A RECONNAISSANCE SURVEY OF

SEYMOUR LAKE

WATERSHED: Bulkley R.

DATE OF SURVEY: September 8, 9, 1983

FIELD CREW LEADER: David M.V. Coombes

FIELD ASSISTANT: William Chudyk

REPORT PREPARED BY: David M.V. Coombes

REPORT EDITED BY: D.J. Grant

(Senior Inventory Technician)

ACCEPTED FOR RELEASE BY: J. A. Balkwill

(Head, Inventory Operations Unit)

BULKLEY R
SEYMOUR C
460 - 3738

SEQ #01

FISHERIES BRANCH
MINISTRY OF ENVIRONMENT

LAKE: Seymour

SYSTEM NAME: Seymour Creek

A.S.A.P. REFERENCE NO.: N/A

SYSTEM NO. : 46-3600

DATA ON FILE FOR THIS SURVEY

Location	√	Dissolved Oxygen Profile	√
Physical Data	√	Temperature Profile	√
Bench Mark	√	Netting Record	√
Terrain Features	√	Lake Catch Summary	√
Access	√	Fisheries Comments	√
Resorts & Campsites	√	Individual Fish Data	-
Other Developments	√	Fish Preserved	-
Obstructions and Pollutions	√	Stomach Analysis	-
Special Restrictions	√	Scale Reading	√
Aquatic Plants	√	History of Previous Surveys	√
Wildlife Observations	√	Location of Inventory Sites	√
Miscellaneous Comments	√	Photograph Directory	√
Lake Drainage	√	Appendices	√
Inlets/Outlets	√	Bathymetric Reduction	√
Water Chemistry	√	Contour Map	√

LOCATION 4.5 km due south of Smithers,B.C. Elevation..... 533 m ±

Latitude/ Longitude..... 54°44'25":127°09'42" U.T.M..... 9.6187.60676

Management Unit..... 6-9 N.T.S. Map No..... 93 L/11

Drainage Seymour Creek → Bulkley River → Skeena River

PHYSICAL DATA

Lake Drainage Area 16.0 sq. km

Water Surface Area..... 801 000 sq. m Volume..... 3 855 000 cu. m

Area above 6 m contour..... 493 000 sq. m *Flushing Rate approximately once every year.

Shoreline Perimeter..... 3 930 m Perimeter of - Islands - m

Maximum Depth..... 8 m Mean Depth..... 4.8 m

Filtrable Residue (T.D.S.)..... 79 mg/L Secchi Disc..... 1.8 m

Sounding Device: Furuno FG 200A MK3 Elevation Source: Contour interpolation

BENCH MARK (Iron spike in center of red circle) Location: 2 m above the present water level in a 60 cm diameter cottonwood tree, on the south side of the outlet. The tree is dead. The top of the stump next to this tree was 0.6 m above water level.
High water mark 0.0 m above water level at time of survey.

*See the 1984 report by McKean, et al (Water Management Branch).

OF PREVIOUS SURVEYS

Date	Author, Title, Agency, Publication Date. and Location of Copies
1982	Wiens, J. and K. Suttie. Detection of Septic Tank Leachate Inflows from Shoreline Development-Kathlyn, Seymour, Round and Tyhee Lakes. Surveys and Resource Mapping Branch, 1984. Victoria.
,83	McKean, C. R. Nordin, I. Boyd and B. Wilkes. Water Quality Assessment and Objectives - Kathlyn, Seymour, Round and Tyhee Lakes. Water Management Branch, 1984. Victoria.
, 1978	Reconnaissance Report (Fish Habitat Improvement): Fish and Wildlife Branch, 1978. Smithers Office.
1977	Algard, J. and C. Shepherd. Lake Surveys of the Bulkley Valley and Burns Lake area, with emphasis on the age and growth of stocked Rainbow Trout: Fish and Wildlife Branch, 1977. Victoria and Smithers.
12, 1975	Burns J. and D. Tredger. Seymour Lake Survey (Reconnaissance). Fish and Wildlife Branch (Inventory), 1976. Victoria and Smithers Fish and Wildlife Office.
, 1974	Falls, R. and Beune. Seymour Lake Survey. B.C. Provincial Museum (Marine Biology), 1974. Victoria (I.O.U.), B.C. Provincial Museum) and Smithers (Fish and Wildlife office).
14, 1967	Seymour Lake Survey (Reconnaissance). Fish and Wildlife Branch (Inventory), 1967. Smithers (Fish and Wildlife office).
3, 1958	Balkwill, J.A. and D.G. Butler. Seymour Lake Survey (Reconnaissance) Fish and Wildlife Branch (Inventory) 1958. Victoria (I.O.U.) office) and Smithers (Fish and Wildlife office).

LAKE: Seymour

TERRAIN FEATURES

Immediate Shoreline: There is a sharp 1.5 to 2.0 m dropoff close to the waterline all along the lake shore. The lake shore is vegetated to the waterline with a well- developed riparian fringe of sedges, horsetails, willows, alder, and red- osier dogwood. There are some aspen, white spruce, and cottonwood trees on the slopes above the lake. Due, perhaps, to the high water level, there were no beaches, but the shores all seemed stable. To the west and south, there are fairly steep banks, to the south-west it is flat and swampy, and the shore slopes gently to the east and north. The area to the south-east is almost flat. There is fair recreational access from Seymour Lake Road to the north, but it could be greatly improved. All the shoreline is till and gravels form the substrate at the water's edge. Calla palustris is quite common along the south-east corner of the lake. Good views of Hudson's Bay Mountain are available from the lake and the eastern and south-eastern shores.

Surrounding Country: The lake appears to be in a shallow glacially-carved depression in a kame terrace or till plain in the Bulkley Valley. Most of the area has been logged and supports regenerated forest or development in the form of housing or farmland. The forested areas are in aspen, spruce, lodgepole pine, cottonwood, and birch, in various proportions.

A ridge of the Hudson's Bay Range overlooks the lake and the main mountain may be seen from the lake and a number of open spaces near it. The lake is considered to be in the suburbs of Smithers.

The lake is in the Cariboo Aspen - Lodgepole Pine - Douglas Fir biogeoclimatic zone.

LAKE: Seymour

ACCESS

Directions: From in front of the Ministry of Environment-Ministry of Forests building at 3726 Albert Street, Smithers, drive north 50 m and turn left onto Murray Street. Drive 0.1 km, and turn left onto Railway Avenue. Drive 1.4 km and turn right onto Seymour Lake Road, driving over the C.N. Railway tracks. Continue along Seymour Lake Road 2.2 km, and turn left to stay on Seymour Lake Road. 0.3 km from this turn, there is a spot where boats may be launched. This is 4.05 km from the starting point.

Road Type and Conditions: Alfred Street, Murray Street, and part of Railway Avenue are paved. The rest of the route is good two lane all weather gravel road.

Restrictions: None

RESORTS & CAMPSITES

There is an undeveloped recreation site along the north-east shore, and the outlet is on crown land. There are some areas used for camping by locals, which appear to be on private land, and are undeveloped.

OTHER DEVELOPMENTS

At the time of survey, there were 20 private homes on the lake, and there were more planned. There is a steelhead rearing facility planned for the outlet area in the near future, also.

OBSTRUCTIONS AND POLLUTIONS

There is a beaver dam right at the mouth of the outlet (on a lower man- made dam) and several more downstream. There are also a number of debris dams on the outlet. The man-made dam is earth filled. The lake is quite high in nutrients, but does not appear to be polluted by septic fields.

SPECIAL RESTRICTIONS

No motors are allowed on the lake.

LAKE: Seymour

AQUATIC PLANTS

Most of the aquatic plants were collected and identified by P. Warrington, and are noted in "Aquatic Plants in the Lakes of British Columbia" (P. Warrington, Water Management Branch, 1983). Some were identified by the author (W.I.B. site #176).

There is a fringe of aquatic plants around the lake, with dense mats and large numbers of individuals in the shallow water on the southern and south-eastern shores.

Plants collected and/or noted:

Potamogeton zosteriformis
Potamogeton natans
Potamogeton gramineus
Potamogeton robbinsii
Potamogeton richardsonii
Potamogeton amplifolius
Potamogeton obtusifolius
Myriophyllum exalbescens
Lemna trisulca
Nuphar polysepalum
Polygonum amphibium
Menyanthes trifoliata
Potentilla palustris
Sparganium emersum
Utricularia vulgaris
Najas flexilis
Calla palustris
Eleocharis acicularis
Sagittaria sp.
Nymphea sp.
Equisetum fluviatile

WILDLIFE OBSERVATIONS

Five mallards, one common loon, and one grebe were seen, and the tracks of a black bear were noted.

MISCELLANEOUS COMMENTS

There was a lot of resistance to the use of a biocide in the lake, the use of the motor to do our survey, and to the possible "interference" with the lake by the Ministry of Environment, from the residents

Approximately 23 families use the water for drinking out of the lake, and another 20+ use the water of Seymour Creek.

LAKE: Seymour

LAKE DRAINAGE

General: Seymour Lake is the headwater expansion of Seymour Creek, which flows from the south-eastern end of the lake about 3/4 km in an easterly direction, in a narrow steep (5%) valley, until it reaches a major valley terrace. It flows north 3 km to the Bulkley River at a very low gradient, excepting steep sections when it flows from one terrace to another, and when it flows down the banks of the Bulkley. Seymour lake is the only lake in the system, and there are few major obstructions to fish passage on the system. These obstructions are mainly beaver dams. Culverts do not appear to be a problem, but there are at least two debris jams which could cause difficulties.

Major Systems:

Seymour Creek - outlet (System no. 46-3600)

The outlet flows through a logged-over area down to a lower terrace of the Bulkley Valley used for farming, then into the Bulkley River. In the upper steep section, the creek has a variable substrate, with cobbles, gravels, and fines in varying proportions. Some minnows were noted. There are a couple of culverts and bridges, which do not obstruct fish passage; and a number of beaver dams and at least two debris jams, which do. Flow across the terrace section is placid (see Plate 6), the substrate is mostly fines, and there are many beaver dams. Many minnows were noted.

The steep section into the Bulkley was not checked. Due to slow flow and low volume, temperatures in Seymour Creek will be very high at times. For more information, see the 1978 Reconnaissance Report (Fish Habitat Improvement) on file at region.

Minor Systems: There are seasonal stream courses, and some flow from the marsh at the south-west corner. Most of the lake inflow appears to be seepage and direct rainfall.

LAKE: Seymour

LAKE DRAINAGE CONT'D

System Name: Seymour C Outlet

System No. 46-3600

Site Location: Downstream of the immediate outlet mouth on the dam approximately 20 m.

Channel Width	0.7 m	Water temp.	15 °C
Wetted Width	0.5 m	Stage (flow)	Moderate
Max. Depth	cm	Velocity	0.5 m/sec
Avg. Depth	5 cm	Slope	0-3 %
Turbidity	5+ cm	Colour	Brown

Flood Signs (ht/type): Debris was found along the stream course, but the flood height was not obvious.

