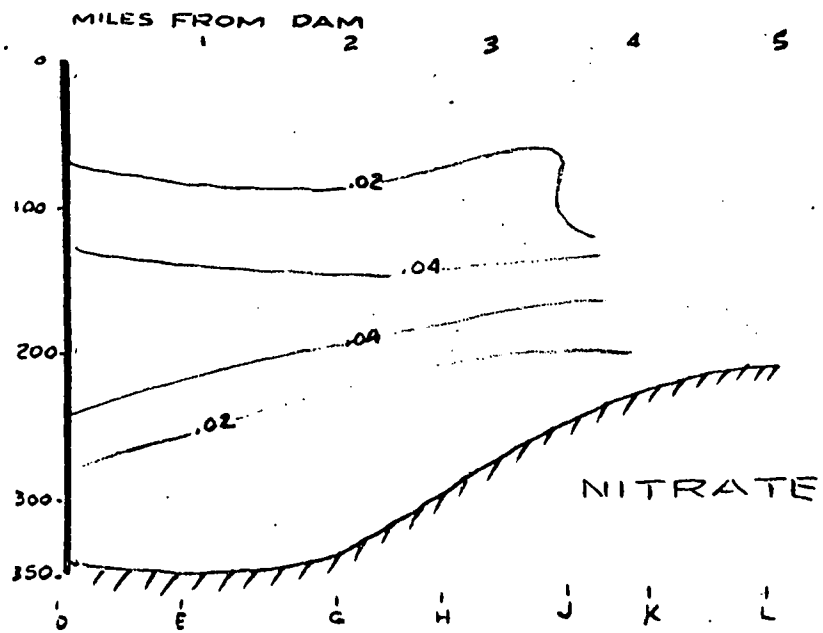

9/10-11, 65
MILLS
TEMP (°F)
DISS. OXYGEN (MG/L)
OXYGEN (% SAT.)
DEPTH (FEET)
MN UWY
RANGE LINES
MILLSTONE DAM
5
6
7
8
9
10
11
50
100
150
200
250
97
65
60
55
34
32
30
90
80
100
90
80

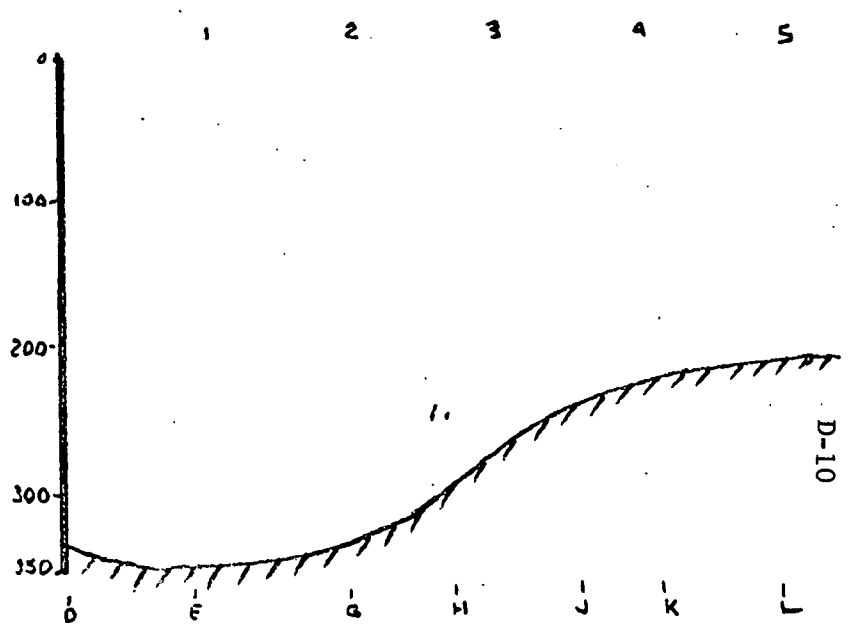
# DETROIT RESERVOIR 9-10-CE




DEPTH (FEET)




