

MEMORANDUM

January 20, 1976

To: Clar Pratt

From: Scott Jeane

Subject: Receiving Water Study of City of Bingen Waterfront

A survey of the Bingen waterfront was completed on October 1 in conjunction with an effluent survey of Underwood Fruit Co. Phil Williams and I sampled 8 stations (See Figure 1) for the following parameters: DO, pH, Conductivity, Temperature, COD, BOD, Bacteria (Total and Fecal Coliform), Nutrients, Chlorides, and PBI. All samples were collected at the 0.3 m depth.

The DO ranged from 6.9 to 10.9 mg/l and averaged 9.7 mg/l. Temperature averaged 20.5 °C and was consistent between all stations with a warming trend observed toward afternoon. Conductivity averaged 180 µmhos/cm and demonstrated similar trends as temperature. The pH ranged from 7.0 to 7.8 units. The following parameters exhibited consistent values for most stations: COD (7 mg/l), NO<sub>3</sub>-N (0.05 mg/l), NO<sub>2</sub>-N (None detected) O-PO<sub>4</sub>-P (0.02 mg/l), Chlorides (3 mg/l), and Fecal Coliform (<10 colonies/100 ml). Total PO<sub>4</sub>-P averaged 0.04 mg/l with stations 5 (0.09 mg/l) and 8 (0.07 mg/l) above the other stations. Total coliform bacteria levels, in colonies/100 ml, were 100 or less for all stations except Station 5 (300) and Station 8 (20). The PBI values ranged from <5 to 23 mg/l with stations 1 and 5 at 23 mg/l. The NH<sub>3</sub>-N levels at Stations 6 (0.15 mg/l) and 8 (2.0 mg/l) were much greater than the average 0.05 mg/l for the remaining stations.

The Bingen STP discharges 50 yards from Station 7 yet the station demonstrated only average or below average values for all parameters measured. The marina station was above average in nutrients. Station 5 at the upper end of Bingen Slough was higher in Total Coliform and PBI possibly due to log rafting activity.