Bed Material: Compaction: Variable

fines -	T %	
gravels-	10 %	- 60% (50% - 0% small gravels, 40% - 10% large gravels)
larges -	90 %	- 40% (90% - 40% cobbles, trace of boulders)
bedrock-	%	(90% -40% cobbles, trace of boulders)

Banks (form, height, stability): The banks are in repose, vary greatly in height (approximately 1 to 2 m), and are fairly stable.

Comments:

Some spawning potential. A lot of beaver activity was noted, and there are some beaver dams. Note plate no. 5. Some minnows noted.

At the road crossing, temperature was 10.5° C, the wetted width 2 m., and the depth 5 cm, with no perceptible flow. There were a lot of minnows.

The stream appeared fairly turbid, with organisms giving a cloudy appearance to the water.

LAKE: Seymour

WATER CHEMISTRY Limnology Station No. 1

Date September 8, 1983 Time 1420 Air Temperature 16°C

Wind Velocity	5 km/hr	Wind Direction	north	Field pH Sfce	6.7
Cloud Cover	8 /10 O.C.	Surface Condition	rippled	5.25 m	6.5
Secchi Disc	1.8 m	Water Colour	Brownish green	H_2S	- m - mg/L

Method(s) Used for field tests:
Water Temperature YSI Model 57 Oxygen Meter
Dissolved Oxygen YSI Model 57 Oxygen Meter, Winkler Titration
Air Temperature Alcohol-filled hand held thermometer
Field pH Taylor Colour Comparator H_2S Not tested

Depth of Bottom 6.0 m Depth of Water Samples 0 m/ 5.25 m

DEPTH	O_2 (mg/L)	TEMP (°C)
Surface	8.5	14.4
0.5	8.4	14.4
1.0		
1.5	8.3	13.9
2.0		
2.5		
3.0	8.1	13.8
3.5		
4.0	8.0	13.7
4.5		
5.0	7.7	13.7
5.25	5.2	
5.5	3.25	13.1
6.0	2.0	11.5
	Bottom	
7.5		

DEPTH (m)	O_2 (mg/L)	TEMP (°C)
8.0		
8.5		
9.0		
9.5		
10.0		
11.0		
12.0		
13.0		
14.0		
15.0		
16.0		
17.0		
18.0		
19.0		
20.0		
21.0		

DEPTH	O_2 (mg/L)	TEMP (°C)
22.0		
23.0		
24.0		
25.0		
26.0		
27.0		
28.0		
29.0		
30.0		
31.0		
32.0		
33.0		
34.0		
35.0		

LAKE: Seymour

WATER CHEMISTRY CONT'D

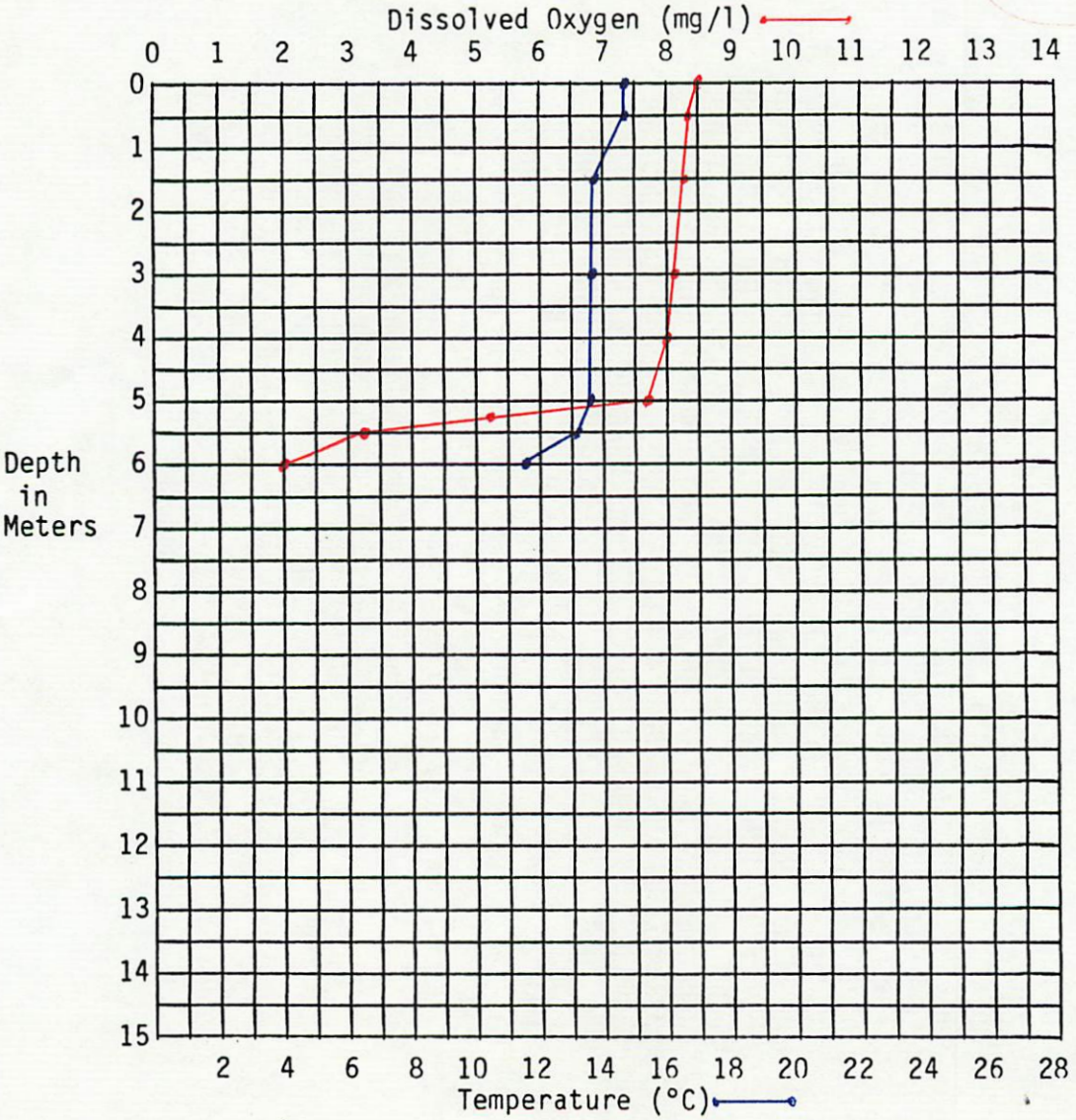
Limnology Station No: 1 Equis No: not applicable

Residue Filtrable 105°C (T.D.S.)	Specific Conductance	Lab pH
Surface 79 mg/L	Surface 83 umhos/cm	Surface 7.9
5.25 m 79 mg/L	5.25 m 83 umhos/cm	5.25 m 7.9

Method /Agency Used: Environmental Laboratory, Ministry of Environment, U.B.C.

Comments: This point is close to the point considered for pick-up of the water for the steelhead rearing facility.
Winkler Bottle Titration 5.2 ppm at 5.25 m.

DISSOLVED OXYGEN AND TEMPERATURE PROFILE



LAKE: Seymour

WATER CHEMISTRY Limnology Station No. 2

Date September 8, 1983 Time 1500 Air Temperature 16 °C

Wind Velocity 5 km/hr Wind Direction N Field pH Sfce -
Cloud Cover 8 /10 O.C. Surface Condition rippled - m -
Secchi Disc 1.8 m Water Colour Brownish-green H_2S - m - mg/L

Method(s) Used for field tests:
Water Temperature YSI Model 57 Oxygen-Temperature meter
Dissolved Oxygen YSI Model 57 Oxygen-Temperature meter
Air Temperature Alcohol-filled hand-held thermometer
Field pH not tested H_2S Not tested

Depth of Bottom 8.0 m Depth of Water Samples - m/ - m

DEPTH	O_2 (mg/L)	TEMP (°C)
Surface	9.1	14.3
0.5	8.8	14.1
1.0		
1.5	8.7	14.0
2.0	8.4	13.8
2.5		
3.0	8.4	13.8
3.5		
4.0	8.0	13.3
4.5		
5.0	7.5	13.2
5.5	0.50	11.9
6.0	0.45	10.3
6.5	0.75	9.3
7.0	0.65	9.0
7.5	0.60	8.9

DEPTH (m)	O_2 (mg/L)	TEMP (°C)
8.0	0.55 Bottom	8.9
8.5		
9.0		
9.5		
10.0		
11.0		
12.0		
13.0		
14.0		
15.0		
16.0		
17.0		
18.0		
19.0		
20.0		
21.0		

DEPTH	O_2 (mg/L)	TEMP (°C)
22.0		
23.0		
24.0		
25.0		
26.0		
27.0		
28.0		
29.0		
30.0		
31.0		
32.0		
33.0		
34.0		
35.0		