D-10

# DETROIT RESERVOIR WATER QUALITY DATA REPORT

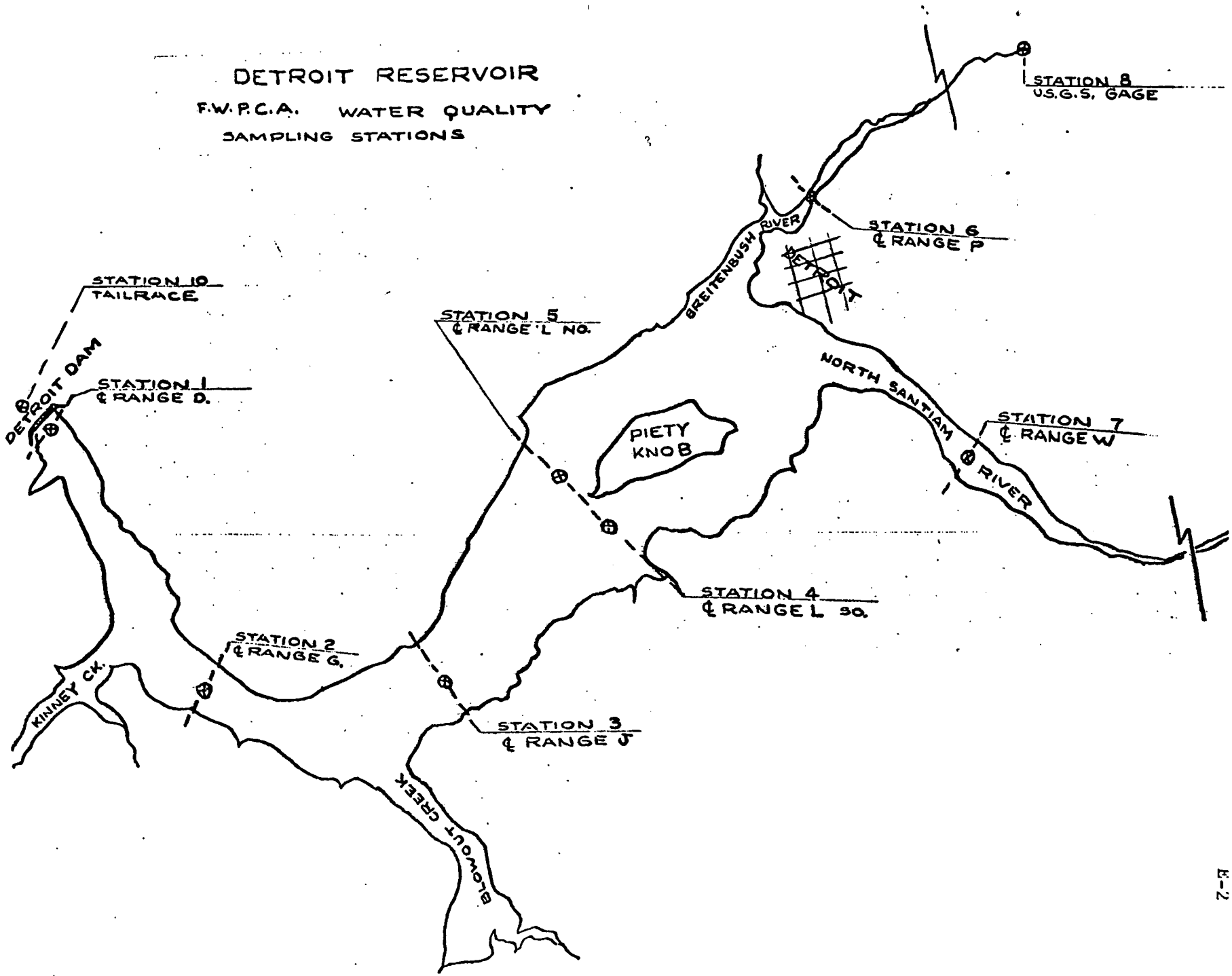
October 21, 1965

Columbia River Basin Comprehensive Project
for Water Supply and Pollution Control

