August 9, 1974

Publication No. 74-e27

WA-24-2020

Memo to: Gerry Calkins and Howard Steeley

From: Dan Glantz

Subject: Survey at Weyerhaeuser in Raymond, Washington

A survey was conducted at the subject plant on May 8, 1974. Composite samples of clarifier influent coming from the barker, the barker and cooler and the effluent from the clarifier, were taken over a five hour period. Four separate samples were taken hourly commencing at 1000 and ending at 1500, omitting the noon lunch break when the mill is shutdown. The mill operates 16 hours a day, mondays thru fridays.

Fresh water is used for cooling and is made up from city water and from the Company's "Frog pond" some distance from the mill. The latter source has been reported as high in coliform and may be a major contributor to the excessive count shown in the laboratory report. Debarking water is drawn from the Willapa River and contains considerable saltwater, especially during incoming and high tides as evidenced in the conductivity readings shown below in the "Field Results".

pH is at the low end of the permissible range. BOD in the effluent, shows a gain rather than reduction. This may be due to the decomposition of the wood waste solids creating a change from COD to BOD. The effluent is a deep, red color and foams heavily as it enters it's receiving water, the Willapa River. Sludge is periodically moved out to lagoons in the yard area, and although they are "non-overflow", there is seepage through the diking, some of which very likely finds its way into the adjacent Willapa.

Field and laboratory results follow. With the previous comments, this data should be self explanatory.

DG:jmh

STP Survey Report Form

Efficiency Study

City Weyerhaeuser Co. @ Raymond Plant Type _____ Pop. Served _____ Design Capacity _____

Receiving Water _____ Perennial _____ Intermittent _____

Date _____ Survey Period _____ Survey Personnel _____

Comp. Sampling Frequency _____ Sampling Alequot _____

Weather Conditions (24 hr) _____ Are facilities provided for complete by-pass of raw sewage? _____Yes _____No/Frequency of bypass _____

Reason for bypass _____ _____ Is bypass chlorinated? ____Yes ____No

Was DOE Notified? _____ Discharge - Intermittent _____ Continuous _____

Plant Operation

Total flow 280,000 GPD How measured Recorder

Maximum flow 415,000 GPD Time of Max. Continuous during operation

Minimum flow 415,000 GPD Time of Min. " " "

Pre Cl_2 None #/day Post Cl_2 None #/day

Field Results

4 Determinations	Influent (Barker & Cooler) Max.	Min.	Mean	Median	Effluent Max.	Min.	Mean	Median
Temp °C	18	17		17.5	17	16		16.5
pH (Units)	6.6	6.2		6.35	6.4	6.0		6.25
Conductivity (µmhos/cm^2)	>20000	4,000		11750	18000	6,250		10500
Settleable Solids (mls/l)	8.0	3.0	5.5	5.5	0.3	0.2	0.25	0.25

Laboratory Results on Composites

	Influent		Effluent	% Reduction
Laboratory No.	(1)74-1510	(2)74-1511	74-1513	
5-Day BOD ppm	173	160	230	(Gain)
COD ppm	990	932	563	40%
T.S. ppm				
T.N.V.S. ppm				
T.S.S. ppm	636	546	171	69%
N.V.S.S. ppm				
Color	280	390	350	
Total Oils			2	
Turbidity (JTU's)	128	150	72	

Laboratory Bacteriological Results

Lab No.	Sampling Time	Colonies/100 ml (MF) Total Coliform	Fecal Coliform	Fecal Strep	Cl_2 Residual
74-1516	1000	>800,000	430		
1517	1400	>800,000	470		

Additional Laboratory Results

NO_3-N ppm -	.05
NO_2-N ppm -	ND
NH_3-N ppm -	
T. Kjeldahl-N ppm -	
O-PO_4-P ppm -	ND
T-PO_4-P ppm -	.06

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: P. GLANTZ
COPIES TO: H. STEELEY
LAB FILES

DATA SUMMARY

Source Weyerhaeuser @ Raymond Collected By P. GLANTZ

Date Collected 5-8-74 Goal, Pro./Obj.

Log Number: 74-	1510	11	12	13	14	15	16	17			STORET
Station:	INF. COMP	INF. COMP. TO CLAR.	EFF. FROM CLARIF.	EFF COMP	IN COMING FIBE	EFF. (CLARIF.)	1000	1400			
pH											00403
Turbidity (JTU)	128	150	80	72							00070
Conductivity (umhos/cm)@25°C											00095
COD	990	932	583	563							00340
BOD (5 day)	173	160	174	230							00310
Total Coliform (Col./100ml)							>8x10⁵	>8x10⁵			31504
Fecal Coliform (Col./100ml)							430	470			31616
NO3-N (Filtered)				.05							00620
NO2-N (Filtered)				ND							00615
NH3-N (Unfiltered)											00610
T. Kjeldahl-N (Unfiltered)											00625
O-PO4-P (Filtered)				ND							00671
Total Phos.-P (Unfiltered)				.06							00665
Total Solids											00500
Total Non Vol. Solids											
Total Suspended Solids	636	546	211	171							00530
Total Sus. Non Vol. Solids											
COLOR	280.	390.	460.	350							
TOTAL OILS					3	2					

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