

May 31, 1974

WA-07-1010

Memo to: John Glynn
From: Pat Lee
Subject: Survey of the Everett Lagoon.



A routine survey was conducted on the Everett Lagoon on March 5, 1974. Only the effluent was composited due to the super long retention time and the mile or so distance between the influent and the effluent. A series of grab samples for coliform was initiated on the final effluent. The plant grounds and personnel seemed to be in good shape except for the lab tech who was on his first day on the job. The field and lab results (summarized on the STP survey report form) show the lagoon to be doing a remarkable job with all parameters easily meeting the proposed NPDES limits. I split samples with the lab there but due to the fact that the chemist had just been hired, he never ran his half of the samples.

PL:jmh

STP Survey Report Form

Efficiency Study

Aerated

City Everett Plant Type Lagoon Pop. Served 50,000 Design 96,000
Capacity

Receiving Water Snohomish River Perennial X Intermittent _____

Date 3-5-74 Survey Period 0830-1630 Survey Personnel Pat Lee

Comp. Sampling Frequency half hour Sampling Alequot 1000 ml/hour

Weather Conditions (24 hr) rain Are facilities provided for complete by-
pass of raw sewage? X Yes _____ No/Frequency of bypass heavy rains

Reason for bypass overload lift stations bypass chlorinated? _____ Yes X No

Was DOE Notified? Yes Discharge - Intermittent _____ Continuous X

Plant Operation

Total flow 18,420,000 in 24 hrs. How measured Totalizer

Maximum flow _____ Time of Max. _____

Minimum flow _____ Time of Min. _____

Pre Cl₂ _____ #/day Post Cl₂ 200 #/day

Field Results

Influent

Effluent

<u>9 Determinations</u>	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp °C					6.9	6.2		6.8
pH (Units)					7.3	7.0		7.1
Conductivity (µmhos/cm ²)					400	275		300
Settleable Solids (mls/l)					Trace	Trace	Trace	Trace

Laboratory Results on Composites

	<u>Influent</u>	<u>Effluent</u>	<u>% Reduction</u>
Laboratory No.	_____	<u>74-671</u>	
5-Day BOD ppm	_____	<u>8.</u>	
COD ppm	_____	<u>30</u>	
T.S. ppm	_____	<u>153</u>	
T.N.V.S. ppm	_____	<u>109</u>	
T.S.S. ppm	_____	<u>7</u>	
N.V.S.S. ppm	_____	<u>4</u>	
pH (Units)	_____	<u>7.3</u>	
Conductivity (µmhos/cm ²)	_____	<u>310</u>	
Turbidity (JTU's)	_____	<u>7</u>	

Laboratory Bacteriological Results

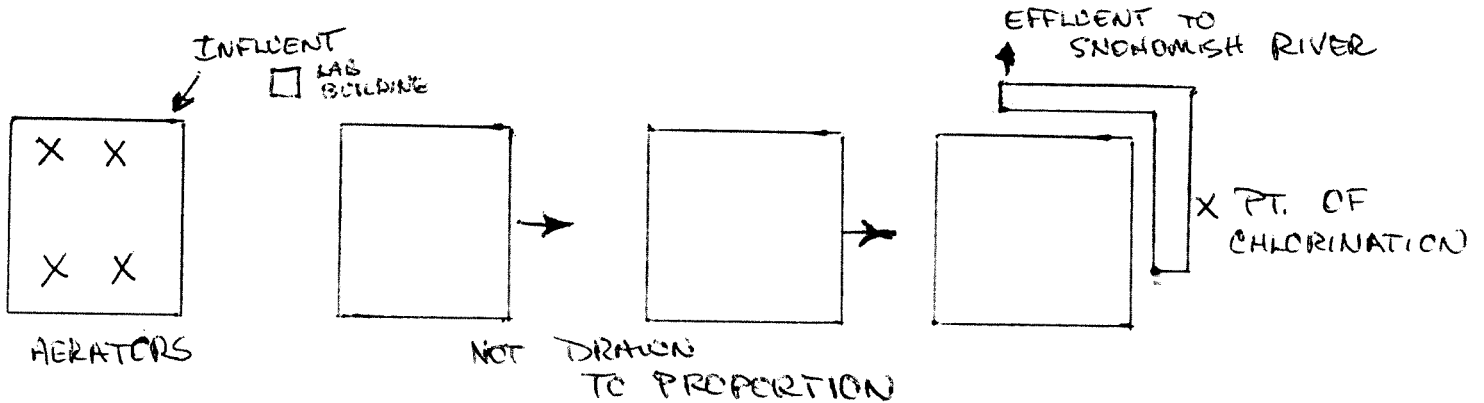
Lab No.	Sampling Time	Colonies/100 ml (MF)			Cl ₂ Residual
		Total Coliform	Fecal Coliform	Fecal Strep	
74-672	0900	20	<10	<10	.75 in 3 min.
673	1000	20	<10	<10	.75 "
674	1100	180	<10	<10	.75 "
675	1200	40	<10	<10	.75 "
676	1300	20	<10	<10	.75 "
677	1400	<20	<10	<10	.75 "

Additional Laboratory Results

NO ₃ -N ppm -	.10	Chromium =	N.D.
NO ₂ -N ppm -	N.D.	Copper =	N.D.
NH ₃ -N ppm -	7.0	Zinc =	N.D.
T. Kjeldahl-N ppm -	7.9	Cyanide =	.09
O-PO ₄ -P ppm -	2.1	Total Oil =	N.D.
T-PO ₄ -P ppm -	3.2		

Operator's Name Cecil Crossard Phone No. 259-8821

Furnish a flow diagram with sequence and relative size and points of chlorination.



Type of Collection System

Combined Separate Both

Estimate flow contributed by surface or ground water (infiltration)

3 MGD

Plant Loading Information

Annual average daily flow rate (mgd)

Peak flow rate (mgd)

Dry 10 for 1973

Dry 7.

Wet _____

Wet 40.

COMMENTS: _____

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO: LEE
COPIES TO:
.....
.....
LAB FILES

DATA SUMMARY

Source EVERETT LAGOON

Collected By P. LEE

Date Collected 3/5/74

Goal, Pro./Obj. _____

Log Number:	74	671	672	673	674	675	676	677				STORET
Station:	EFF	0900	1000	-	1200	1300	1400					
pH	7.3											00403
Turbidity (JTU)	7											00070
Conductivity (umhos/cm) _{@25°C}	310											00095
COD	32											00340
BOD (5 day)	8											00310
Total Coliform (Col./100ml)		20*	20*	180*	40*	20*	<20					31504
Fecal Coliform (Col./100ml)		<10	<10	<10	<10	<10	<10					31616
NO3-N (Filtered)	.10											00620
NO2-N (Filtered)	ND											00615
NH3-N (Unfiltered)	2.0											00610
T. Kjeldahl-N (Unfiltered)	7.9											00625
O-PO4-P (Filtered)	2.05											00671
Total Phos.-P (Unfiltered)	3.20											00665
Total Solids	153											00500
Total Non Vol. Solids	109											
Total Suspended Solids	7											00530
Total Sus. Non Vol. Solids	4											
CHROMIUM	ND											
COPPER	ND											
ZINC	ND											
CYANIDE	.09											
CHLORIDE	20											
FECAL STREP		<10	<10	<10	<10	<10	<10					

Note: All results are in PPM unless otherwise specified. ND is "None Detected"
Convert those marked with a * to PPB (PPM X 10³) prior to entry into STORET

*ESTIMATED

Summary By Mary Holcomb Date 3/29/74