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Federal Water Pollution Control Administration, Pacific Northwest

570 Pittock Block
Portland, Oregon 97205

November 1965


DETROIT RESERVOIR
F.W.P.C.A. WATER QUALITY
SAMPLING STATIONS
STATION 8
U.S.G.S. GAGE
STATION 6
℄ RANGE P
BREITENBUSH RIVER
STATION 10
TAILRACE
DETROIT DAM
STATION 1
℄ RANGE D.
STATION 5
℄ RANGE L NO.
PIETY KNOB
NORTH SANTIAM RIVER
STATION 7
℄ RANGE W
STATION 4
℄ RANGE L SO.
STATION 2
℄ RANGE G.
KINNEY CK.
STATION 3
℄ RANGE J
BLOWOUT CREEK

# TABULATED DATA
## DETROIT RESERVOIR, OREGON
## October 21, 1965

STATION 1. Log boom; Corps of Engineers Range D
Time: 1340 Weather: Clear
Date: October 21, 1965 Wind: E-15

| Depth Ft. | Temp. F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Nitrates | Phosphate Ortho | Phosphate Total |
|---|---|---|---|---|---|---|---|---|
| 0 | 59.5 | 42.2 | 9.12 | 96 | 5.30 | 0.01 | 0.01 | 0.04 |
| 25 | 58.6 | 40.4 | 9.30 | 97 | 5.35 | 0.01 | 0.01 | 0.03 |
| 50 | 58.5 | 42.4 | 9.30 | 97 | 5.30 | 0.01 | 0.01 | 0.02 |
| 100 | 57.2 | 43.0 | 8.38 | 86 | 5.75 | 0.01 | 0.01 | 0.05 |
| 200 | 45.3 | 34.9 | 8.82 | 77 | 6.45 | 0.02 | 0.02 | 0.10 |
| 275 | 44.8 | 37.2 | 8.88 | 77 | 5.40 | 0.03 | 0.03 | 0.14 |

STATION 2. Above Kinney Creek; Corps of Engineers Range G
Time: 1415 Weather: Clear
Date: October 21, 1965 Wind: Calm

| Depth Ft. | Temp. F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Nitrates | Phosphate Ortho | Phosphate Total |
|---|---|---|---|---|---|---|---|---|
| 0 | 59.5 | | 9.40 | 99 | | | | |
| 50 | 58.1 | | 9.20 | 95 | | | | |
| 100 | 56.7 | | 8.50 | 86 | | | | |
| 200 | 45.1 | | 8.80 | 77 | | | | |
| 250 | 44.6 | | 8.50 | 74 | | | | |

STATION 3. Above Blowout Creek; Corps of Engineers Range J
Time: 1445 Weather: Clear
Date: October 21, 1965 Wind: Calm

| Depth Ft. | Temp. F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Nitrates | Phosphate Ortho | Phosphate Total |
|---|---|---|---|---|---|---|---|---|
| 0 | 60.4 | 41.5 | 9.30 | 99 | 5.50 | 0.01 | 0.01 | 0.03 |
| 50 | 58.6 | 40.2 | 9.20 | 95 | 6.60 | 0.01 | 0.01 | 0.03 |
| 100 | 56.7 | 44.3 | 8.86 | 89 | 5.80 | 0.01 | 0.02 | 0.06 |
| 150 | 51.4 | 38.3 | 6.80 | 65 | 6.70 | 0.03 | 0.03 | 0.07 |
| 200 | 45.7 | 37.1 | 8.10 | 71 | 5.70 | 0.05 | 0.03 | 0.10 |

STATION 4. South Channel off West End Piety Knob; C of E Range L
Time: 1500 Weather: Clear
Date: October 21, 1965 Wind: E-2

| Depth Ft. | Temp. F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Nitrates | Phosphate Ortho | Phosphate Total |
|---|---|---|---|---|---|---|---|---|
| 0 | 59.9 | | 9.30 | 98 | | | | |
| 50 | 58.1 | | 9.10 | 94 | | | | |
| 100 | 54.7 | | 8.88 | 90 | | | | |