GSJ:ee

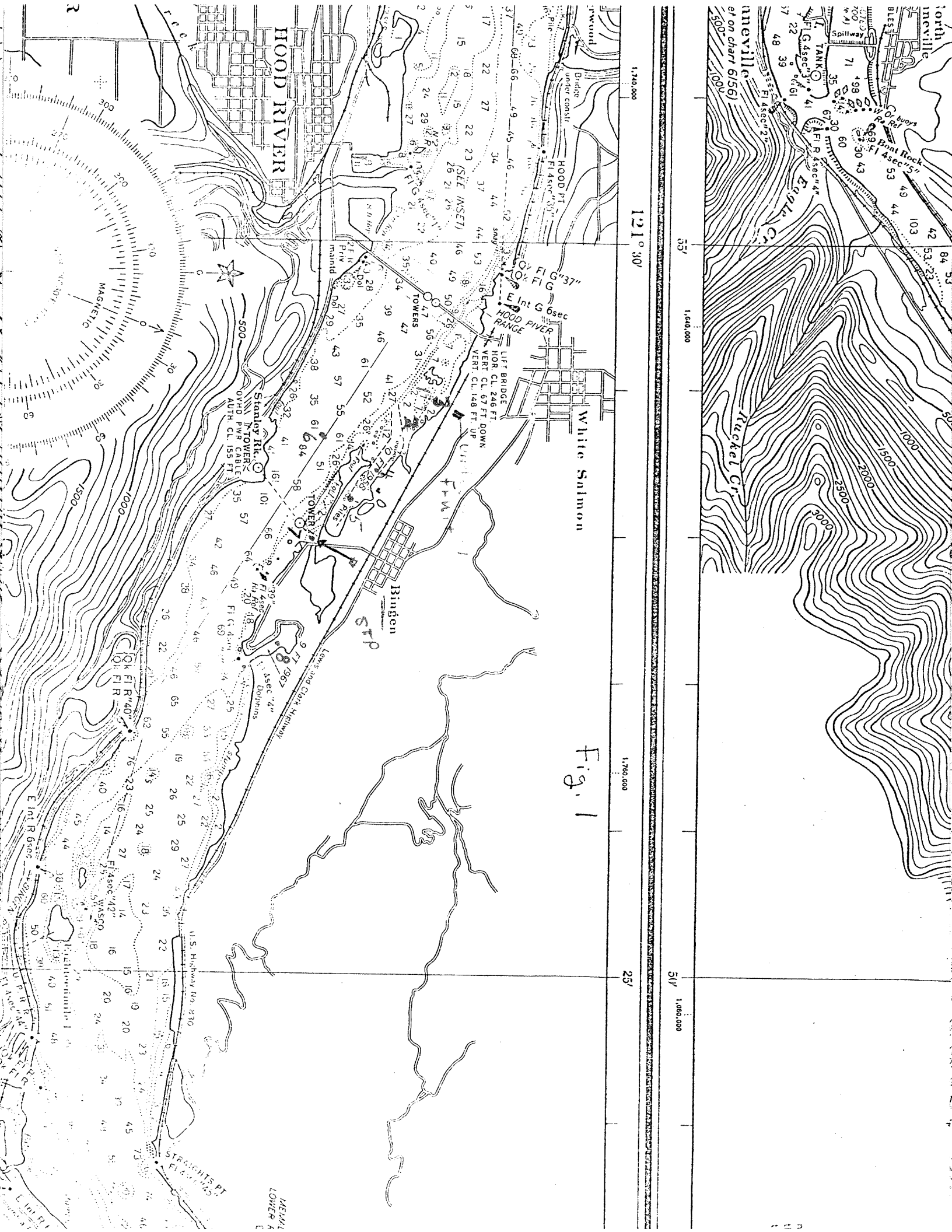


Fig. 1

1,750,000  
121° 30'

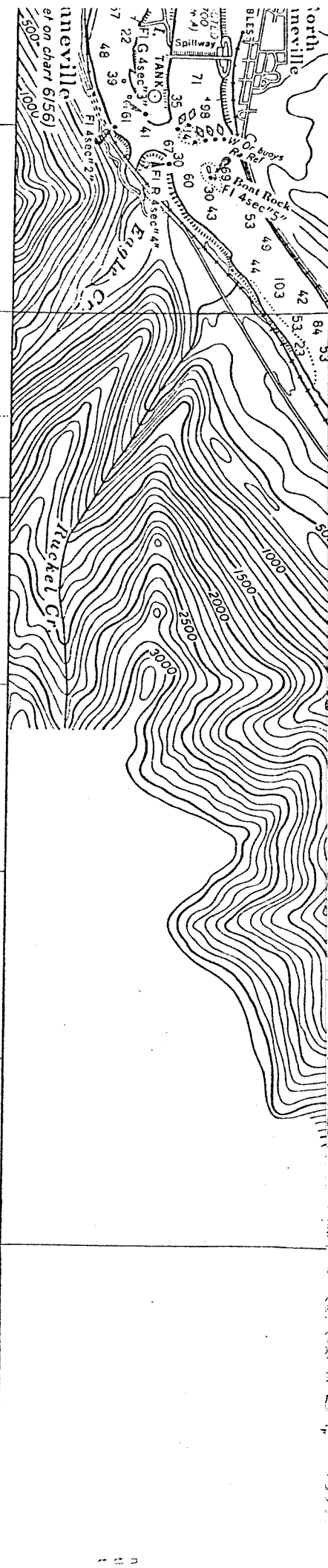
1,750,000

25'

50' 1,060,000

1,540,000  
35'

1,750,000



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

DATA SUMMARY

ORIGINAL TO: G.S.J.  
COPIES TO:  
.....  
.....  
LAB FILES .....

Source Underwood Fruit

Collected By G.S. Jeanne

Date Collected 10-1-75

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

Log Number: 75-4567 68 69 70 71 72 73 74 75 STORET

Station:	I	II	III	IV	V	VI	VII	VIII	EFF.		STORET
pH											00403
Turbidity (JTU)											00070
Conductivity (umhos/cm)@25°C											00095
COD	7	<4.	4	<4	7	7	7	7	126.		00340
BOD (5 day)									45.		00310
Total Coliform (Col./100ml)	EST 100	<100	<100	<100	EST 300	<100	EST 100	EST 20	>500*		31504
Fecal Coliform (Col./100ml)	<10	<10	<10	<10	<10	<10	<10	<10	<100		31616
NO3-N (Filtered)	.06	.06	.06	.06	.02	.06	.02	.10	1.0		00620
NO2-N (Filtered)	ND	ND	ND	ND	ND	ND	ND	ND	.04		00615
NH3-N (Unfiltered)	.03	.04	.06	.04	.03	.15	.06	2.0	.33		00610
T. Kjeldahl-N (Unfiltered)											00625
O-PO4-P (Filtered)	.02	.02	.02	.03	.04	.02	.02	.03	.53		00671
Total Phos.-P (Unfiltered)	.05	.04	.04	.04	.09	.04	.05	.07	.71		00665
Total Solids											00500
Total Non Vol. Solids											
Total Suspended Solids											00530
Total Sus. Non Vol. Solids											
<u>Chloelides</u>	4	3	4	3	2	2	3	2	4		
<u>PBI</u>	23	<5	5	14	23	14	9	18	63		

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

\* but <2000.

Summary By Stephen D. Bell Date 10-8-75