

February 13, 1974

Memo to: Jim Knudson

From: Pat Lee

Subject: Compliance Monitoring of the Fibreboard Corporation at Sumner.



A three day compliance monitoring effort was initiated at the Fibreboard Corporation in Sumner on November 26, 1973. The survey ran continuously for 72 hours and involved the compositing of Fibreboard's influent and effluent from their treatment system by means of two automatic samplers. The composites were brought to our Olympia lab for analysis after being split with Fibreboard after each 24 hour period. Some field analyses were made, the results which are shown below. These analyses were made on grab samples collected each day at 1400 hours.

		<u>pH</u>	<u>Temperature °C</u>	<u>Settleable Solids mg/l</u>
11/27/73	Influent	6.8	25.3	6.0
	Effluent	7.0	20.1	.05
11/28/73	Influent	7.1	25.6	5.5
	Effluent	7.0	20.0	.05
11/29/73	Influent	6.9	25.0	6.0
	Effluent	7.0	19.2	.05

The results of the settleable solids tests show Fibreboard in compliance with the State discharge permit.

The purpose of the lab analyses were to determine Fibreboard's compliance with the following limits:

State Discharge Permit #T-3896

1. 85% BOD reduction across their treatment system.
2. 225 pounds/day S.C.S. by Whatman "40".

NPDES Permit

1. 120 pounds/day suspended solids by "Gooch".

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Each limit will be discussed below following the appropriate laboratory data (from both labs).

85% BOD Reduction

	Influent		Effluent		% Reduction	
	DOE	Fibre	DOE	Fibre	DOE	Fibre
24 hour period ending						
@ 1500 on 11/27/73	292.	142.	7.	9.	98.	94.
@ 1500 on 11/28/73	225.	240.	9.	12.	96.	95.
@ 1500 on 11/29/73	---*	---*	14.	15.	---	---

\*Sample not collected due to automatic sampler failure.

As can be seen by the preceding tables, Fibreboard is easily meeting the 85% requirement. The two labs compared quite well except for the influent values on the first day. Richard Zemke of Fibreboard stated that even he tended to doubt Fibreboard's value because it was much lower than their influent normally is. For the treatment system to provide less than 85% reduction on the third day, influent values would have had to have been less than 93 ppm. The intrinsic error in the BOD test is  $\pm 10\%$  according to Dick Todhunter of our Olympia Lab. Even after assuming maximum error, Fibreboard's treatment system is still providing 90+% removal of BOD.

225 pounds/day S.C.S. Discharge

Whatman "40"

24 hour period ending	Flow MGD	S.C.S.	S.C.S.	Pounds /day DOE	Pounds /day Fibre
		ppm DOE	ppm Fibre		
@ 1500 on 11/27/73	.4221	---*	10.	---*	35.
@ 1500 on 11/28/73	.4053	8.	9.	27.	30.
@ 1500 on 11/29/73	.4169	---*	7.	---*	24.

\*DOE Lab reported nil results for these samples.

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As can be seen by the two tables headed "Pounds per day", the suspended combustible solids in Fibreboard's effluent as reported are well below the State discharge permit's limit of 225 pounds per day.

120 pounds/day suspended solids by "Gooch"

	Flow MGD	Suspended Solids ppm DOE	Pounds /day DOE
24 hour period ending			
@ 1500 on 11/27/73	.4221	25.	88.
@ 1500 on 11/28/73	.4053	27.	91.
@ 1500 on 11/29/73	.4169	29.	101.

As can be seen by the final box labeled pounds/day, the loss of suspended solids from Fibreboard's secondary system as reported by the Gooch method was each day less than the projected NPDES limit of 120 pounds per day. Even after taking the built in  $\pm 3\%$  error of the test into account, Fibreboard still had less than 120 pounds per day for November 27 through 29.

Additional results as reported by the DOE Lab were as follows:

	11/27	11/28	11/29
Phenols (ppm)	N.D.*	N.D.	N.D.
PBI (ppm)		45.	54.

\*N.D. = None Detected

The roof drain effluent was checked on each of the four days, but no samples were taken as there was no flow, just standing water. I spent a number of hours working on a more advanced statistical analysis of all of the above data, but as I came up with nothing meaningful, I am letting the data stand as it is.

PL:jmh

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO:  
P. Lee.....  
COPIES TO:  
J. KAWSON....  
.....  
LAB FILES.....

DATA SUMMARY

Source Fiberboard @ Sumner

Collected By P. Lee

Date Collected 11/26-29/73

Goal, Pro./Obj. \_\_\_\_\_

Log Number:	73-4349 4350 4368 4369 4403								STORET
Station:	11-26 INF	11-26 EFF	11-28 INF	11-28 EFF	11-29 FIT				
pH									00403
Turbidity (JTU)									00070
Conductivity (umhos/cm)@25C									00095
COD									00340
BOD (5 day)	292.	7.	225.	9.	14.	5%			00310
Total Coliform (Col./100ml)	145	9	240	12	15				31504
Fecal Coliform (Col./100ml)									31616
NO3-N (Filtered)									00620
NO2-N (Filtered)									00615
NH3-N (Unfiltered)									00610
T. Kjeldahl-N (Unfiltered)									00625
O-PO4-P (Filtered)									00671
Total Phos.-P (Unfiltered)									00665
Total Solids									00500
Total Non Vol. Solids									
Total Suspended Solids	228.	25.	146.	27.	29.	E 16	3%		00530
Total Sus. Non Vol. Solids	125.	12.	63.	NIL.	9.				
PBI	570	-	-	45.	54.				
WHATMAN 40" T.S.S.	-	-	-	13.	-	16	14	15	
" T.S.N.V.S	-	-	-	5.	-	5	5	5	
Phenols	-	ND	-	ND	ND	10	9	7	

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

Summary By Stephen P. Roth Date 12-5-73