STATION 5. North Channel off West End Piety Knob; C of E Range L
Time: 1540 Weather: Clear
Date: October 21, 1965 Wind: Calm

| Depth Ft. | Temp. F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Nitrates | Phosphate Ortho | Phosphate Total |
|---|---|---|---|---|---|---|---|---|
| 0 | 60.4 | | 9.10 | 97 | | | | |
| 50 | 58.6 | | 9.28 | 96 | | | | |
| 100 | 56.8 | | 9.36 | 95 | | | | |
| 125 | 55.9 | | 9.76 | 98 | | | | |

STATION 6. Beginning of Pool backup on Breitenbush River; C of E Range P
Time: 1600 Weather: Clear
Date: October 21, 1965 Wind: Calm

| Depth Ft. | Temp. F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Nitrates | Phosphate Ortho | Phosphate Total |
|---|---|---|---|---|---|---|---|---|
| 2 | 59.4 | | 9.58 | 100 | | | | |

STATION 7. Beginning of Pool backup on North Santiam River; C of E Range W
Time: 1520 Weather: Clear
Date: October 21, 1965 Calm: Calm

| Depth Ft. | Temp. F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Nitrates | Phosphate Ortho | Phosphate Total |
|---|---|---|---|---|---|---|---|---|
| 2 | 47.8 | | 11.46 | 104 | | | | |

STATION 8. U.S.G.S. Gage; 2 Miles up Breitenbush River
Time: 1140 Weather: Clear
Date: October 21, 1965 Wind: Calm

| Depth Ft. | Temp. F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Nitrates | Phosphate Ortho | Phosphate Total |
|---|---|---|---|---|---|---|---|---|
| 2 | 45.7 | 57.5 | 11.96 | 105 | 6.00 | 0.01 | 0.01 | 0.06 |

STATION 9. Idahna Bridge; 5 miles up North Santiam River
Time: 1120 Weather: Clear
Date: October 21, 1965 Wind: Calm

| Depth Ft. | Temp. F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Nitrates | Phosphate Ortho | Phosphate Total |
|---|---|---|---|---|---|---|---|---|
| 2 | 46.8 | | 11.88 | 107 | | | | |

STATION 10. Detroit Dam Tailrace
Time: 1030 Weather: Misty
Date: October 21, 1965 Wind: E-25

| Depth Ft. | Temp. F | Cond. umho/cm | D.O. mg/l | D.O. % Sat. | pH | Nitrates | Phosphate Ortho | Phosphate Total |
|---|---|---|---|---|---|---|---|---|
| 2 | 55.4 | 10.7 | 8.80 | 88 | 6.35 | 0.01 | 0.01 | 0.02 |

NPD Form
July 1959 14

# Hydrologic Data

E-8 Page

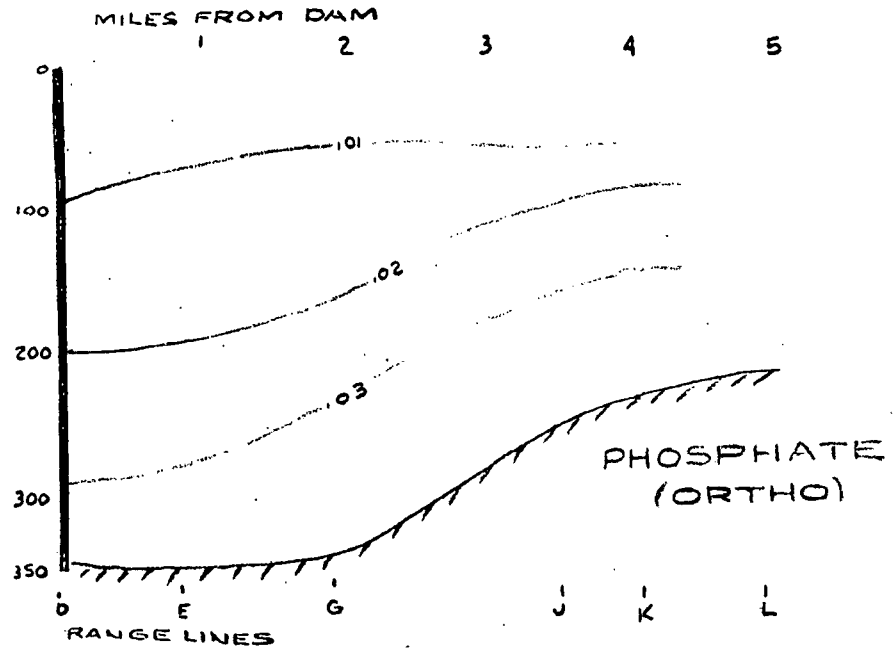
Project DETROIT RESERVOIR Comp.

