

MEMORANDUM
Water Pollution Control Commission
P. O. Box 829
OLYMPIA, WASHINGTON
98501

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WA-27-2020

TO: Don Provost, Nelson Graham,
Gene Asfelstine, Ron Lee

DATE: November 12, 1969

FROM: Bob Bishop

International Paper, Arboy,
SUBJECT: Effluent Bioassay

A static toxicity bioassay was conducted November 13-18, on waste effluent from International Paper, Arboy:

1. glue waste, Lab No. 694-703.
2. lumber pond waste, 702.
3. waste ditch effluent, 700.
4. Chelatchie Creek water, upstream from the waste ditch, 698, (control).
5. lab tapwater (control).

Four juvenile guppies were placed into each aerated 500 ml sample. After 20 hours exposure, the four guppies in both the 100 and 10% glue waste samples died. The pH was 9% and 9.3% respectively. The 100 and 10% samples were buffered to 7.0 and tested. Two fish died in the 100% sample after 24 hours; the other two and all guppies in the 10% sample remained alive after 96 hours. All guppies in the 1% and .1% samples, pH 7.5 were alive and active after 96 hours exposure.

All fish were alive after 96 hours exposure to 100% lumber pond waste, pH 7.1, and 100% waste ditch sample, pH 7.0. The guppies in the controls were active at the test conclusion.

Rainbow trout fry are generally more sensitive to most toxic water samples than guppies and give a more representative test. If a rainbow bioassay is desired, the lab should be contacted to decide how much effluent is needed to set up samples.

BB:lm

12/8/69

STATE OF WASHINGTON
WATER POLLUTION CONTROL COMMISSION
ANALYTICAL REPORT SHEET

Routing
Original to RL
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CHEM. FILE

To: RONALD LEE

The following are the analytical results from survey conducted at:

CHELATCHIE CREEK ON 11/12/69

LAB. NO.	STATION NO.	PH	TURBIDITY NTU	CONDUCTIVITY µMHO/cm	PBI FILTERED PPH	PHENOLS µg/l	COD PPM	D.O. WINKER PPH
694688	INT. PAPER WASTE DITCH	6.9	18.1	99.8	106	—	32	
694689	CHELATCHIE UPSTREAM	7.2	2.5	61.6	000	—	8	
694690	CHELATCHIE DOWNSTREAM	7.0	12.1	93.8	44	—	24	
694701	INT. PAPER ABOVE CONFLUENCE						40	
694692	CHELATCHIE UPSTREAM					30		10.97
694693	BELOW CONFLUENCE					130		9.16
694694	INT. PAPER WASTE DITCH					270		8.04
694695	INT. PAPER EFFLUENT LUMBER POND					660		9.92
694696	INT. PAPER EFF. GLUE WASTE					2300		11.00
	CONTINUE:	5-DAY						
		BOD						
694698	CHELATCHIE UPSTREAM	8						
694699	BELOW CONFLUENCE	2.0						
694701	INT. PAPER ABOVE CONFLUENCE	4.5						

Notes: UNITS FOR PHENOLS ARE IN µg/l

Date 11/20/69

by _____
Supervising Chemist