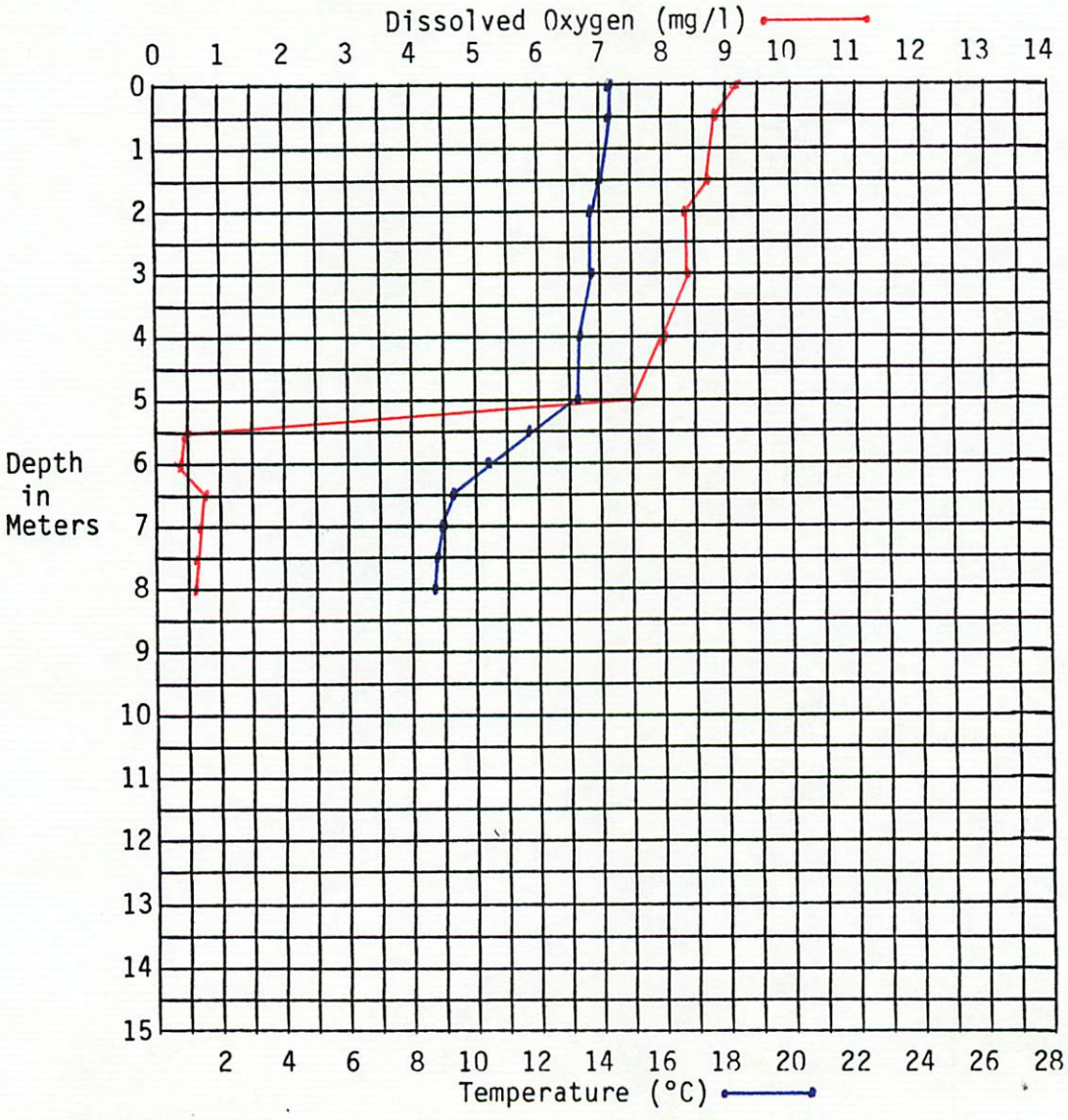
LAKE: Seymour

WATER CHEMISTRY CONT'D

Limnology Station No: 2 Equis No: 1131010

Comments: Seymour Lake Deep Station - see earlier tests for information on this point. These tests are in the appendices.

DISSOLVED OXYGEN AND TEMPERATURE PROFILE



LAKE: Seymour

WATER CHEMISTRY CONT'D

Comments

The analytical data suggest that the lake has low productivity, is low in mercury, has a moderate amount of iron, and has average phosphorus concentrations. The lake is much more productive than the sediments indicate.

For more information see the report by Boyd et al (1984) "Kathlyn, Seymour, Round, and Tyhee lakes: Water Quality Assessment and Objectives". Ministry of Environment, Province of British Columbia, Victoria, B. C.

LAKE: Seymour

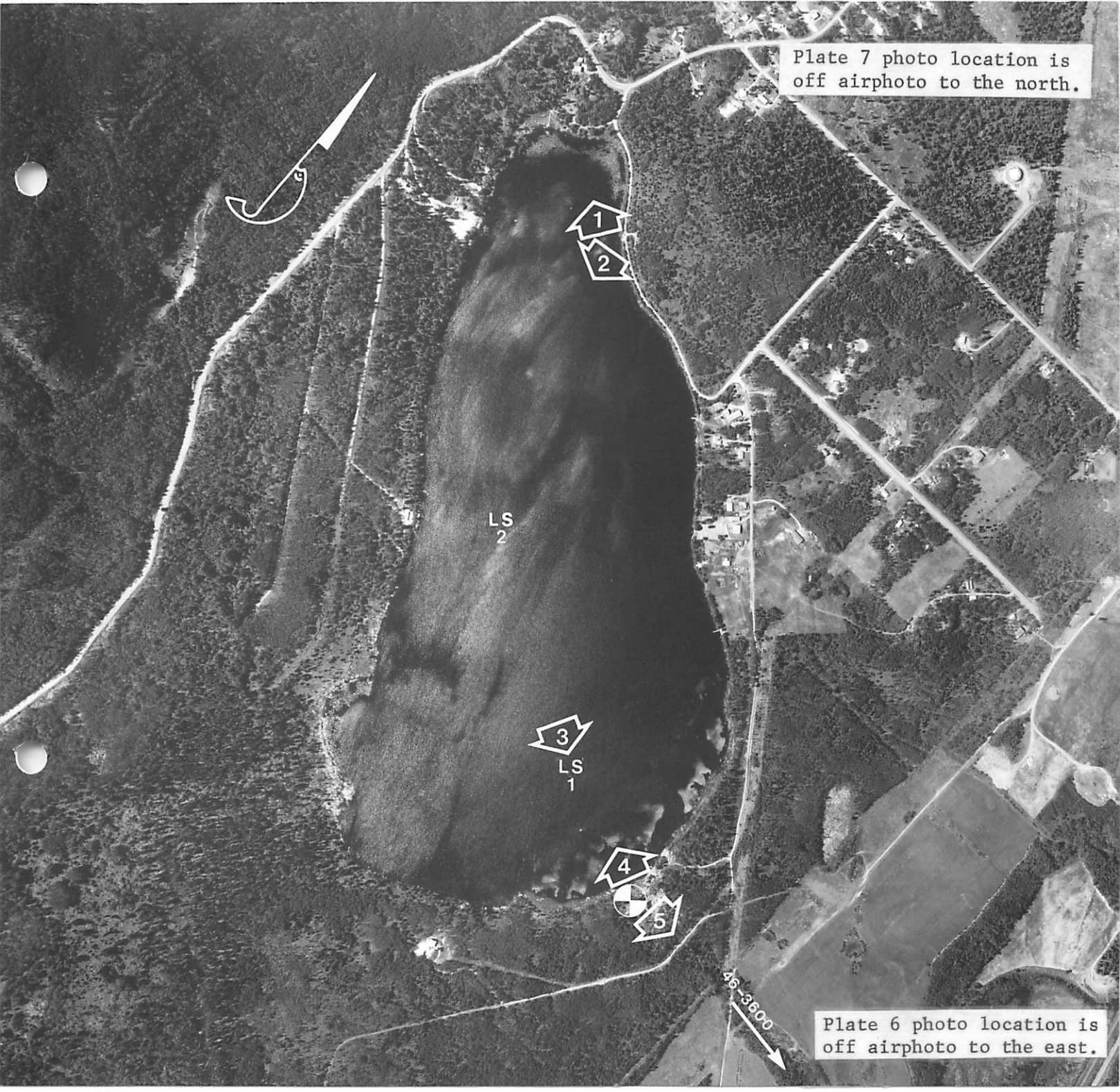
FISH CATCH SUMMARY

Table 1. Gill-netting results per inventory files for Seymour Lake near Smithers.

Species	1 Whately and Neilson Aug. 20/68	2 Falls and Beume June 30/74	3 Burns and Tredger Aug. 12/75	4 Shepard May 6/77	5 and Algard June 4/77	6 July 8/77	Totals
Peamouth chub (Mylocheilus caurinus)	75	2	241	142	52	187	699
Redside shiner (Richardsonius balteatus)	6	12	160	40	63	232	513
Squawfish (Ptychocheilus oregonensis)	36	18	39	22	62	60	237
Large scale sucker (Catostomus macrocheilus)	3	13	6	44	19	12	97
Prickly sculpin (Cottus asper)	—	1	—	1	—	—	2
Cutthroat trout (Salmo clarki clarki)	7	5	1	3	7	7	30
Longnose sucker				3	1	1	5
Rainbow trout				—	1	—	1
TOTALS	127	51	447	255	205	499	1,584

Fisheries Comments:

For more information please see the previous surveys of Seymour Creek done by the Fish and Wildlife Branch.



LOCATION OF INVENTORY SITES

Figure 1

Lake: Seymour

Reference No.: BC 82008:128

Reference Date: June 29, 1982

Scale: 1:10,377

1 — Plate number, area, and direction

2 — Point sample, number, and location

Bench mark

LS 1 — Limno station location and number

1 — Stream flow direction and number

LAKE: Seymour

APPENDICES

APPENDIX A - LABORATORY REPORT
Water Chemistry Analysis

WATER QUALITY REPORT FOR SAMPLE 310792W

TO: OKANAGAN REGION-WMB
3547 SKAHA LAKE RD
PENTICTON, B.C. V2A 6G7
ATTENTION OF: L SWAIN

Resource Quality Section
765 Broughton St
Victoria B.C.

FOR SITE: 1131010 SEYMOUR LAKE-CENTRE

SAMPLING DATE(S): SEP 8/83 1425 HRS TO SEP 8/83 1430 HRS
SAMPLE TYPE: FRESH WATER
SAMPLING DEPTH: 0
SAMPLED BY: RESOURCE QUALITY SECTION
CHARGE TO: WATER PGM (RSRC QUAL SCN)
DATE PROCESSED TO COMPUTER: SEP 22/83

0040101	PH	K REL UNIT	0050101	RESIDUE:TL 105C	79. MG/L
0071701	RES:FILT.105C	77. MG/L	0110101	SPECIFIC CONDUC	83. UMHO/CM
1070003	HARDNES,T:CACO3	36. MG/L	1081704	NITROGN:AMMONIA	0.007 MG/L
1091703	NITROGN:NO2 NO3	L 0.02 MG/L	1120003	NITROGN:ORGANIC	0.63 MG/L
1130105	NITROGN:KJELDAH	0.64 MG/L	1140001	NITROGEN:TOTAL	0.64 MG/L
1183703	PHOSPHORUS:ORT	L 0.003 MG/L	1193703	PHOSPHORUS :TOT DISSOLVED	0.011 MG/L
1193603	PHOSPHORUS :TOT	0.022 MG/L	1580101	TITRATION CURVE	K
2530310	CADMIUM TOTAL	L 0.0005 MG/L	2560310	COPPER TOTAL	L 0.001 MG/L
2580310	LEAD TOTAL	0.002 MG/L	2630310	NICKEL TOTAL	L 0.01 MG/L

FOLLOWING ARE PACKAGE TESTS:

2510214	ARSENIC TOTAL	L 0.25 MG/L	2530214	CADMIUM TOTAL	L 0.01 MG/L
2540214	CALCIUM TOTAL	7.88 MG/L	2550214	CHROMIUM TOTAL	L 0.01 MG/L
2560214	COPPER TOTAL	L 0.01 MG/L	2570214	IRON TOTAL	0.19 MG/L

SAMPLE NO. 310792W CONTINUED ON NEXT PAGE.