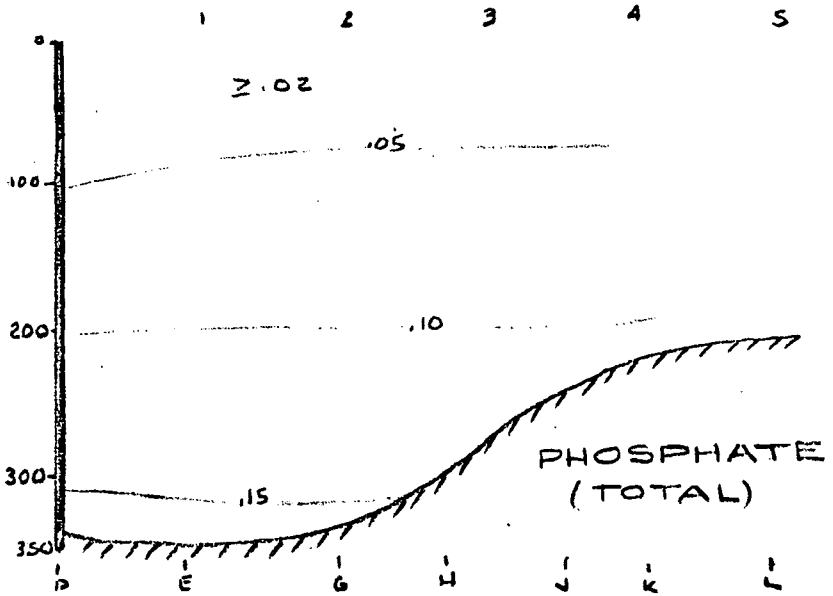
Subject BT SOUNDINGS °F 10-21-65 Chkd.

Date:

