Publication No. 73-e00
WA-09-9260

TO: Files, Ron Pine, Tom McCann

FROM: Darrel Anderson

SUBJECT: Green River Auburn Lagoon Outfall Survey

DATE: August 7, 1973

State of Washington Department of Ecology

On August 7, 1973, I conducted a survey of the Auburn Lagoon outfall into the Green River.

Initially chlorine is added to the effluent as it leaves the lagoon, where it then travels approximately 1 mile east from the lagoon to the Green River. There is no actual chlorine contact chamber-only the pipe itself. Chlorine residual is 1.0 ppm after 3 minutes at the point where effluent empties into the river. Dissolved oxygen was taken at section A, C and D. Readings were stable at 9.4 ppm. Temperature at section A was 6.6° centigrade, at section B, temperature was 6.2° centigrade.

Fecal Coliform in the effluent water was less than 100/100 ml, samples taken in the river never exceeded 55/100 ml. Total suspended solids at section A averaged 2.6, at section B, 6.0, at section C, 4.0 and section D, 3.3. (See attached data sheet.)

Sampling locations:

Four cross sections of the river were chosen as sampling locations. Section "A" is located approximately 100 feet upstream from the Auburn STP outfall. Three stations were used at each sampling point.

Section "B" is located approximately 50 feet downstream from the outfall, section "C" approximately 200 feet from the outfall and section "D" approximately 350 feet from the outfall.

Station 1 began on the west side of the river, station 2 mid-stream and station 3 east side of the river. Surface samples were taken at each of the three stations, depth samples were not taken at all stations due to low flow conditions. (See attached map for sampling locations.)

