MEMORANDUM

Publication No. 73-e82

WA-CR-1028

TO: Mike Palko

FROM: Ron Pine

SUBJECT: Industrial Waste Survey - Boise Cascade Papers, Wallula, Washington

DATE: July 17, 1973

State of Washington Department of Ecology

A waste water characterization study was conducted at the subject industry on May 15 and 16, 1973. Composite samples, collected by the mills composite sampling system from the primary lagoon influent and the "fiber free" sewer influent to the secondary lagoon, were divided and analyzed separately by DOE and mill personnel. The results of DOE analysis are presented in Table 1 and the mills analyses are shown in Table 2.

A series of grab samples were also collected for settleable solids across the primary lagoon and the secondary effluent on May 16, 1973, between 0800 and 1030. The results are presented in Table 3.

The efficiency of the total treatment system was determined by comparing the secondary effluent with the combined load from the primary lagoon influent and the "fiber free" sewer discharged to the secondary lagoon.

REP:b

TOTAL PULP PRODUCTION 435.9 TONS 0800 MAY 15 TO 0800 MAY 16, 1973.

375.4 TONS KRAFT
60.5 TONS NEUTRAL SULFITE

38# OF SUSPENDED COMBUSTIBLE SOLIDS/TON OF PULP WAS DISCHARGED DURING THE SURVEY PERIOD. THE PERMIT SPECIFIES 18#

Table 1. Analysis of composite samples collected from 8 a.m., May 15, 1973, to 8 a.m., May 16, 1973, Boise Cascade Papers, Wallula, Washington. All values are in mg/l unless otherwise noted.

	Primary Inf.		Fiber Free Sewer		Primary Inf. Plus Fiber Free Sewer lbs/day	Secondary Eff.		% Efficiency of Total System
	Conc.	lbs/day	Conc.	lbs/day		Conc.	lbs/day	
COD	1,060	62,766	850	31,546	94,312	650	54,752	42
BOD (5 day)	237	14,033	318	11,802	25,835	83	6,991	73
Total Solids	2,218	131,336	909	33,736	165,072	1,352	113,884	31
Total Non Vol. Solids	1,514	89,650	607	22,528	112,178	926	81,033	28
Total Suspended Solids	317	18,770	92	3,414	22,184	114	9,602	57
Total Sus. Non Vol. Solids	118	6,987	18	668	7,655	0	0	100
Total Volatile Solids	704	41,687	302	11,208	52,895	426	35,884	32
Total Susp. Vol. Solids	99	5,862	74	2,746	8,608	114	9,602	Increase
Color (units)	2,200	NA	1,230	NA	NA	1,750	NA	51.0
PBI	1,530		2,940			2,940	247,648	
pH (units)	10.4		9.1		NA	7.6	NA	NA
Flow (MGD)	7.10		4.45		NA	10.1	NA	NA

Table 3. Suspended solids results from samples collected between 0850 and 1030 on May 16, 1973, Boise Cascade Papers, Wallula, Washington. All values are in milliliter liter.

Sample Location	Maximum	Minimum	Average	N
Primary Influent	10.1	6.5	8.5	4
Primary Effluent (taken from one standpipe)	1.2	0.3	0.9[1/]	4
Secondary Effluent	0.1	TR	TR	4

[1/] Reduction of suspended solids in ml/l across primary = 89.4%

The table on page 4 is too illegible to be viewed online. To request a printed copy of this publication, please contact the Environmental Assessment Program at the Washington State Department of Ecology.

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO: P. Pine

COPIES TO:

LAB FILES

DATA SUMMARY

Source Boise Cascade @ Wallula

Collected By R.P. & D.A.

Date Collected 5/15 & 16/23 Time 0830 0830 0900

Goal, Pro./Obj.

Log Number: 23- 1846 1847 1848

Station:	PRIM. INF	Second EFF	Second INF		STORET
pH	10.4	7.6	9.1		00403
Turbidity (JTU)					00070
Conductivity (umhos/cm)@25C					00095
COD	1060	650	850	1910	00340
BOD (5 day)	237	83	318	555	00310
Total Coliform (Col./100ml)					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	2218	1352	909	3127	00500
Total Non Vol. Solids	1514	926	607	2141	
Total Suspended Solids	317	114	92	407	00530
Total Sus. Non Vol. Solids	118	0	18	136	
T.V.S.	704	426	302	1006	
T.S.V.S.	99	114	74	173	
COLOR	2200	1750	1230	~~3450~~	
PBI	1530	2690	2940	4470	

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 5-29-23

Copies to: _____

SURVEY REQUEST FORM

INDUSTRIAL SECTION OF CENTRAL OPERATIONS

TO: Ron Pine FROM: Mike Palko DATE: 3/20/73

INDUSTRY: Boise Cadcade Papers LOCATION: Wallula

CONTACT & INDUSTRY: Dennis Ross TELEPHONE: (509) 547-2411

TYPE OF SURVEY: Primary/Secondary Efficiency DATA NEEDED BY: July 1, 1973

CONTACT US BEFORE SURVEY: YES X NO _____

PURPOSE:

Determine the efficiency of the newly installed primary/secondary industrial waste water treatment system. Secondary system similar to WeyCo, Everett. Data needed for development of new waste discharge permit - verify industry data - and certify design efficiency.