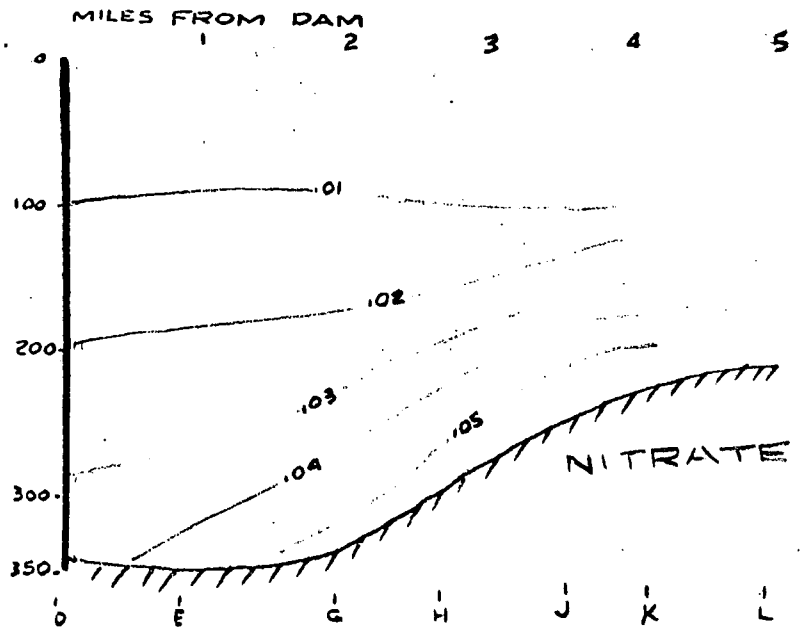
| LOCATION | #1 LOG BOOM | #2 RANGE G | #3 RANGE J | #4 RANGE L-SO. | #5 RANGE L-NO. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DATE | 10-21-65 | 10-21-65 | 10-21-65 | 10-21-65 | 10-21-65 | | | | | |
| TIME | 1330 | 1415 | 1440 | 1500 | 1540 | | | | | |
| DEPTH ↓ | | | | | | | | | | |
| 0 | 58.2 | 58.0 | 59.0 | 58.3 | 58.2 | | | | | |
| 10 | 58.2 | 58.0 | 59.0 | 58.2 | 58.2 | | | | | |
| 20 | 58.1 | 58.0 | 59.0 | 58.2 | 58.1 | | | | | |
| 30 | 58.0 | 57.9 | 58.9 | 58.1 | 58.1 | | | | | |
| 40 | 58.0 | 57.9 | 58.9 | 58.1 | 58.0 | | | | | |
| 50 | 58.0 | 57.9 | 58.9 | 57.9 | 57.8 | | | | | |
| 60 | 57.9 | 57.9 | 58.4 | 57.2 | 57.2 | | | | | |
| 70 | 57.8 | 57.7 | 57.8 | 57.0 | 57.0 | | | | | |
| 80 | 57.7 | 57.0 | 57.4 | 56.6 | 56.5 | | | | | |
| 90 | 57.6 | 56.4 | 57.1 | 56.2 | 56.2 | | | | | |
| 100 | 56.2 | 56.0 | 56.9 | 56.1 | 56.0 | | | | | |
| 110 | 55.6 | 55.8 | 56.6 | BOTTOM 100' | 55.7 | | | | | |
| 120 | 55.0 | 55.4 | 56.2 | | 55.2 | | | | | |
| 130 | 54.2 | 54.6 | 55.5 | | BOTTOM 125' | | | | | |
| 140 | 50.0 | 51.0 | 52.6 | | | | | | | |
| 150 | 46.6 | 47.0 | 48.2 | | | | | | | |
| 160 | 45.0 | 45.0 | 46.4 | | | | | | | |
| 180 | 44.2 | 44.2 | 45.2 | | | | | | | |
| 200 | 44.0 | 44.0 | 45.0 | | | | | | | |
| 220 | 43.8 | 43.8 | BOTTOM 200' | | | | | | | |
| 240 | 43.8 | 43.8 | | | | | | | | |
| 260 | 43.6 | BOTTOM 245' | | | | | | | | |
| 280 | 43.5 | | | | | | | | | |
| 300 | BOTTOM 294' | | | | | | | | | |

