March 25, 1974

Memo to: John Glynn

From: Hans Cregg

Subject: Efficiency Survey Conducted at the Snoqualmie
           Lagoon.

On February 5, 1974, an efficiency study was conducted at the
Snoqualmie Lagoon. As can be seen from the summarized data,
coliform counts are extremely low. They fall well below
accepted water quality criteria.

BOD reduction is 92%. COD and solids reduction are somewhat
low and could probably be improved upon.

In conclusion I would venture to say that the Snoqualmie
Lagoon is a well operating lagoon.

HC:jmh

City Snoqualmie   Plant Type Lagoon   Population_____   Design_____
                                               Served   Capacity

Receiving Water_____   Engineer_____

Date_____   Survey Period 8 hours   Survey Personnel H. Cregg_____

Comp. Sampling Frequency Hourly   Weather Conditions Fair & cool_____
                                         (last 48 hours)

Sampling Alequot 1000 mls._____

PLANT OPERATION

Total Flow_____   How Measured_____

Max. (Flow)_____ Time of Max._____   Min._____ Time of Min._____

Pre Cl_2_____ #/day   Post Cl_2 _____ #/day

FIELD RESULTS

___Determinations	Influent				Effluent			
	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp. °C	8.8	8.2	8.6	8.5	5.8	5.4	5.6	5.5
pH	6.6	6.4	---	6.6	6.8	6.6	---	6.7
Conductivity (umhos/cm)	350	300	316	315	250	200	215	210
Settleable Solids	3	2	2.5	3	<.1	<.1	<.1	<.1

LABORATORY RESULTS ON COMPOSITE IN PPM

Laboratory Number	Influent 74-0375	Effluent 74-0376	% Reduction
5-Day BOD	51	<4	92
COD	66	43	35
T.S.	180	114	37
T.N.V.S.	98	70	29
T.S.S.	49	28	43
N.V.S.S.	25	22	12
pH	6.9	7.0	
Conductivity	250	170	
Turbidity	20	7	65

Snoqualmie

BACTERIOLOGICAL RESULTS

$Na_2S_2O_3$ added to sample __Before sampling__ after _____min.

LAB #	SAMPLING TIME	COLONIES/100 MLS (MF) Total / Fecal		Cl Residual 15 sec ppm	3 min. (after secs.)
74-0377	1000	<20	<10	.05	.3
0378	1300	1600	130	.1	.4
0379	1400	<20	<10	.1	.4
0380	1500	<20	<10	.1	.4

Operator's Name_____ Phone # _____

Comments: _____

_____

_____

_____

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
WATER QUALITY LABORATORY

DATA SUMMARY

Source **Town of Snoqualmie STP**

Date Collected **2/6/74**

Collected By **HJC**

Goal, Pro./Obj. _____

Log Number:	74-0325	326	327	378	379	380					STORET
Station:	INF	EFF	1000	1300	1400	1500					
pH	6.9	7.0									00403
Turbidity (JTU)	20.	7.									00070
Conductivity (umhos/cm)@25°C	250.	170.									00095
COD	66	43									00340
BOD (5 day)	51	<4									00310
Total Coliform (Col./100ml)	—	—	<20	1600	<20	<20					31504
Fecal Coliform (Col./100ml)	—	—	<10	EST 130	<10	<10					31616
NO3-N (Filtered)	—	ND									00620
NO2-N (Filtered)	—	ND									00615
NH3-N (Unfiltered)	—	3.1									00610
T. Kjeldahl-N (Unfiltered)	—	3.6									00625
O-PO4-P (Filtered)	—	.02									00671
Total Phos.-P (Unfiltered)	—	.75									00665
Total Solids	180	114									00500
Total Non Vol. Solids	98	70									
Total Suspended Solids	49	28									00530
Total Sus. Non Vol. Solids	25	22									

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

Summary By **Stephen D. Roll**   Date **2-28-74**