

April 12, 1974

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Memo to: Rhys Sterling

From: Grover Scott Jeane II

Subject: Resurvey of Unnamed Tributary Adjacent to  
U & I Sugar Company, Moses Lake, Washington.

State of  
Washington  
Department  
of Ecology



Allan Moore and I visited the unnamed tributary adjacent to U & I Sugar Company waste lagoon on March 13, 1974. The water at Station #1 was clear. The zone of infiltration (Station #3) was characterized by 1 inch diameter craters located throughout the stream bed. Gas was observed bubbling from many craters as also observed in the 1973 survey. The extent of the craters as to number and size seems to be less. Station #1, #3, #4 and #5 were sampled (see Figure 1). A yellow orangish color became prevalent at Station #3, intensified at Station #4 and by Station #5 was starting to fade noticeably. The chemical or biological cause of the color and color fading cause have not been determined as yet (see photographs submitted with 1973 memo).

Table 1 lists the values of the major water quality parameters collected in 1973 and 1974. Analysis of the data indicates that the unnamed tributary is still grossly affected by the infiltration. The pH change indicates the infiltrator is acidic in nature. The COD and total solids increased 300 percent between Station #1 and #5.

The degree of effect by the pollutant on the water course was less in 1974 than 1973 (see Figure II). This decrease may have been due to the 4°C lower water temperatures encountered in 1974. No other possible sources of pollutants other than U & I Sugar Company's lagoons were noted. The impact on water quality of the water course is still considered significant.

A determination whether the orange color results from chemical reactions or biological organisms will be undertaken in the future.

GSJ:jmh

Table 1: Water Quality Data Collected From Unnamed Tributary Adjacent to U & I Sugar Company, Moses Lake, March 1973 - March 1974.

Station	#1		#3		#4		#5**	
	1973-1974		1973-1974		1973-1974		1973-1974	
Parameters								
pH	8.1	8.7	7.2	7.2	7.4	7.2	--	7.6
COD mg/l	20	12	276	16	243	*	--	35
BOD mg/l	3	<10	166	<10	163	*	--	<10
Total Solids mg/l	391	354	678	415	1200	921	--	1003
T.N.V.S. mg/l	290	252	436	278	853	568	--	660

\* - Parameters not analyzed.

\*\* - Station Sampled in 1974 only.