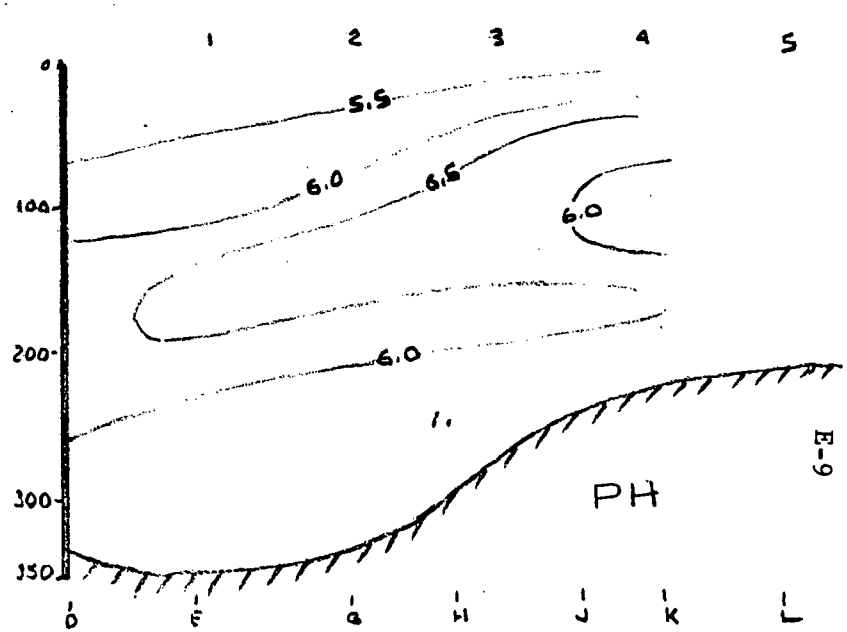
# DETROIT RESERVOIR 10-21-65




DEPTH (FEET)



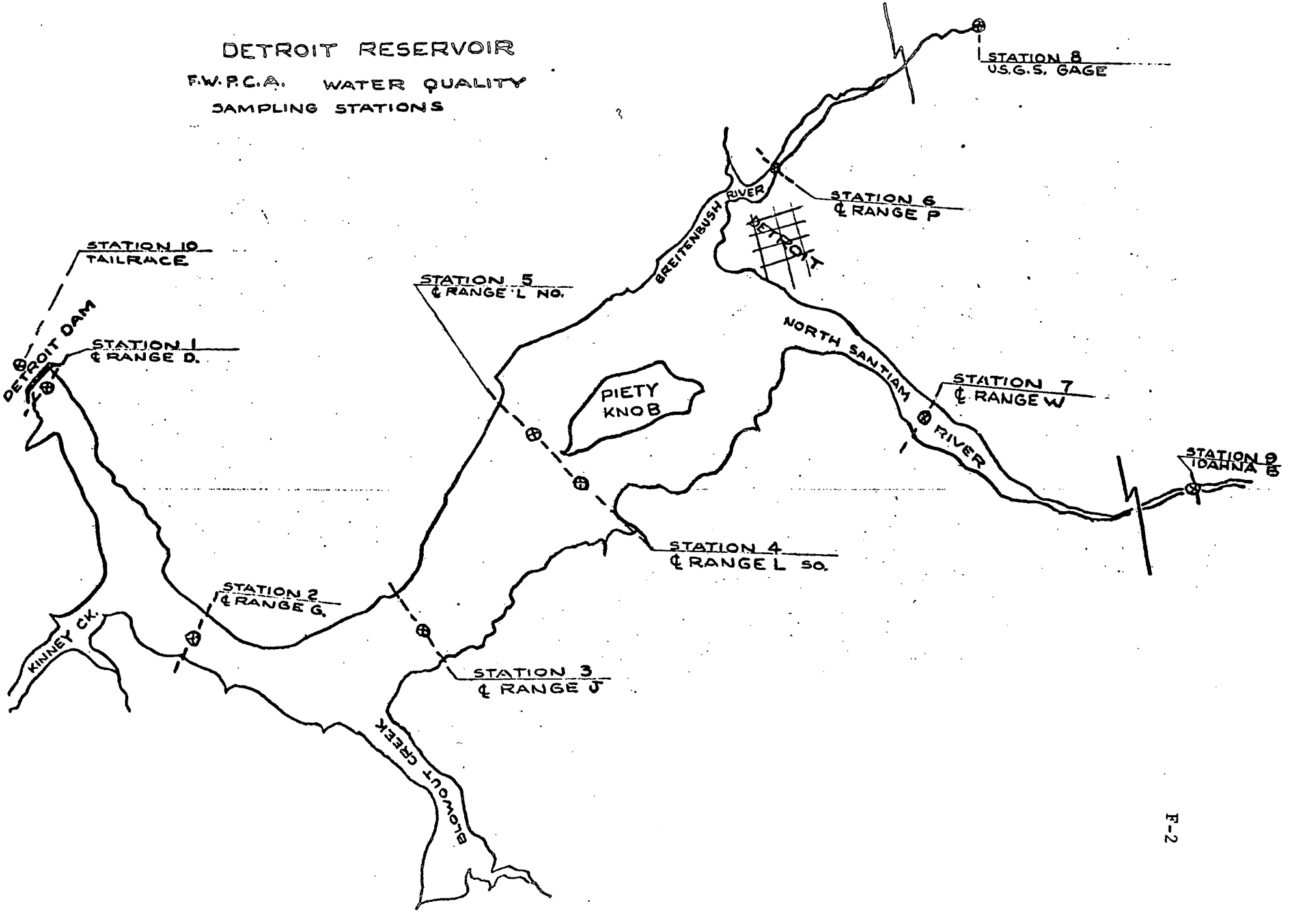
# DETROIT RESERVOIR WATER QUALITY DATA REPORT