PBK 1,2,3
TOTAL SOLIDS
V SOLIDS
SUSPENDED SOLIDS
SETTLEABLE SOLIDS @ ONLY
PH
COD & BOD

SYSTEM CHARACTERISTICS:

Primary lagoon with secondary aerated stabilization basin (total Mix. system) Two effluents to secondary - one influent to primary - one effluent, all have flow meters with samplers (proportional) - Just arrange to split industry's smaples and analyze.

STATE OF WASHINGTON
WATER POLLUTION CONTROL COMMISSION
OLYMPIA, WASHINGTON

Permit No. S-3338

In accordance with Chapter 90.48 RCW, and Chapter 372-24 W.A.C.

Date of Issue April 1, 1970

Date of Expiration March 31, 1973

A WASTE DISCHARGE PERMIT is issued to:

Boise Cascade Papers
P.O. Box 500
Wallula, Washington 99363

Waste from the permittee's industrial operation located at Wallula, Washington not exceeding 9,050,000 gallons per day may be discharged to the Columbia River at the following point of discharge:

River Mile 314

1. The word "waste" in the above statement refers to the total volume of cooling and contaminated waters to be discharged.

2. It is a Commission requirement with regard to permittee's mill that secondary treatment be given to all mill waste, thereby removing a minimum of 85% of the Biochemical Oxygen Demand (BOD) and Suspended Solids contained in the waste, prior to its discharge into the Columbia River. Permittee has represented to the Commission by letters dated November 19, 1968 and February 14, 1969, that it intends to comply with the above stated Commission requirement in one of two ways, namely; (1) install conventional mechanical and biological waste treatment systems, or (2) install a land disposal spray irrigation system which will eliminate all waste discharges into the Columbia River. Permittee has further represented in letters dated January 16, 1970, and March 3, 1970, that it has engaged the services of Washington State University to perform a technical study to assist the permittee in determining the adequacy of a full-scale land disposal system. This study will include the operation of a pilot plant facility together with laboratory testing and interpretation as deemed appropriate by the Washington State University research team. Being convinced that permittee is acting in good faith in making the representations, the Commission sets forth the following alternatives; one of the same to be selected by permittee and notice thereof being given in writing to the Director of the Commission not later than September 1, 1971.

   The permittee shall either:

   a. Design and construct facilities which will provide secondary treatment for all mill wastes. The implementation of these facilities shall be in accordance with the following requirements:

      1. Permittee shall submit an engineering report describing the type, design and operation of the facilities by September 1, 1971.

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Wallula, Washington 99363

Date of Issue April 1, 1970

Date of Expiration March 31, 1973

2. Permittee shall submit plans for said facilities by December 31, 1971.

3. Permittee shall complete construction and begin operation of said facilities by December 31, 1972.

or

b. Design and construct facilities which will remove all waste discharges from the Columbia River by disposing of said waste on land either owned or under control of permittee. Approval of such facilities by the Director will be made after assurance is given by permittee that such a system will not create water quality problems in the area adjacent to the permittee's disposal site. The implementation of these facilities shall be in accordance with the following requirements:

1. Permittee shall submit an engineering report describing the type, design and operation of the facilities by September 1, 1971.

2. Permittee shall complete construction and begin operation of said facilities by July 1, 1972.

3. The brown stock washing system shall be completely closed. Any accidental spillage from the washers shall be diverted to storage lagoons for disposal by seepage and evaporation only.

4. Spillage and leakage of concentrated cooking liquors from the digestion and chemical recovery areas shall be collected for land disposal by seepage and evaporation, and discharge when necessary according to approved procedures.

5. Knotter, flat screen and centri-cleaner or other rejects are to be recycled or disposed of on land.

6. Spills and dumps containing suspended combustible solids are to be disposed of on land and not to the outfall sewer system.

7. Suspended combustible solids losses shall not exceed a monthly average of 18 pounds per ton of pulp produced.

8. This permit is conditioned upon continuous and efficient maintenance and operation of all existing waste recovery and pollution abatement facilities operated by or under control of the permittee.

9. In-plant slime control program and procedures will be reported in detail, giving chemical descriptions, amounts, methods, dates, time of duration and points of application and procedures. The introduction of new types of slimeicides are to receive prior evaluation by the Commission.

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10. A report of effluent characteristics, based upon the analyses of complete effluent samples, shall be submitted by the permittee to the Director monthly. This report shall contain the following information for each day of mill operation.

    a. Pulp production, in tons;

    b. Waste flow in gallons (for each sewer outfall);

    c. Suspended combustible solids in pounds (for each sewer outfall);

    d. Total solids in pounds (for each sewer outfall)

    e. Biochemical Oxygen Demand in pounds (for each sewer outfall).
    Note: If permittee can demonstrate that a correlation exists between BOD and another parameter measured daily, permittee may report BOD analyses at a reduced frequency, however, the frequency shall not be less than once weekly.

    The data upon which this report is based shall be made available for inspection and study by members of the staff of the Commission upon request.

11. In the event the permittee is temporarily unable to comply with any of the above conditions of this permit, due to breakdown of equipment or other cause, the permittee is to immediately notify this Commission by telephone and in writing. This report is to include pertinent information as to the cause and what steps are being taken to correct the problem and prevent its recurrence.

This permit is subject to termination if the Commission finds: (1) that it was procured by misrepresentation of any material fact or by lack of full disclosure in the application; (2) That there has been a violation of the conditions thereof; (3) That a material change in quantity or type of waste disposal exists.

In the event that a material change in the condition of the state waters utilized creates a dangerous degree of pollution, the Commission may specify additional conditions to this permit.

Signed _____
Director
Water Pollution Control Commission