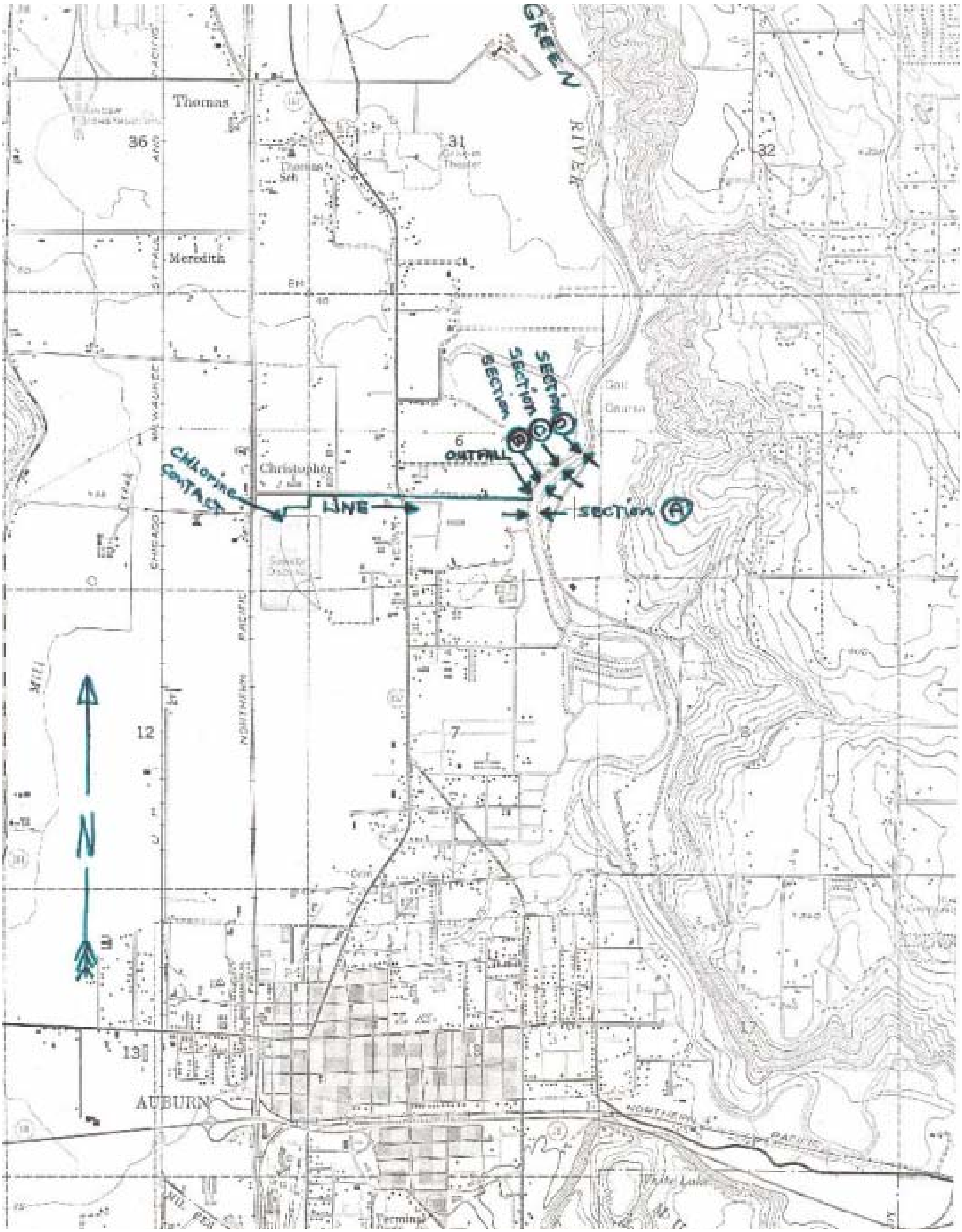
DA:jmh

DATA SUMMARY

SECTIONS	BOD 5-DAY	TOTAL COLIF. /100 ml	FECAL COLIF. /100 ml	NO3-N FILTERED	NH3-N UN-FILTERED	TOTAL PHOS -P UN-FILTERED	TOTAL SOLIDS	TOTAL SUS. SOLIDS	TOTAL SUS. 600 Vol. SOLIDS	TOTAL SUS. VOL SOLIDS	TOTAL ALKALINITY	CHLORIDES
A 1 S	2	4100	90	.25	ND	.18	—	2	2	< 1.0	35	7
A 2 S	—	3600	50	.25	ND	.18	74	3	1	2	35	7
A 3 S	—	3900	55	.25	ND	.18	—	3	3	< 1.0	34	7
B 1 S	4	23000	EST 50	.25	.90	.88	95	8	2	6	90	10
B 1 D	—	—	—	.25	.90	.96	95	8	3	5	38	9
B 2 S	—	6900	EST 50	.24	.02	.70	—	2	1	1	36	6
C 1 S	—	2600	< 50	.24	.32	.42	77	4	3	1	35	7
C 1 D	—	—	—	.24	.34	.44	76	5	4	1	35	7
C 2 S	—	9800	< 10	.24	.02	.06	67	3	2	1	35	6
D 1 S	—	6100	EST 8	.24	.16	.14	—	3	2	1	37	6
D 2 S	—	6600	EST 25	.24	.14	.04	69	3	2	1	35	6
D 3 S	—	6300	EST 10	.24	—	.04	—	4	3	1	35	6

ND - NOT DETERMINED

SECTION A - CONTROLL STATION - shallow, full width of RIVER
" B - DEPTH ON WEST SIDE - NARROW 2 STATIONS.
" C - " " " " " " " "
" D - SHALLOW FULL WIDTH OF RIVER.


GREEN
RIVER
Thomas
36
31
32
Meredith
Christopher
SECTION B
SECTION C
SECTION D
OUTFALL
CHLORINE CONTACT
LINE
SECTION A
Golf Course
6
1
12
7
13
18
17
N
AUBURN
NORTHERN PACIFIC
White Lake

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

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DATA SUMMARY

Source Auburn Lagoon Outfall Study — Collected By D.A. & J.A.

Date Collected 8-7-73 — PAGE 1 OF 2 — Cool, Pro./Obj.

Log Number: 73-	2829	30	31	32	33	34	35	36	37	38	STORET
Station:	A-1-S	A-2-S	A-3-S	B-1-S	B-1-D	B-2-S	C-1-S	C-1-D	C-2-S	D-1-S	
pH											00403
Turbidity (JTU)											00070
Conductivity (umhos/cm)@25°C											00095
COD											00340
BOD (5 day)	2	-	-	4	-	-	-	-	-	-	00310
Total Coliform (Col./100ml)	4100	3600	3900	23,000	—	6400	2600	—	4800	6100	31504
Fecal Coliform (Col./100ml)	40	50	55	EST 50	—	EST 10	150	—	<10	EST 8	31616
NO3-N (Filtered)	.25	.25	.25	.25	.25	.24	.24	.24	.24	.24	00620
NO2-N (Filtered)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	00615
NH3-N (Unfiltered)	ND	ND	ND	.90	.90	.02	.32	.34	.02	.16	00610
T. Kjeldahl-N (Unfiltered)											00625
O-PO4-P (Filtered)											00671
Total Phos.-P (Unfiltered)	.18	.18	.18	.88	.96	.20	.42	.44	.06	.14	00665
Total Solids	-	74	-	95	95	-	77	76	67	-	00500
Total Non Vol. Solids	-	-	-	-	-	-	-	-	-	-	
Total Suspended Solids	2	3	3	8	8	2	4	5	3	3	00530
Total Sus. Non Vol. Solids	2	1	3	2	3	1	3	4	2	2	
T. S. V.S.	<1	2	<1	6	5	1	1	1	1	1	
Total Alkalinity (as $CaCO_3$)	35	35	34	40	38	36	35	35	35	37	
Chlorides	7	7	7	10	9	6	7	7	6	6	

Note: All results are in PPM unless otherwise specified. ND is "None Detected"
Convert those marked with a * to PPB (PPM X 10^3) prior to entry into STORET

Summary By Stephen D. Ralf Date 8-16-73

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

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DATA SUMMARY

Source AUBURN LAGOON OUTFALL STUDY

Collected By [illegible]

Date Collected 8-7-73

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Goal, Pro./Obj.

Log Number:	2839	2840	2827	2828							STORET
Station:	D-2-S	D-3-S	EFF 1030	EFF 1630							
pH											00403
Turbidity (JTU)											00070
Conductivity (umhos/cm)@25C											00095
COD											00340
BOD (5 day)	-	-									00310
Total Coliform (Col./100ml)	6600	6300	<200	<200							31504
Fecal Coliform (Col./100ml)	EST 25	EST 10	<100	<100							31616
NO3-N (Filtered)	.24	.24									00620
NO2-N (Filtered)	ND	ND									00615
NH3-N (Unfiltered)	.14	ND									00610
T. Kjeldahl-N (Unfiltered)											00625
O-PO4-P (Filtered)											00671
Total Phos.-P (Unfiltered)	.04	.04									00665
Total Solids	69	-									00500
Total Non Vol. Solids	-	-									
Total Suspended Solids	3	4									00530
Total Sus. Non Vol. Solids	2	3									
T.S.V.S.	1	1									
TOTAL ALKALINITY (as CaCO3)	35	35									
* CHLORIDES	6	6									
*											

Note: All results are in PPM unless otherwise specified. ND is "None Detected"
Convert those marked with a * to PPB (PPM X 10^3) prior to entry into STORET

Summary By Stephen P. Nolt Date 8-16-73