

September 5, 1974

WA-13-0030

Memo to: Ron Pine  
 From: Pat Lee  
 Subject: Olympia STP Special Project

State of  
 Washington  
 Department  
 of Ecology



On June 19, 1974, the Investigations section conducted a 24 hour sampling effort at the Olympia STP. The influent and effluent were composited in 8 hour shifts both manually and through use of our automatic samplers. The results were very interesting to say the least and are reported below.

INFLUENT RESULTS

	Automatic Sampler 24 hours			Manual Sampling 8 hour shifts			Avg.
	#2673	#2674	Average	0930-1730 #2677	1730-0030 #2679	0030-0930 #2681	
BOD	560	640	600	720	640	793	718
T.S.S.	274	274	274	558	318	456	444

EFFLUENT RESULTS

	#2675	#2676	Average	#2678	#2680	#2682	Avg.
BOD	625	637	631	637	612	637	629
T.S.S.	230	236	233	210	156	190	185

REDUCTION EFFICIENCY RESULTS

-11%	-1%	-5%	12%	4%	20%	12%
16%	14%	15%	62%	51%	58%	58%

\*Duplicate Samples

My comments are as follows:

1. The automatic sampler on the influent collected a sample that reported much lower T.S.S. and BOD values. This was probably due to the lack of power to draw the large chunks of solids through the inlet hose. The sampler used was the ISCO. The automatic sampler on the effluent collected samples that matched up quite well with the concurrent manual sampling. The sampler was the Sequential Model.
2. I feel also that the validity of our eight hour sampling methods has been upheld. Although the concentrations varied from one eight hour period to the next, the reduction efficiencies remained relatively constant throughout the three periods.

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3. This survey also served as a check on the performance of our lab. The samples from the automatic sampler were split in two without informing the lab they were duplicate samples. The resulting data matched up quite well with the exception of the influent BOD value. This is not too surprising as it is very difficult to obtain a representative one or two milliliters from a non-homogeneous substance such as raw sewage.

PL:jmh

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

DATA SUMMARY

ORIGINAL TO: .P. 452  
COPIES TO:  
.....  
.....  
LAB FILES .....

Source OLYMPIA STP

Collected By C. I. 45

Date Collected 6-19-74

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

Log Number:	INF		EFF		77	78	79	80	81	82	STORET
Station:	24 hr comp #1	24 hr comp #1A	24 hr comp #2	24 hr comp #2A	INF 0930- 1630	EFF 0930- 1630	INF 1730- 0030	EFF 1730- 0030	INF 0030- 0930	EFF 0030- 0930	
pH	6.0	5.9	6.7	6.5	7.3	7.1	7.2	6.8	10.3	8.8	00403
Turbidity (JTU)											00070
Conductivity (umhos/cm)@25°C											00095
COD											00340
BOD (5 day)	560	640	625	637	720	637	640	612	793	637	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											00500
Total Non Vol. Solids											
Total Suspended Solids	274	274	230	236	558	210	318	156	456	190	00530
Total Sus. Non Vol. Solids											

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

Summary By Stephen P. Roll Date 6-27-74