December 2, 1965

COLUMBIA RIVER BASIN COMPREHENSIVE PROJECT
FOR WATER SUPPLY AND POLLUTION CONTROL

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Federal Water Pollution Control Administration,
Pacific Northwest

January 1966


DETROIT RESERVOIR
F.W.P.C.A. WATER QUALITY
SAMPLING STATIONS
STATION 8
U.S.G.S. GAGE
STATION 6
℄ RANGE P
BREITENBUSH RIVER
DETROIT
STATION 10
TAILRACE
DETROIT DAM
STATION 5
℄ RANGE L NO.
STATION 1
℄ RANGE D.
PIETY
KNOB
NORTH SANTIAM RIVER
STATION 7
℄ RANGE W
STATION 9
IDAHNA B
STATION 4
℄ RANGE L SO.
STATION 2
℄ RANGE G.
KINNEY CK.
STATION 3
℄ RANGE J
BLOWOUT CREEK

# TABULATED DATA
# DETROIT RESERVOIR, OREGON

December 2, 1965

Station: 8. USGS Gage, 2 miles up Breitenbush River.
Time: 1120 Weather: Overcast
Date: December 2, 1965 Wind: Calm

| Depth ft. | Temp. °F | D.O. mg/l | D.O. % Sat. | Nitrate | Phosphate Total | Phosphate Ortho |
|---|---|---|---|---|---|---|
| Surf. | 41.5 | 12.5 | 105 | 0.03 | 0.33 | 0.05 |

Station: 9. Idanha Bridge: 5 miles up North Santiam River.
Time: 1055 Weather: Overcast
Date: December 2, 1965 Wind: Calm

| Depth ft. | Temp. °F | D.O. mg/l | D.O. % Sat. | Nitrate | Phosphate Total | Phosphate Ortho |
|---|---|---|---|---|---|---|
| Surf. | 42.3 | 13.2 | 111 | 0.03 | 0.13 | 0.08 |

Station: 10. Detroit Dam Tailrace.
Time: 1010 Weather: Overcast
Date: December 2, 1965 Wind: Calm

| Depth ft. | Temp. °F | D.O. mg/l | D.O. % Sat. | Nitrate | Phosphate Total | Phosphate Ortho |
|---|---|---|---|---|---|---|
| Surf. | 47.7 | 9.5 | 87 | 0.10 | 0.05 | 0.02 |

NPD Form
July 195[illegible] 14

# Hydrologic Data

F-4 Page_____

Project DETROIT RESERVOIR Comp._____

Subject BT SOUNDINGS 12-2-65 Chkd._____

°F Date: _____

| LOCATION | DAM FACE |
|---|---|
| DATE | 12-2-65 |
| TIME | 1250 |
| DEPTH ↓ | |
| 0 | 48.2 |
| 10 | |
| 20 | |
| 30 | |
| 40 | |
| 50 | |
| 60 | |
| 70 | ↓ |
| 80 | 47.0 |
| 90 | 46.2 |
| 100 | 46.1 |
| 110 | 45.8 |
| 120 | 45.2 |
| 130 | 44.6 |
| 140 | 44.2 |
| 150 | 44.1 |
| 160 | 44.0 |
| 170 | 44.0 |
| 180 | 43.9 |
| 190 | 43.8 |
| 200 | 43.7 |
| 210 | BOTTOM 208' |