Publication No. 76-e51

MEMORANDUM

September 7, 1976

To: Gary Rothwell

From: Mike Morhous

Subject: Weyerhaeuser Pulp Mill (Longview)
Class II Inspection

On March 17, you and I met at Weyerhaeuser's Pulp Mill to conduct the above-referenced inspection.

Composite samplers were installed at the following locations:

1. large clarifier "out" (Kraft + sulfite)
2. A + C (bleach plant) effluent line
3. post-chlorinated sanitary effluent.

The first sampler was located at a manhole on the clarifier discharge line. The second sampler was located at the flow and pH monitoring shed. The third sampler was located at the end of the chlorine contact chamber.

All three samplers were adjusted to take a 250 ml aliquot every thirty minutes. In addition, a manual grab composite was taken at the influent of the sanitary waste treatment (Imhoff tanks) facility.

During installation of the samplers, it was observed that Weyerhaeuser's composite samplers were not being refrigerated or iced during the 24-hour sampling period. It was recommended to John Ellausky, Water Treatment Supervisor, that a method of icing or refrigerating the composite samples be implemented.

The flow measuring device for the sanitary effluent is a 90° contracted v-notch weir located at the end of the chlorine contact chamber. Upon review, it was noted that the weir was non-standard for the following reasons:

(a) the v-notch was not a true 90° v-notch and the top of the weir was not level

(b) the sides of the notch were 0.5 inches thick and were not beveled.

(c) the head measuring device (bubble gage) was located adjacent to the upstream face of the weir plate.

Under these circumstances an accurate measurement of the actual flow is doubtful. The total sanitary effluent flow listed in the forthcoming table is the mean of the daily flows reported to DOE by Weyerhaeuser for March 17 and 18.

It was recommended to John Ellausky that the v-notch weir be upgraded to meet the criteria for a standard 90° contracted v-notch weir.

On the 18th, I returned to check the Parshall flume located at the influent of the large clarifier and to pick up the samplers and split composites with Weyerhaeuser.

At the time the flow recorder - flume was checked, the recorder pen was not functioning properly and the recorded flow was illegible. Therefore, the accuracy could not be determined. However, it was noted while recording flume dimensions, that the concrete walls of the 6 foot wide throat were not true vertical and parallel dimensions. The walls appear to be wearing away as a result of the water velocities which occur within the throat section. For these reasons, the flume and flow recorder should be scheduled for a subsequent check.

During collection of the samplers, a total chlorine residual was taken at the end of the chlorine contact chamber using the LaMotte DPD test kit. The chlorine residual was in excess of 6 ppm. The chlorinator was checked and was not in operation. Chlorine was being introduced through a direct feed line at an apparent constant rate. John Ellausky indicated during a subsequent telephone conversation, that the old chlorinator had broken down. John added that a new chlorination system had been installed and was in operation. It is recommended that the chlorine residual be tested while rechecking the Parshall flume.

The following table lists DOE's and Weyerhaeuser's results from the split composites together with their NPDES permit limitations.

	DOE	Weyco	NPDES (daily average)
BOD_5 (mg/l)			
Clarifier effluent	110	122	
A & C effluent	127	129	
Sanitary influent	58	41	
Sanitary effluent (Cl_2)	18	7	
TSS (mg/L)			
Clarifier effluent	44	38	
A & C effluent	43	53	
Sanitary influent	75		
Sanitary effluent	21	23	
Total Flow (mgd)			
Clarifier effluent	40.53		
A & C effluent	32.18		
Sanitary effluent (Cl_2)	0.23		

	DOE	Weyco	NPDES (daily average)
Combined BOD_5 (lbs/day)	71,301		150,000
Combined TSS (lbs/day)	26,500		34,000
Fecal Coliforms (count/100 mls)	<10		
* pH (comp. sample)			
Clarifier effluent	8.8		
A & C effluent	3.0		
Sanitary effluent (Cl_2)	6.8		
* Chlorine Residual	> 6.0		

* = Field analysis

In summary, the Parshall flume and chlorinator should be rechecked and the following corrective measures are recommended.

(1) Implement a method of icing or refrigerating composite samples during the 24 hour sample period. The composite sample should be maintained at a temperature of 4°C.

(2) Upgrade the existing v-notch weir to a standard 90° contracted v-notch weir.

MM:ee

cc: Central Files
Dick Cunningham