WATER QUALITY REPORT FOR SAMPLE 310792W

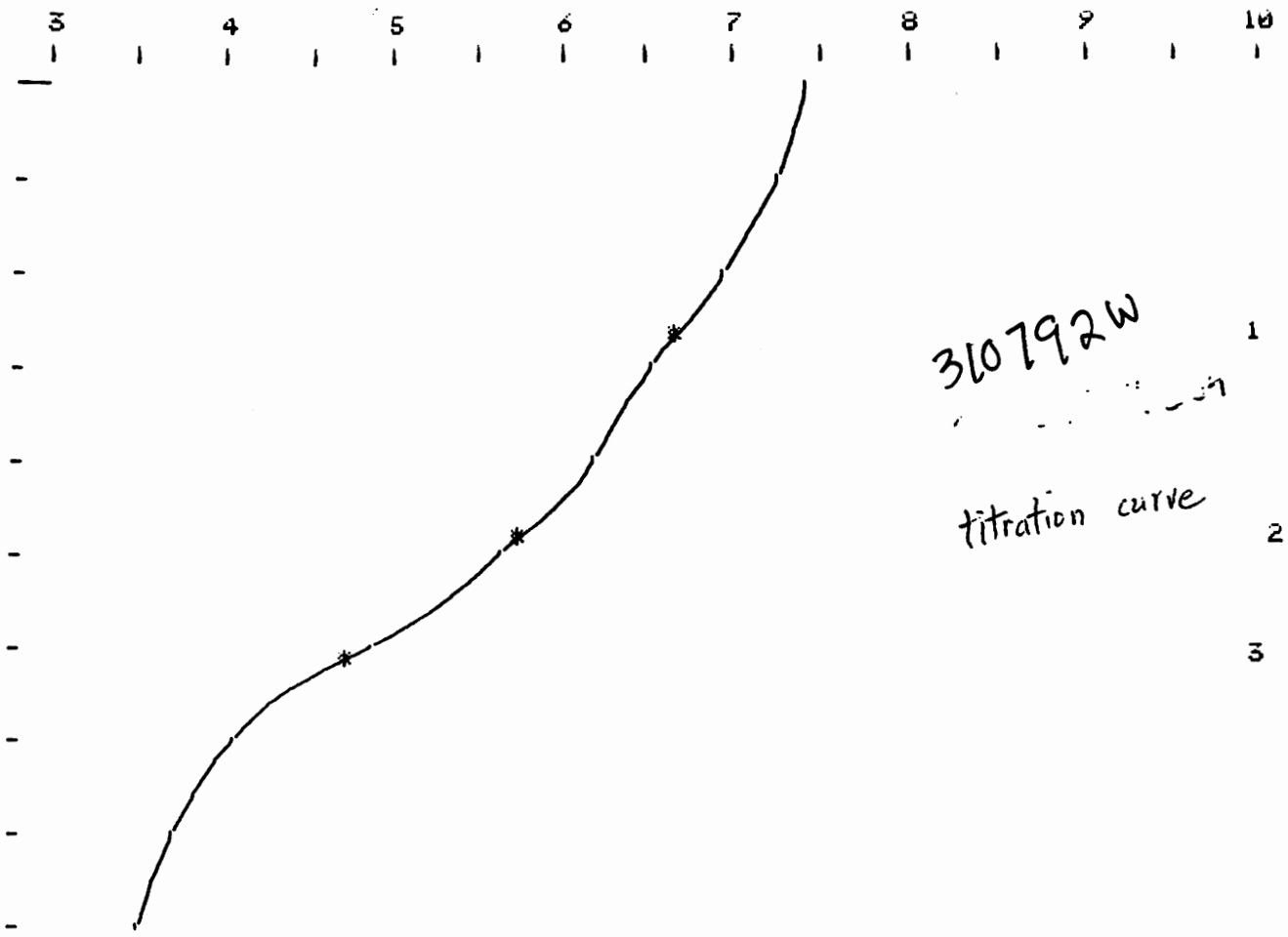
2580214	LEAD TOTAL	L 0.1 MG/L	2590214	MAGNESIUM TOTAL	3.96 MG/L
2600214	MANGANESE TOTAL	0.06 MG/L	2620214	MOLYBDENUM TOTAL	L 0.01 MG/L
2630214	NICKEL TOTAL	L 0.05 MG/L	2660214	ZINC TOTAL	L 0.01 MG/L
2670214	ALUMINUM TOTAL	L 0.02 MG/L	2680214	COBALT TOTAL	L 0.1 MG/L
2720214	VANADIUM TOTAL	L 0.01 MG/L			

THE APPROXIMATE COST OF THE ABOVE TESTS IS $ 194.00

REMARKS: pH = 7.4 Rel units.
Sample too long in transit

R. Sylvestre
FOR ENVIRONMENTAL LABORATORY

2.50ML/DIV V(START)/ML 0.000 PH



310792W

titration curve

#	17	PH(INIT)	7.374	ROUTINE #1
1	V/ML	6.727	PH(M)	6.647
2	V/ML	12.158	PH(M)	5.731
3	V/ML	15.372	PH(M)	4.721
A	V/ML	15.926	PH(M)	4.500
B	OUTSIDE		PH(M)	8.300

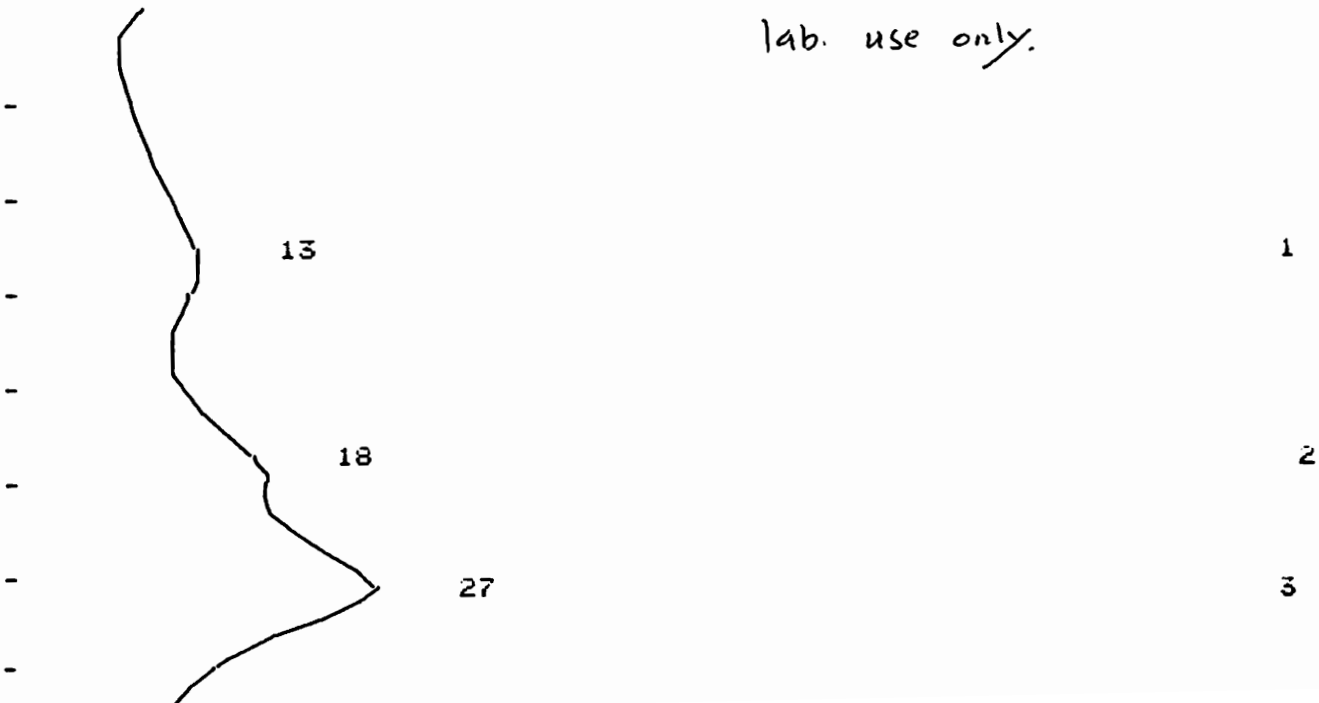
Initial pH 7.4

Total alkalinity = 39.1 mg/L

Phen. alkalinity = 0

DATE 21.09.83 NAME

2.50ML/DIV V(START)/ML 0.000 Differential titration for lab. use only.



WATER QUALITY REPORT FOR SAMPLE 310793W

TO: ~~OKANAGAN REGION,WMB~~ Resource Quality Section
~~3547 SKAHA LAKE RD~~
~~PENTICTON, B.C. V2A 6G7~~ 765 Broughton St
ATTENTION OF: L SWAIN Victoria B.C.

FOR SITE: ~~1131010~~ SEYMOUR LAKE,CENTRE

SAMPLING DATE(S): SEP 8/83 1420 HRS TO SEP 8/83 1425 HRS
SAMPLE TYPE: FRESH WATER
SAMPLING DEPTH: 5.25
SAMPLED BY: RESOURCE QUALITY SECTION
CHARGE TO: WATER PGM (RSRC QUAL SCN)
DATE PROCESSED TO COMPUTER: SEP 22/83

0040101	PH	K REL UNIT	0050101	RESIDUE;TL 105C	79. MG/L
0071701	RES;FILT.105C	77. MG/L	0110101	SPECIFIC CONDUC	83. UMHO/CM
1070003	HARDNES,T;CACO3	19.8 MG/L	1081704	NITROGN;AMMONIA	0.028 MG/L
1091703	NITROGN;NO2 NO3	0.15 MG/L	1120003	NITROGN;ORGANIC	0.59 MG/L
1130105	NITROGN;KJELDAH	0.62 MG/L	1140001	NITROGEN;TOTAL	0.77 MG/L
1183703	PHOSPHORUS;ORT	0.003 MG/L	1193703	PHOSPHORUS ;TOT DISSOLVED	0.013 MG/L
1193603	PHOSPHORUS ;TOT	0.059 MG/L	1380101	TITRATION CURVE	K
2530310	CADMIUM TOTAL	L 0.0005 MG/L	2560310	COPPER TOTAL	0.003 MG/L
2580310	LEAD TOTAL	L 0.001 MG/L	2630310	NICKEL TOTAL	L 0.01 MG/L

FOLLOWING ARE PACKAGE TESTS:

2510214	ARSENIC TOTAL	L 0.25 MG/L	2530214	CADMIUM TOTAL	L 0.01 MG/L
2540214	CALCIUM TOTAL	5.86 MG/L	2550214	CHROMIUM TOTAL	L 0.01 MG/L
2560214	COPPER TOTAL	L 0.01 MG/L	2570214	IRON TOTAL	4.64 MG/L

SAMPLE NO. 310793W CONTINUED ON NEXT PAGE.