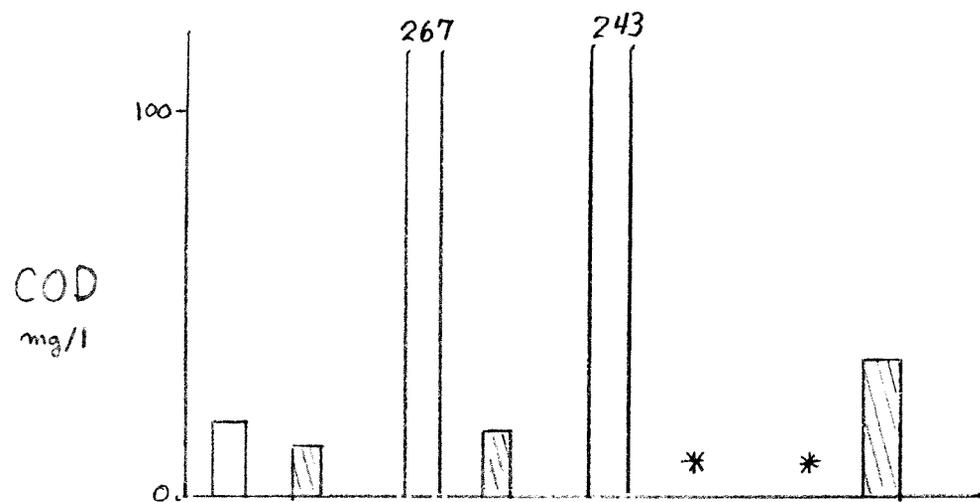
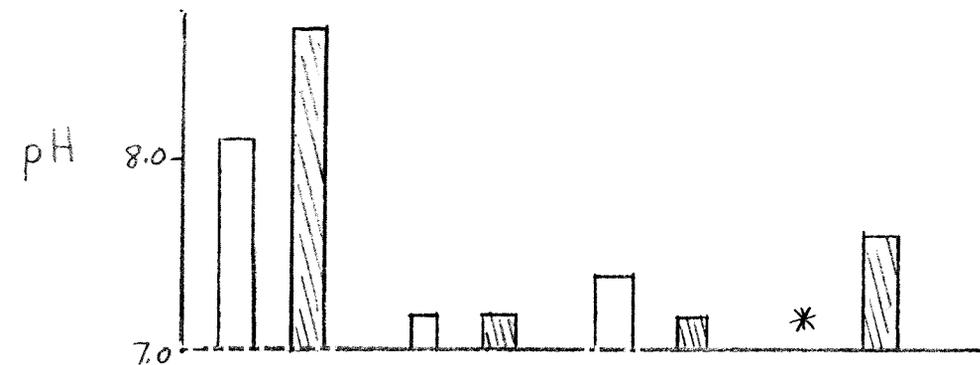
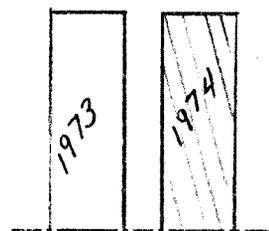
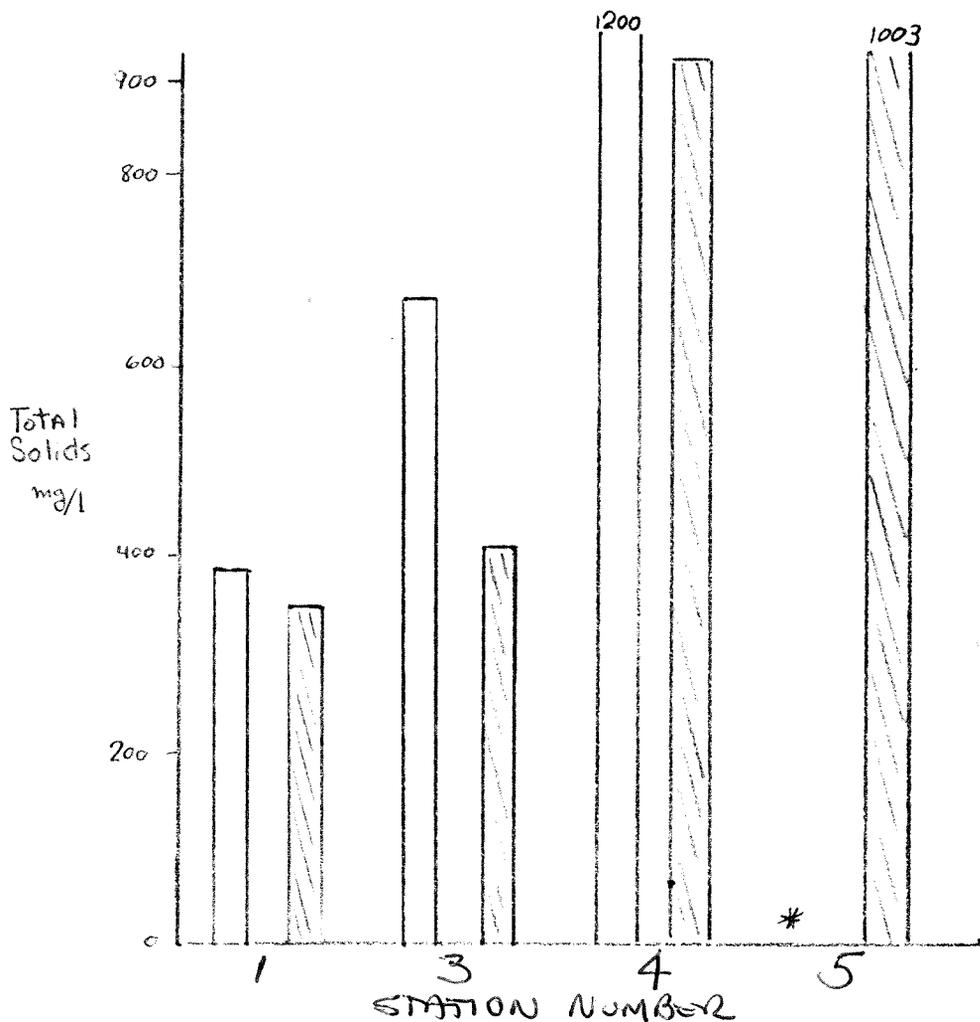


Figure II. Water Quality data Collected from unnamed tributary near U & I Sugar Company, Moses Lake, 1973 - 1974.



\* parameter not analyzed

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO: Jeanne.....  
COPIES TO:  
.....  
.....  
LAB FILES.....

DATA SUMMARY

Source U #1 Sugar

Collected By B. Scot Jeanne

Date Collected 3/13/74

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

Log Number: 74-780 781 782 783

	1	3	4	5							STORET
Station:	1	3	4	5							
pH											00403
Turbidity (JTU)											00070
Conductivity (umhos/cm)@25°C											00095
COD	12	16	-*	35							00340
BOD (5 day)	<10	<10	-*	<10							00310
Total Coliform (Col./100ml)											31504
Fecal Coliform (Col./100ml)											31616
NO3-N (Filtered)	1.40	.64	.65	.04							00620
NO2-N (Filtered)	.02	.02	.01	.02							00615
NH3-N (Unfiltered)											00610
T. Kjeldahl-N (Unfiltered)											00625
O-PO4-P (Filtered)	.09	.05	.03	.03							00671
Total Phos.-P (Unfiltered)	.90	.40	.30	.20							00665
Total Solids	354	415	921	1003							00500
Total Non Vol. Solids	252	278	568	660							
Total Suspended Solids	76	133	379	361							00530
Total Sus. Non Vol. Solids	53	89	234	218							
CHLORIDE	28	26	57	58							

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

\* NOT RUN - SAMPLE TAG  
INDICATES CHLOROFORM PRESERV.

Summary By Mary Holcomb Date 4/4/74