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September 13, 1974

State of
Washington
Department
of Ecology

Memo to: Ted Trepanier

From: Hans Cregg

Subject: Rainier Vista STP

On August 8, 1974, an efficiency study was conducted at the Rainier Vista Treatment Plant. The plant appeared clean and it was evident that good housekeeping practices were being followed. The plant operates fairly well (see reduction on report form) except for the high coliform level. This could be improved upon by monitoring and adjusting the chlorine feed-rate to the effluent. As can be seen from the lab results, the effluent BOD is not an absolute value, consequently the percentage of reduction is left indeterminable.

HC:jmh

STP Survey Report Form

Efficiency Study

City Rainier Vista Plant Type _____ Pop. Served _____ Design Capacity _____

Receiving Water Duwamish River Perennial X Intermittent _____

Date 8/8/74 Survey Period 8 hours Survey Personnel H. Cregg

Comp. Sampling Frequency _____ Sampling Alequot _____

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

Reason for bypass _____ Is bypass chlorinated? ____ Yes ____ No

Was DOE Notified? _____ Discharge - Intermittent _____ Continuous _____

Plant Operation

Total flow 3,935,000 GPD How measured Totalizer

Maximum flow _____ Time of Max. _____

Minimum flow _____ Time of Min. _____

Pre Cl_2 _____ #/day Post Cl_2 _____ #/day

Field Results

	Influent				Effluent			
Determinations	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp °C	20.0	19.8		20.0	21.0	19.4		20.0
pH (Units)	7.6	7.4		7.5	7.0	6.8		7.0
Conductivity (µmhos/cm²)	650	500		600	750	500		650
Settleable Solids (mls/l)	22	18	20	20	<.1	<.1	<.1	<.1

Laboratory Results on Composites

	Influent	Effluent	% Reduction
Laboratory No.	74-3259	74-3260	
5-Day BOD ppm	172	<200	
COD ppm	404	109	73%
T.S. ppm	428	260	40%
T.N.V.S. ppm	171	142	17%
T.S.S. ppm	188	37	81%
N.V.S.S. ppm	64	6	91%
pH (Units)	7.2	7.3	
Conductivity (µmhos/cm²)	550	570	
Turbidity (JTU's)	75	20	

Laboratory Bacteriological Results

Lab No.	Sampling Time	Colonies/100 ml (MF) Total Coliform	Fecal Coliform	Fecal Strep	Cl_2 Residual 15 sec	3 min
74-3261	0900	30,000	Est. 90			
3262	1100	>40,000	>4000		.15	.4
3263	1300	>40,000	2800		.15	.4
3264	1500	>40,000	>4000		.15	.5

Additional Laboratory Results

NO_3-N ppm -	N.D.
NO_2-N ppm -	N.D.
NH_3-N ppm -	39
T. Kjeldahl-N ppm -	39.3
O-PO_4-P ppm -	5.1
T-PO_4-P ppm -	11.2

Operator's Name _____ Phone No. _____

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)

_____ MGD

Plant Loading Information

Annual average daily flow rate(mgd)

Dry _____

Wet _____

Peak flow rate(mgd)

Dry _____

Wet _____

COMMENTS: _____

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO: H. Greer

COPIES TO:

LAB FILES

DATA SUMMARY

Source Rainier Vista Collected By HJC.

Date Collected 8-7-74 Goal, Pro./Obj.

Log Number: 74-	3259	60	61	62	63	64					STORET
Station:	INF	EFF	0900	1100	1300	1500					
pH	7.2	7.3									00403
Turbidity (JTU)	75.	20.									00070
Conductivity (umhos/cm)@25°C	550	570.									00095
COD	404	109									00340
BOD (5 day)	172	<200									00310
Total Coliform (Col./100ml)	-	-	30,000	>40,000	>49,000	>49,000					31504
Fecal Coliform (Col./100ml)	-	-	EST 90	>4,000	2800	>4,000					31616
NO3-N (Filtered)		ND									00620
NO2-N (Filtered)		ND									00615
NH3-N (Unfiltered)		39.									00610
T. Kjeldahl-N (Unfiltered)		39.3									00625
O-PO4-P (Filtered)		5.1									00671
Total Phos.-P (Unfiltered)		11.2									00665
Total Solids	428	260									00500
Total Non Vol. Solids	171	142									
Total Suspended Solids	188	37									00530
Total Sus. Non Vol. Solids	64	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. Roll Date 8-19-74