WATER QUALITY REPORT FOR SAMPLE 310793W

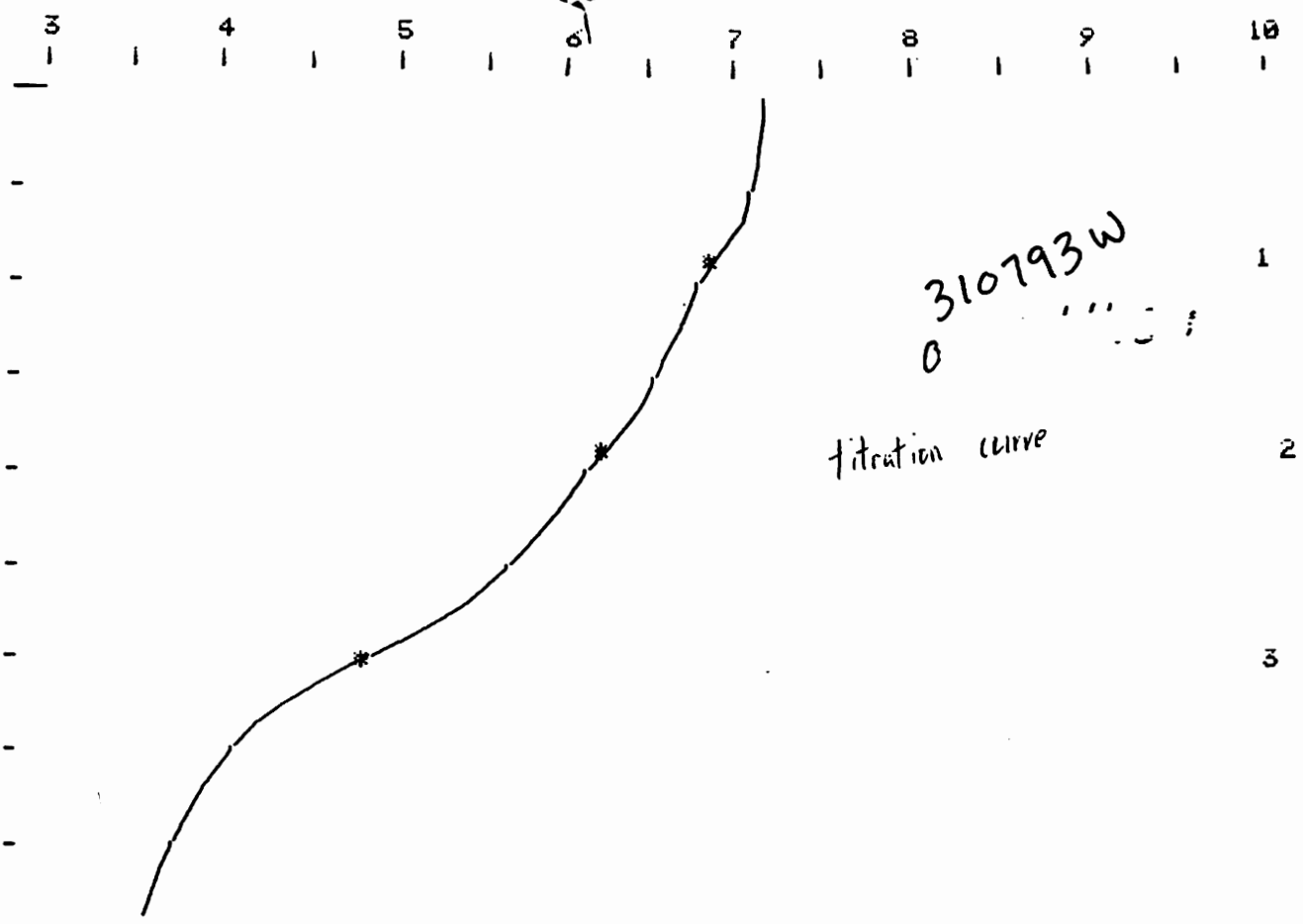
2580214	LEAD TOTAL	L 0.1 MG/L	2590214	MAGNESIUM TOTAL	1.25 MG/L
2600214	MANGANESE TOTAL	0.39 MG/L	2620214	MOLYBDENUM TOTAL	L 0.01 MG/L
2630214	NICKEL TOTAL	L 0.05 MG/L	2660214	ZINC TOTAL	0.02 MG/L
2670214	ALUMINUM TOTAL	0.2 MG/L	2680214	COBALT TOTAL	L 0.1 MG/L
2720214	VANADIUM TOTAL	L 0.01 MG/L			

THE APPROXIMATE COST OF THE ABOVE TESTS IS $ 194.00

REMARKS: pH = 7.2 Red units
Sample too long in transit

R. E. Nichols
FOR ENVIRONMENTAL LABORATORY

2.50ML/DIV V(STHR...



310793W

0

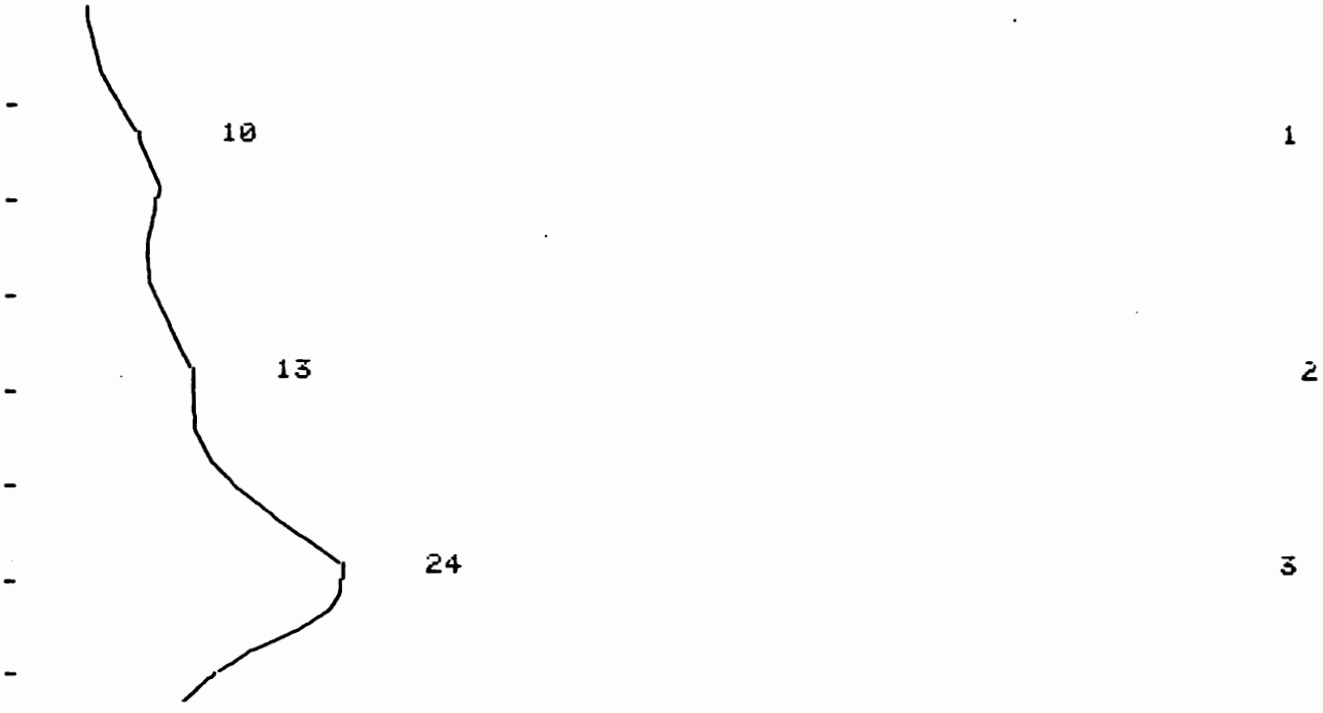
titration curve

#		18	PH(INIT)	7.150	Initial pH 7.2
1	V/ML	4.469	PH(M)	6.822	
2	V/ML	9.549	PH(M)	6.168	
3	V/ML	15.133	PH(M)	4.812	
A	V/ML	15.963	PH(M)	4.500	Total alkalinity = 39.2 mg/L
B	OUTSIDE		PH(M)	8.300	

ROUTINE #1

DATE 21.09.83 NAME

2.50ML/DIV V(START)/ML 0.000



TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

** START ** Y M D H M	* FINISH * Y M D H M	DEPTH METRES	SO RG	SAMPLE TP	C LOC T	002 COLOR TR UNKNOWN REL UNIT	PREP METH	004 PH UNKNOWN	PREP METH	004T PH TOTAL REL UNIT	PREP METH	005T RES 105C TOTAL MG/L	PREP METH	006T RES 550C TOTAL MG/L	PREP METH	008T RESNF105 TOTAL MG/L	PREP METH
820125 0000		1	11	01		40.	2001		A			75.	0101	30.	0101	2.	0101
820125 0000		5	11	01		40.	2001		A			74.	0101	30.	0101	1.	0101
820125 0000		6	11	01		40.	2001		A			76.	0101	33.	0101	2.	0101
820511 1030 (LAB # = 205086W)		1	11	01					A			76.	0101	26.	0101	4.	0103
820511 1040 (LAB # = 205087W)		5	11	01					A			79.	0101	27.	0101	4.	0103
820514 0000 (LAB # = 205151W)		0	11	01		60.	2001				K 0101	80.	0101	36.	0101	3.	0101
820609 0000 (LAB # = 208528W)		0.5	11	01		50.	2001			7.5	0101	75.	0101	33.	0101	3.	0101
820609 0000 (LAB # = 208527W)		4	11	01		50.	2001			7.4	0101	77.	0101	29.	0101	4.	0101
820609 0000 (LAB # = 208528W)		6	11	01		50.	2001			7.2	0101	78.	0101	29.	0101	5.	0101
820721 0000 (LAB # = 209349W)		0	11	01					N								
820721 0000 (LAB # = 209350W)		5	11	01					N								
820721 0000 (LAB # = 209351W)		7	11	01					N								
820903 0000 (LAB # = 212837W)		0.5	11	01					N								
820903 0000 (LAB # = 212838W)		7	11	01					N								
821020 0000 (LAB # = 214869W)		0.5	11	01							N 0101						
821020 0000 (LAB # = 214870W)		6	11	01							N 0101						

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

	002 COLOR TR UNKNOWN REL UNIT	004 PH UNKNOWN	004T PH TOTAL REL UNIT	005T RES 105C TOTAL MG/L	006T RES 550C TOTAL MG/L	008T RESNF105 TOTAL MG/L
NUMBER OF VALUES	7	0	3	9	9	9
MAXIMUM	60.		7.5	80.	36.	5.
MINIMUM	40.		7.2	74.	26.	1.
AVERAGE	47.143		7.3667	76.667	30.333	3.1111
STANDARD DEVIATION	7.5593		0.15273	2.	3.1623	1.2693
STD. ERROR OF MEAN	3.0861		0.10799	0.70711	1.118	0.44876
GEOMETRIC MEAN	46.639		7.3656	76.644	30.19	2.8267
PERCENTILES:						
PCT10						
PCT25	40.			75.	28.	2.
PCT50	50.		7.4	76.	33.	3.
PCT75	50.			78.5	33.	4.
PCT90						
						∂∂∂

