

M E M O R A N D U M

November 13, 1975

To: John Glynn

From: Darrel L. Anderson *DLA*

Subject: Langley STP Survey

On October 7, 1975 an efficiency survey was conducted at the city of Langley (Whidbey Island) STP.

The operator, Ernie Walters, informed me that the chlorinator was not in operation and had not operated for one week, this is obvious according to the coliform count on the Lab Data Sheet. Overall efficiency is not that impressive, 5-day BOD reduction is 8% and COD is 45%. The operator doesn't seem to have a handle on the operation of the plant because it looks as if no one has ever cleaned up the area.

A saltwater coliform sample was taken from shore directly in front of the concrete seawall in line with the outfall line from the STP. Total colonies was 2200 colonies/100 ML.

DLA:ee  
Attachment

WB: 06-0010

STP Survey Report Form

Efficiency Study

City Langley Plant Type Primary Pop. Served 1200 Design unknown  
 Receiving Water Puget Sound Perennial Intermittent Capacity \_\_\_\_\_  
 Date 10-7-75 Survey Period 0800 - 1630 Survey Personnel Darrel Anderson  
 Comp. Sampling Frequency 1/2 hour Sampling Alequot 1000 ML  
 Weather Conditions (24 hr) Cloudy Are facilities provided for complete by-  
 pass of raw sewage? X Yes        No/Frequency of bypass Unknown  
 Reason for bypass \_\_\_\_\_ Is bypass chlorinated?        Yes        No  
 Was DOE Notified? \_\_\_\_\_ Discharge - Intermittent        Continuous       

Plant Operation

Total flow No flow recording device How measured \_\_\_\_\_  
working  
 Maximum flow \_\_\_\_\_ Time of Max. \_\_\_\_\_  
 Minimum flow \_\_\_\_\_ Time of Min. \_\_\_\_\_  
 Pre Cl<sub>2</sub> Chlorinator not #/day \_\_\_\_\_ Post Cl<sub>2</sub> \_\_\_\_\_ #/day  
operating

Field Results

Influent

Effluent

Determinations	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp °C	17.0	16.0		16.5	16.0	15.0		15.5
pH (Units)	8.7	7.8		8.0	7.0	6.6		6.8
Conductivity (µmhos/cm <sup>2</sup> )	950	650		775	900	675		800
Settleable Solids (mls/l)	40.0	2.5	17.0	10.0	Tr	Tr		

Laboratory Results on Composites

	Influent	Effluent	% Reduction
Laboratory No.	<u>75-4644</u>	<u>75-4645</u>	
5-Day BOD ppm	<u>670</u>	<u>620</u>	<u>8</u>
COD ppm	<u>360</u>	<u>200</u>	<u>45</u>
T.S. ppm	<u>628</u>	<u>438</u>	<u>31</u>
T.N.V.S. ppm	<u>315</u>	<u>258</u>	<u>19</u>
T.S.S. ppm	<u>209</u>	<u>89</u>	<u>58</u>
N.V.S.S. ppm	<u>33</u>	<u>24</u>	<u>28</u>
pH (Units)	<u>8.5</u>	<u>7.2</u>	
Conductivity (µmhos/cm <sup>2</sup> )	<u>670</u>	<u>620</u>	
Turbidity (JTU's)	<u>--</u>	<u>--</u>	

Laboratory Bacteriological Results

Lab No.	Sampling Time	Colonies/100 ml (MF)		Cl <sub>2</sub> Residual
		Total Coliform	Fecal Coliform	
75-4646	0840	> 40,000	>4,000	
-4648	0930	> 40,000	>4,000	
4649	1030	> 40,000	>4,000	
4650	1230	*	Est. 100	
4651	1330	> 40,000	>4,000	
4652	1430	> 40,000	>4,000	

\* Not reported due to lab contamination

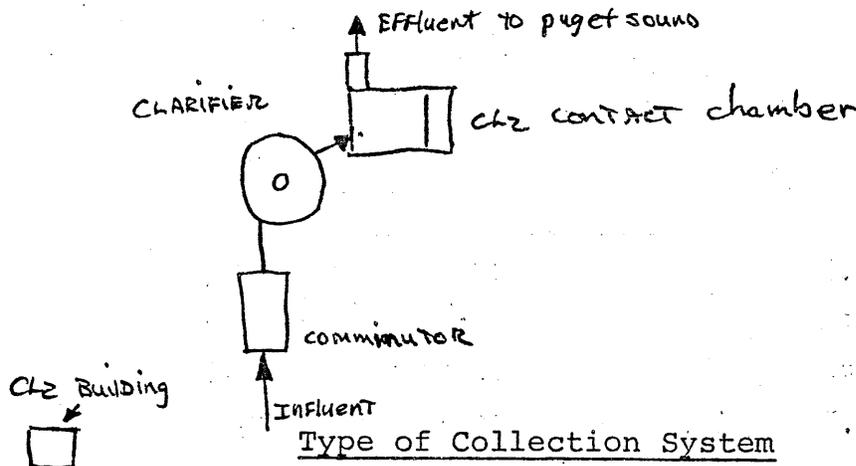
Additional Laboratory Results

ND is "None Detected"

NO <sub>3</sub> -N ppm -	0.03
NO <sub>2</sub> -N ppm -	ND
NH <sub>3</sub> -N ppm -	24
T. Kjeldahl-N ppm -	36
O-PO <sub>4</sub> -P ppm -	5.1
T-PO <sub>4</sub> -P ppm -	7.1

Operator's Name Ernie Walters Phone No. 321-4246

Furnish a flow diagram with sequence and relative size and points of chlorination.



Combined  Separate  Both

Estimate flow contributed by surface or ground water (infiltration)

No data available MGD

Plant Loading Information

Annual average daily flow rate (mgd)

Peak flow rate (mgd)

Dry No data

Dry No data

Wet \_\_\_\_\_

Wet \_\_\_\_\_

COMMENTS: Lab No. 75-4647 coliform sample taken near shoreline at

Langley = Total coliform - 2200, fecal coliform - Est. 690

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO:  
. A.W.M. ....  
COPIES TO:  
.....  
.....  
LAB FILES .....

DATA SUMMARY

Source Langley STP

Collected By A. Moore

Date Collected 10-6-75

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

Log Number:	75-4644	45	46	47	48	49	50	51	52	STORET
Station:	INF	CGF	0840	0900	0930	1030	1230	1330	1430	
pH	8.5	7.2								00403
Turbidity (JTU)										00070
Conductivity (umhos/cm)@25°C	670.	620.								00095
COD	360.	200.								00340
BOD (5 day)	150.	86.								00310
Total Coliform (Col./100ml)	-	-	>40,000	2200	>40,000	>40,000	—*	>40,000	>40,000	31504
Fecal Coliform (Col./100ml)	-	-	>4000	690. EST	>4000	>4000	100. EST	>4,000	>4,000	31616
NO3-N (Filtered)		0.03								00620
NO2-N (Filtered)		ND								00615
NH3-N (Unfiltered)		24.								00610
T. Kjeldahl-N (Unfiltered)		36.								00625
O-PO4-P (Filtered)		5.1								00671
Total Phos.-P (Unfiltered)		7.7								00665
Total Solids	628.	438.								00500
Total Non Vol. Solids	315.	258.								
Total Suspended Solids	209.	89.								00530
Total Sus. Non Vol. Solids	33.	24.								

FRESH WATER SAMPLE

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 REPORTED DUE TO LAB CONTAMINATION

Summary By Stephen D. Roll Date 10-17-75