EXPLANATORY NOTES:
COLUMNS FLAGGED WITH '∂∂∂' INCLUDE MORE THAN ONE TEST METHOD

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

** START ** Y M D H M	* FINISH * Y M D H M	DEPTH METRES	SB AG	SAMPLE TP	LOC	C T	009T RESNF550 TOTAL MG/L	PREP METH	011 SPF COND UNKNOWN	PREP METH	011T SPF COND TOTAL US/CM	PREP METH	013FM T SAMPLG FLD. MEAS DEG. C	PREP METH	014FM OXY DISS FLD. MEAS MG/L	PREP METH	014T OXY DISS TOTAL MG/L	PREP METH
820125 0000		0	11	01									1.9	0053	9.7	0101	9.7	3005
820125 0000		1	11	01			1.	0102			88.	#0101	3.5	0053	7.3	0101		
820125 0000		2	11	01									4.	0053	4.8	0101		
820125 0000		3	11	01									4.6	0053	1.4	0101		
820125 0000		4	11	01									5.	0053	L 1.	0101		
820125 0000		5	11	01			L 1.	0102			85.	#0101	5.2	0053	L 1.	0101		
820125 0000		6	11	01			1.	0102			86.	#0101	5.2	0053	L 1.	0101		
820511 1030		1	11	01			2.	0103			82.	#0101						
(LAB # = 205066W)																		
820511 1040		5	11	01			2.	0103			87.	#0101						
(LAB # = 205067W)																		
820514 0000		0	11	01			1.	0102			82.	#0101						
(LAB # = 205151W)																		
820609 0000		0.5	11	01			1.	0102			75.	#0101						
(LAB # = 206626W)																		
820609 0000		4	11	01			2.	0102			76.	#0101						
(LAB # = 206627W)																		
820609 0000		6	11	01			2.	0102			79.	#0101						
(LAB # = 206628W)																		
820721 0000		0	11	01					N									
(LAB # = 209349W)																		
820721 0000		5	11	01					N									
(LAB # = 209350W)																		
820721 0000		7	11	01					N									
(LAB # = 209351W)																		
820908 0000		0.5	11	01					N									
(LAB # = 212837W)																		
820908 0000		7	11	01					N									
(LAB # = 212838W)																		
821020 0000		0.5	11	01							N	0101						
(LAB # = 214869W)																		
821020 0000		6	11	01							N	0101						
(LAB # = 214870W)																		

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

	009T RESNF550 TOTAL MG/L	011 SPF COND UNKNOWN	011T SPF COND TOTAL US/CM	013FM T SAMPLG FLD. MEAS DEG. C	014FM OXY DISS FLD. MEAS MG/L	014T OXY DISS TOTAL MG/L
NUMBER OF VALUES	9	0	9	7	7	1
MAXIMUM	2.		88.	5.2	9.7	9.7
MINIMUM	L 1.		75.	1.9	L 1.	9.7
AVERAGE	1.4444		82.222	4.2	3.7429	9.7
STANDARD DEVIATION	0.52705		4.7376	1.1986	3.5897	
STD. ERROR OF MEAN	0.18634		1.675	0.48933	1.4655	
GEOMETRIC MEAN	1.3608		82.099	4.0055	2.4127	9.7
PERCENTILES:						
PCT10						
PCT25	1.		77.5	3.5	1.	
PCT50	1.		82.	4.6	1.4	
PCT75	2.		86.5	5.2	7.3	
PCT90						
	***				***	
	∂∂∂					

EXPLANATORY NOTES:
RESULTS FLAGGED WITH '#' HAVE REQUIRED CONVERSION
STATISTICS FLAGGED WITH '***' INCLUDE ONE OR MORE VALUES MARKED L,M OR G
COLUMNS FLAGGED WITH '∂∂∂' INCLUDE MORE THAN ONE TEST METHOD

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

** START ** Y M D H M	* FINISH * Y M D H M	DEPTH METRES	SB AG	SAMPLE TP	LOC	C T	015 TURBIDTY UNKNOWN	PREP METH	015T TURBIDTY TOTAL N. T. U.	PREP METH	100T SP. ANAL. TOTAL MG/L	PREP METH	102 ALKALI T UNKNOWN	PREP METH	103 CARBN OR UNKNOWN	PREP METH	103T CARBN OR TOTAL MG/L	PREP METH
820125 0000		1	11	01			A						A					
820125 0000		5	11	01			A						A					
820125 0000		6	11	01			A						A					
820511 1030 (LAB # = 205066W)		1	11	01			A						A		A			
820511 1040 (LAB # = 205067W)		5	11	01			A						A		A			
820514 0000		0	11	01					K 0101		K 0001 :: 0003							
820609 0000 (LAB # = 206626W)		0.5	11	01					1.6	0101	K 0003						14.	0101
820609 0000 (LAB # = 206627W)		4	11	01					2.5	0101								
820609 0000 (LAB # = 206628W)		6	11	01					3.	0101								
	NUMBER OF VALUES						0		3		0		0		0		1	
	MAXIMUM								3.								14.	
	MINIMUM								1.6								14.	
	AVERAGE								2.3667								14.	
	STANDARD DEVIATION								0.70946									
	STD. ERROR OF MEAN								0.50166									
	GEOMETRIC MEAN								2.2894								14.	
	PERCENTILES:																	
	PCT10																	
	PCT25																	
	PCT50								2.5									
	PCT75																	
	PCT90																	
											###							

EXPLANATORY NOTES:
COLUMNS FLAGGED WITH '###' INCLUDE MORE THAN ONE TEST METHOD

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

** START ** Y M D H M	* FINISH * Y M D H M	DEPTH METRES	SB AG	SAMPLE TP	LOC	C T	1040 CHLORIDE DISSOLVD MG/L	PREP METH	1070 HARDNESS DISSOLVD MG/L	PREP METH	108 AMMONIA UNKNOWN	PREP METH	1080 AMMONIA DISSOLVD MG/L	PREP METH	109 NO2/NO3 UNKNOWN	PREP METH	1090 NO2/NO3 DISSOLVD MG/L	PREP METH
820125 0000		1	11	01					44.4	0002		A				A		
820125 0000		5	11	01					41.9	0002		A				A		
820125 0000		6	11	01					43.	0002		A				A		
820511 1030 (LAB # = 205066W)		1	11	01								A				A		
820511 1040 (LAB # = 205067W)		5	11	01								A				A		
820514 0000 (LAB # = 205151W)		0	11	01			1.3	1702						K	1704			K 1703
820609 0000 (LAB # = 206626W)		0.5	11	01			1.4	1702					0.007		1704			L 0.02 1703
820609 0000 (LAB # = 206627W)		4	11	01									0.011		1704			L 0.02 1703
820609 0000 (LAB # = 206628W)		6	11	01									0.015		1704			L 0.02 1703
820721 0000 (LAB # = 209349W)		0	11	01									0.006		3704			L 0.02 3703
820721 0000 (LAB # = 209350W)		5	11	01									L 0.005		3704			L 0.02 3703
820721 0000 (LAB # = 209351W)		7	11	01									0.181		3704			L 0.02 3703
820903 0000 (LAB # = 212837W)		0.5	11	01									0.009		3704			0.02 3703
820903 0000 (LAB # = 212838W)		7	11	01									0.875		3704			L 0.02 3703
821020 0000 (LAB # = 214869W)		0.5	11	01									0.028		3704			L 0.02 3703
821020 0000 (LAB # = 214870W)		6	11	01									0.031		3704			L 0.02 3703

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

	1040 CHLORIDE DISSOLVD MG/L	1070 HARDNESS DISSOLVD MG/L	108 AMMONIA UNKNOWN	1080 AMMONIA DISSOLVD MG/L	109 NO2/NO3 UNKNOWN	1090 NO2/NO3 DISSOLVD MG/L
NUMBER OF VALUES	2	3	0	10	0	10
MAXIMUM	1.4	44.4		0.875		0.02
MINIMUM	1.3	41.9		L 0.005		L 0.02
AVERAGE	1.35	43.1		0.1168		0.02
STANDARD DEVIATION	.070703	1.253		0.27167		0.0
STD. ERROR OF MEAN	.070703	0.88597		.090557		0.
GEOMETRIC MEAN	1.3491	43.088		023079		0.02
PERCENTILES:						
PCT10				0.0051		0.02
PCT25				0.00675		0.02
PCT50	1.35	43.		0.013		0.02
PCT75				0.0685		0.02
PCT90				0.8056		0.02
				***		***
				∂∂∂		∂∂∂

EXPLANATORY NOTES:
STATISTICS FLAGGED WITH '***' INCLUDE ONE OR MORE VALUES MARKED L, M OR G
COLUMNS FLAGGED WITH '∂∂∂' INCLUDE MORE THAN ONE TEST METHOD

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

** START ** Y M D H M	* FINISH * Y M D H M	DEPTH METRES	SB AG	SAMPLE TP	LOC	C T	112 NIT ORGN UNKNOWN MG/L	PREP METH	112T NIT ORGN TOTAL MG/L	PREP METH	113T NIT KJEL TOTAL MG/L	PREP METH	114 NIT TOTL UNKNOWN MG/L	PREP METH	114T NIT TOTL TOTAL MG/L	PREP METH	116 C. O. D. UNKNOWN MG/L	PREP METH
820125 0000		1	11	01				A						A				
820125 0000		5	11	01				A						A				
820125 0000		6	11	01				A						A				
820511 1030 (LAB # = 205066W)		1	11	01				A						A				A
820511 1040 (LAB # = 205067W)		5	11	01				A						A				A
820514 0000 (LAB # = 205151W)		0	11	01					N	0003	0.63	0101			N	0001		
820609 0000 (LAB # = 206626W)		0.5	11	01					0.53	0003	0.54	0101			0.54	0001		
820609 0000 (LAB # = 206627W)		4	11	01					0.48	0003	0.49	0101			0.49	0001		
820609 0000 (LAB # = 206628W)		6	11	01					0.49	0003	0.5	0101			0.5	0001		
820721 0000 (LAB # = 209349W)		0	11	01					0.54	0003	0.55	3601			0.55	0001		
820721 0000 (LAB # = 209350W)		5	11	01					0.49	0003	0.49	3601			0.49	0001		
820721 0000 (LAB # = 209351W)		7	11	01					0.4	0003	0.58	3601			0.58	0001		
820908 0000 (LAB # = 212837W)		0.5	11	01					0.52	0003	0.53	3601			0.55	0001		
820908 0000 (LAB # = 212838W)		7	11	01					0.64	0003	1.52	3601			1.52	0001		
821020 0000 (LAB # = 214869W)		0.5	11	01					0.55	0003	0.58	3601			0.58	0001		
821020 0000 (LAB # = 214870W)		6	11	01					0.62	0003	0.65	3601			0.65	0001		

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

	112 NIT ORGN UNKNOWN	112T NIT ORGN TOTAL MG/L	113T NIT KJEL TOTAL MG/L	114 NIT TOTL UNKNOWN	114T NIT TOTL TOTAL MG/L	116 C. O. D. UNKNOWN
NUMBER OF VALUES	0	10	11	0	10	0
MAXIMUM		0. 64	1. 52		1. 52	
MINIMUM		0. 4	0. 49		0. 49	
AVERAGE		0. 526	0. 64182		0. 645	
STANDARD DEVIATION		. 069314	0. 29607		0. 31131	
STD. ERROR OF MEAN		. 023105	. 093625		0. 10377	
GEOMETRIC MEAN		0. 52183	0. 60475		0. 60452	
PERCENTILES:						
PCT10		0. 408	0. 49		0. 49	
PCT25		0. 4875	0. 5		0. 4975	
PCT50		0. 525	0. 55		0. 55	
PCT75		0. 5675	0. 63		0. 5975	
PCT90		0. 638	1. 346		1. 433	
			∂∂∂			

EXPLANATORY NOTES:
COLUMNS FLAGGED WITH '∂∂∂' INCLUDE MORE THAN ONE TEST METHOD

SITE 11310:0 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

** START ** Y M D H M	* FINISH * Y M D H M	DEPTH METRES	SB AG	SAMPLE TP	C LOC	T	118 PHOS ORT UNKNOWN MG/L	PREP METH	1180 PHOS ORT DISSOLVD MG/L	PREP METH	119 PHOS TOT UNKNOWN MG/L	PREP METH	1190 PHOS TOT DISSOLVD MG/L	PREP METH	119T PHOS TOT TOTAL MG/L	PREP METH	1200 SILICA DISSOLVD MG/L	PREP METH
820125 0000		1	11	01				A				A	0		0.03	0103	3.9	1702
820125 0000		5	11	01				A				A	0		0.029	0103	4.7	1702
820125 0000		6	11	01				A				A	0		0.032	0103	4.9	1702
820511 1030 (LAB # = 205066W)		1	11	01				A				A	0		0.051	0103	5.5	1702
820511 1040 (LAB # = 205067W)		5	11	01				A				A	0		0.053	0103	6.	1702
820514 0000 (LAB # = 205151W)		0	11	01					K	1703				1703	0.034	0103	5.4	1702
820609 0000 (LAB # = 206626W)		0.5	11	01					0.003	1703			0.014	1703	0.023	0103	5.3	1702
820609 0000 (LAB # = 206627W)		4	11	01					0.004	1703			0.015	1703	0.032	0103	5.7	1702
820609 0000 (LAB # = 206628W)		6	11	01					0.006	1703			0.017	1703	0.039	0103	6.8	1702
820721 0000 (LAB # = 209349W)		0	11	01					0.008	3703			0.012	3703				
820721 0000 (LAB # = 209350W)		5	11	01					0.006	3703			0.012	3703				
820721 0000 (LAB # = 209351W)		7	11	01					0.011	3703			0.017	3703				
820908 0000 (LAB # = 212837W)		0.5	11	01				L	0.003	3703			0.012	3703				
820908 0000 (LAB # = 212838W)		7	11	01					0.005	3703			0.012	3703				
821020 0000 (LAB # = 214869W)		0.5	11	01					0.008	3703			0.015	3703				
821020 0000 (LAB # = 214870W)		6	11	01					0.006	3703			0.014	3703				

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

	118 PHOS ORT UNKNOWN	1180 PHOS ORT DISSOLVD MG/L	119 PHOS TOT UNKNOWN	1190 PHOS TOT DISSOLVD MG/L	119T PHOS TOT TOTAL MG/L	1200 SILICA DISSOLVD MG/L
NUMBER OF VALUES	0	10	0	10	9	9
MAXIMUM		0.011		0.017	0.053	6.8
MINIMUM		L 0.003		0.012	0.023	3.9
AVERAGE		0.006		0.014	035889	5.3556
STANDARD DEVIATION		.0024944		0.002	0.01008	0.82175
STD. ERROR OF MEAN		.0008315		0006667	.0035639	0.29053
GEOMETRIC MEAN		.0055428		013874	.034726	5.2979
PERCENTILES:						
PCT10		0.003		0.012		
PCT25		0.00375		0.012	0.0295	4.8
PCT50		0.006		0.014	0.032	5.4
PCT75		0.008		0.0155	0.045	5.85
PCT90		0.0107		0.017		
		***				
		###		###		

EXPLANATORY NOTES:
STATISTICS FLAGGED WITH '***' INCLUDE ONE OR MORE VALUES MARKED L,M OR G
COLUMNS FLAGGED WITH '###' INCLUDE MORE THAN ONE TEST METHOD

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

** START ** Y M D H M	* FINISH * Y M D H M	DEPTH METRES	SB AG	SAMPLE TP	C LOC	T	1210 SULPHATE DISSOLVD MG/L	PREP METH	123 TAN&LIGN UNKNOWN	PREP METH	124 CARBN IO UNKNOWN	PREP METH	124T CARBN IO TOTAL MG/L	PREP METH	143NS CHLORO. A MG/L	PREP METH	253T CADMIUM TOTAL MG/L	PREP METH
820125 0000		1	11	01											M 0.001#3101			
820125 0000		3	11	01			———								L 0.0005#3101			
820125 0000		5	11	01											M 0.0012#3101			
820125 0000		7	11	01											M 0.0013#3101			
(LAB # = 201354W)																		
820511 1030		1	11	01			L 5.	1701	E		A							
(LAB # = 205066W)																		
820511 1040		5	11	01			L 5.	1701	E		A							
(LAB # = 205067W)																		
820514 0000		0	11	01													L 0.0005	0210
(LAB # = 205151W)																		
820609 0000		0.5	11	01			L 5.	1701					8.	0101				
(LAB # = 206626W)																		
820609 0000		4	11	01			L 5.	1701	E				9.	0101				
(LAB # = 206627W)																		
820609 0000		6	11	01			L 5.	1701	E				11.	0101				
(LAB # = 206628W)																		
820908 0000		0.5	11	01											M 0.0091#3101			
(LAB # = 212837W)																		
NUMBER OF VALUES							5		0		0		3		5		1	
MAXIMUM							L 5.						11.		M 0.0091		L 0.0005	
MINIMUM							L 5.						8.		L 0.0005		L 0.0005	
AVERAGE							5.						9.3333		0.00262		0.0005	
STANDARD DEVIATION							0.0						1.5275		.0036355			
STD. ERROR OF MEAN							0.						1.0801		.0018178			
GEOMETRIC MEAN							5.						9.2521		.0014799		0.0005	
PERCENTILES:																		
PCT10																		
PCT25							5.								0.00075			
PCT50							5.						9.		0.0012			
PCT75							5.								0.0052			
PCT90																		
							***								***		***	

EXPLANATORY NOTES:
RESULTS FLAGGED WITH '#' HAVE REQUIRED CONVERSION
STATISTICS FLAGGED WITH '***' INCLUDE ONE OR MORE VALUES MARKED L,M OR G

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

** START ** Y M D H M	* FINISH * Y M D H M	DEPTH METRES	SB AG	SAMPLE TP	C LOC	T	254T CALCIUM TOTAL MG/L	PREP METH	256T COPPER TOTAL MG/L	PREP METH	258T LEAD TOTAL MG/L	PREP METH	259T MGNESIUM TOTAL MG/L	PREP METH	263T NICKEL TOTAL MG/L	PREP METH	264D POTASIUM DISSOLVD MG/L	PREP METH
820125 0000		1	11	01			10.2	0303					4.6	0203				
820125 0000		5	11	01			9.7	0303					4.3	0203				
820125 0000		6	11	01			10.3	0303					4.2	0203				
820514 0000 (LAB # = 205151W)		0	11	01					L 0.001	0210	0.005	0210			L 0.01	0210	0.8	1703
820609 0000 (LAB # = 206626W)		0.5	11	01													0.7	1703
	NUMBER OF VALUES						3		1		1		3		1		2	
	MAXIMUM						10.3		L 0.001		0.005		4.6		L 0.01		0.8	
	MINIMUM						9.7		L 0.001		0.005		4.2		L 0.01		0.7	
	AVERAGE						10.067		0.001		0.005		4.3667		0.01		0.75	
	STANDARD DEVIATION						0.32144						0.20814				0.07071	
	STD. ERROR OF MEAN						0.22729						0.14718				0.07071	
	GEOMETRIC MEAN						10.063		0.001		0.005		4.3634		0.01		0.74833	
	PERCENTILES:																	
	PCT10																	
	PCT25																	
	PCT50						10.2						4.3				0.75	
	PCT75																	
	PCT90								***						***			

EXPLANATORY NOTES:
STATISTICS FLAGGED WITH '***' INCLUDE ONE OR MORE VALUES MARKED L,M OR G

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

** START ** Y M D H M	* FINISH * Y M D H M	DEPTH METRES	SB AG	SAMPLE TP	LOC	C T	2650 SODIUM DISSOLVD MG/L	PREP METH	266T ZINC TOTAL MG/L	PREP METH
820514 0000 (LAB # = 205151W)		0	11	01					L 0.005	0210
820609 0000 (LAB # = 206626W)		0.5	11	01			2.4	1703		
NUMBER OF VALUES							1		1	
MAXIMUM							2.4		L 0.005	
MINIMUM							2.4		L 0.005	
AVERAGE							2.4		0.005	
STANDARD DEVIATION										
STD. ERROR OF MEAN										
GEOMETRIC MEAN							2.4		0.005	
PERCENTILES:										
PCT10										
PCT25										
PCT50										
PCT75										
PCT90									***	

EXPLANATORY NOTES:
STATISTICS FLAGGED WITH '***' INCLUDE ONE OR MORE VALUES MARKED L,M OR G

SITE 1131010 CONTINUED

TEST RESULTS FOR SITE 1131010 SEYMOUR LAKE-CENTRE FOR 01 JANUARY 1965 TO 29 DECEMBER 1982

SUBMITTING AGENCY: ALL
DEPTH: ALL
SAMPLING LOCATION: ALL

** START ** Y M D H M	* FINISH * Y M D H M	DEPTH METRES	SB AG	SAMPLE TP	LOC	C T	119UZ PHOS TOT UNF: FROZ MG/L	PREP METH
820721 0000 (LAB # = 209349W)		0	11	01			0.021	3603
820721 0000 (LAB # = 209350W)		5	11	01			0.035	3603
820721 0000 (LAB # = 209351W)		7	11	01			0.251	3603
820908 0000 (LAB # = 212837W)		0.5	11	01			0.019	3603
820908 0000 (LAB # = 212838W)		7	11	01			0.657	3603
821020 0000 (LAB # = 214869W)		0.5	11	01			0.046	3603
821020 0000 (LAB # = 214870W)		6	11	01			0.061	3603

NUMBER OF VALUES	7
MAXIMUM	0.657
MINIMUM	0.019
AVERAGE	0.15557
STANDARD DEVIATION	0.23559
STD. ERROR OF MEAN	.096178
GEOMETRIC MEAN	.067404
PERCENTILES:	
PCT10	
PCT25	0.021
PCT50	0.045
PCT75	0.251
PCT90	

LAKE: Seymour

APPENDICES

APPENDIX B - LABORATORY REPORT
Bottom Sediment Analysis

FEBRUARY 3, 1984 ENVIRONMENTAL LABORATORY PAGE 1
MINISTRY OF THE ENVIRONMENT

WATER QUALITY REPORT FOR SAMPLE 311749W

TO: RESOURCE QUALITY SEC
768 BROUGHTON ST.
VICTORIA, B.C. V8V 1X5
ATTENTION OF: C MCKEAN

#75

FOR SITE: 113101B SEYMOUR LAKE CENTRE

#: 102
DEPTH: 7

SAMPLING DATE(S): SEP 8/83 0000 HRS
SAMPLE TYPE: BOTTOM SEDIMENT
SAMPLED BY: RESOURCE QUALITY SECTION
CHARGE TO: WATER PGM (RSRC QUAL SCN)
DATE PROCESSED TO COMPUTER: OCT 19/83

0322402	RESIDUE:TOT.VO	7.0 %	1032402	CARBON:ORGANIC	25. MG/G DRY
1132402	NITROGN:KJELDAH	2.2 MG/G DRY	1242402	CARBON:INORG.	14. MG/G DRY
1472401	CARBON:TOTAL	39. MG/G DRY	2612408	MERCURY	0.10 ~~0.10~~ UG/G DRY
2892411	SILICON	19. UG/G DRY			

FOLLOWING ARE PACKAGE TESTS:

1192411	PHOSPHORUS TOT	813. UG/G DRY	2512411	ARSENIC	L 25. UG/G DRY
2522411	BORON	L 1. UG/G DRY	2532411	CADMIUM	L 1. UG/G DRY
2542412	CALCIUM	2.70 MG/G DRY	2552411	CHROMIUM	19. UG/G DRY
2562411	COPPER	18. UG/G DRY	2572412	IRON	25.4 MG/G DRY
2582411	LEAD	L 10. UG/G DRY	2592412	MAGNESIUM	4.03 MG/G DRY
2602411	MANGANESE	400. UG/G DRY	2622411	MOLYBDENUM	4. UG/G DRY
2632411	NICKEL	15. UG/G DRY	2662411	ZINC	101. UG/G DRY
2672412	ALUMINUM	9.7 MG/G DRY	2682411	COBALT	L 10. UG/G DRY

SAMPLE NO. 311749W CONTINUED ON NEXT PAGE.

WATER QUALITY REPORT FOR SAMPLE 311749W

28.1

2702411	BARIUM	115. UG/G DRY	2722411	VANADIUM	28. UG/G DRY
2742411	SELENIUM	L 10. UG/G DRY	2762411	TITANIUM	59. UG/G DRY
2822411	TIN	6. UG/G DRY	2832411	BERYLLIUM	L 1. UG/G DRY
2842411	THALLIUM	L 20. UG/G DRY	2872411	STRONTIUM	20. UG/G DRY
2882411	TELLURIUM	35. UG/G DRY			

THE APPROXIMATE COST OF THE ABOVE TESTS IS $ 228.00

REMARKS:

[signature]

FOR ENVIRONMENTAL LABORATORY

MINISTRY OF THE ENVIRONMENT

WATER QUALITY REPORT FOR SAMPLE 313697W

TO: RESOURCE QUALITY SEC
765 BROUGHTON ST.
VICTORIA, B.C. V8V 1X5
ATTENTION OF: C MCKEAN

FOR SITE: SEYMOUR LK

SAMPLING DATE(S): OCT 1/83 0000 HRS
SAMPLE TYPE: BOTTOM SEDIMENT
SAMPLED BY: RESOURCE QUALITY SECTION
CHARGE TO: WATER PGM (RSRC QUAL SCN)
DATE PROCESSED TO COMPUTER: DEC 09/83

2612408	MERCURY	0.08	UG/G@20C

THE APPROXIMATE COST OF THE ABOVE TESTS IS $ 47.00

REMARKS:

FOR ENVIRONMENTAL LABORATORY

JANUARY 31, 1985 ENVIRONMENTAL LABORATORY PAGE 1
MINISTRY OF THE ENVIRONMENT

WATER QUALITY REPORT FOR SAMPLE 409364W #176

TO: RESOURCE QUALITY SEC
765 BROUGHTON ST.
VICTORIA, B.C. V8V 1X5
ATTENTION OF: C MCKEAN 102

FOR SITE: SEYMOUR LK

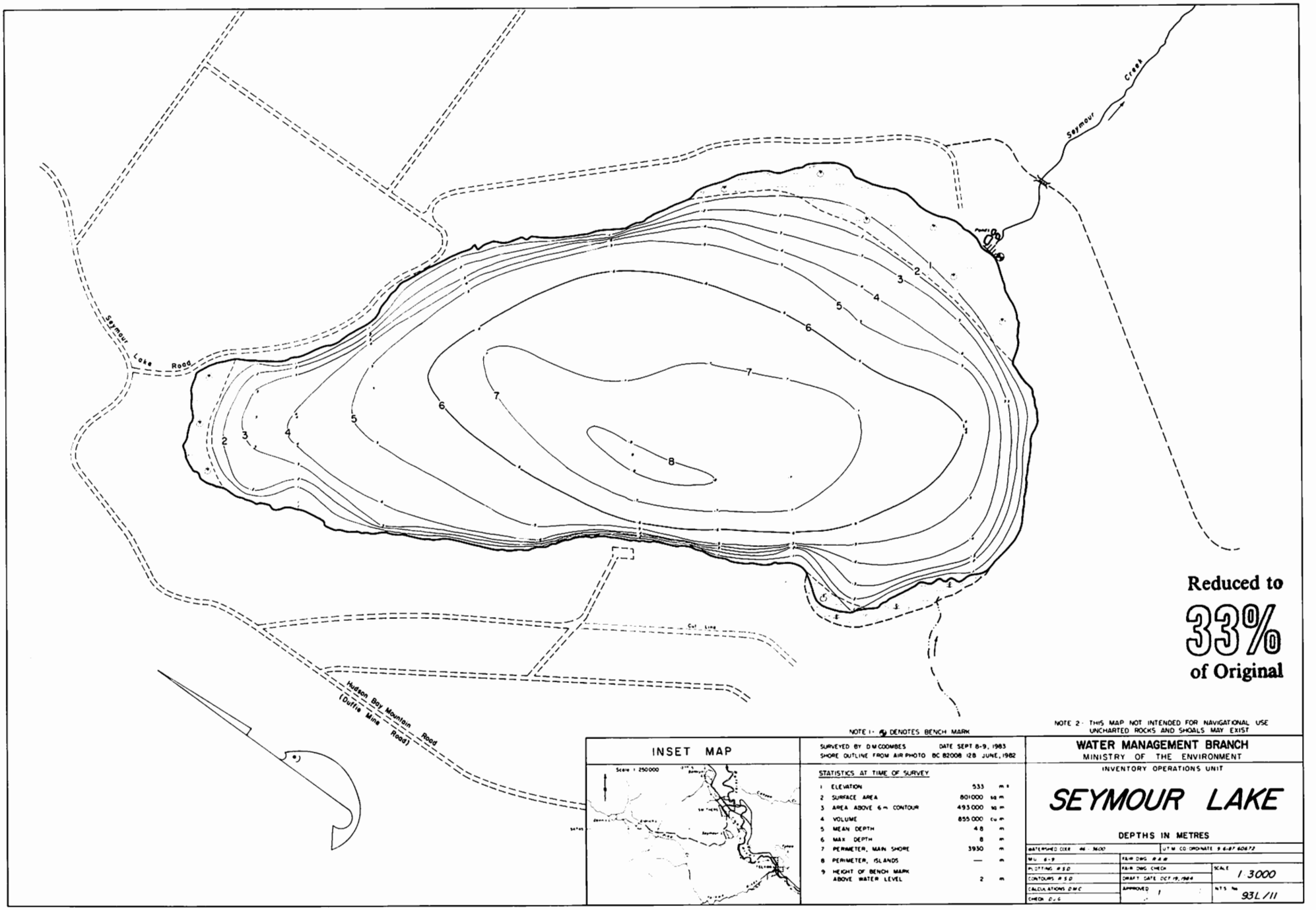
SAMPLING DATE(S): SEP 16/84 0001 HRS
SAMPLE TYPE: BOTTOM SEDIMENT
SAMPLED BY: RESOURCE QUALITY SECTION
CHARGE TO: WATER PGM (RSRC QUAL SCN)
DATE PROCESSED TO COMPUTER: SEP 27/84

0322402	RESIDUE:TOT.VO	5.8 %	1032402	CARBON:ORGANIC	25. K MG/G DRY
1242402	CARBON:INORG.	<0.5 K MG/G DRY	1472401	CARBON:TOTAL	25.5 MG/G DRY

THE APPROXIMATE COST OF THE ABOVE TESTS IS $ 99.60

REMARKS:

FOR ENVIRONMENTAL LABORATORY



Reduced to

33%

of Original

NOTE 1 - ⛰ DENOTES BENCH MARK

NOTE 2 - THIS MAP NOT INTENDED FOR NAVIGATIONAL USE
UNCHARTED ROCKS AND SHOALS MAY EXIST

INSET MAP

SURVEYED BY D.M.COOMBES DATE SEPT. 8-9, 1983
SHORE OUTLINE FROM AIR PHOTO BC 82008 128 JUNE, 1982

STATISTICS AT TIME OF SURVEY

1	ELEVATION	533	m ↕
2	SURFACE AREA	801000	sq m
3	AREA ABOVE 6 m CONTOUR	493000	sq m
4	VOLUME	855000	cu m
5	MEAN DEPTH	4.8	m
6	MAX. DEPTH	8	m
7	PERIMETER, MAIN SHORE	3930	m
8	PERIMETER, ISLANDS	—	m
9	HEIGHT OF BENCH MARK ABOVE WATER LEVEL	2	m

WATER MANAGEMENT BRANCH
MINISTRY OF THE ENVIRONMENT
INVENTORY OPERATIONS UNIT

SEYMOUR LAKE

DEPTHS IN METRES

WATERSHED CODE 46-3600	UTM COORDINATE 9 6187 60672	
M.U. 6-9	FAIR DWG. R.A.M.	
PLOTTING R.S.D.	FAIR DWG. CHECK	SCALE 1:3000
CONTOURS R.S.D.	DRAFT SAFE OCT 19, 1984	
CALCULATIONS D.M.C.	APPROVED	NTS No 93L/11
CHECK D.J.G.		