

M E M O R A N D U M

September 25, 1975

To: Ron Robinson

From: Darrel Anderson *DA*

Subject: Port Ludlow STP Efficiency Survey

An efficiency study was conducted at the Port Ludlow STP on July 21, 1975. Composite samples were taken every half hour for three hours, also three coliform samples were taken. Coliform counts were within safe limits with a residual of less than 1.0 ppm. BOD reduction was exceptionally good (94%), with COD at 82%. General overall appearance of the plant is very good.

DA:ee

Attachment

STP Survey Report Form

Efficiency Study

City Port Ludlow Plant Type Secondary Pop. Served 75 Design 60,000
 Receiving Water Port Ludlow Puget Sound Perennial X Intermittent
 Date 21 July 75 Survey Period 1435 - 1730 Survey Personnel Darrel Anderson
Allen Moore
 Comp. Sampling Frequency 1/2 hour Sampling Alequot 500 ml
 Weather Conditions (24 hr) clear, warm Are facilities provided for complete by-
 pass of raw sewage? Yes X No/Frequency of bypass
 Reason for bypass Is bypass chlorinated? Yes No
 Was DOE Notified? Discharge - Intermittent Continuous X

Plant Operation

Total flow 1,188 gallons How measured Pump capacity X pump frequency
 Maximum flow Time of Max.
 Minimum flow Time of Min.
 Pre Cl₂ #/day Post Cl₂ #/day

Field Results

Influent

Effluent

Determinations	Influent				Effluent			
	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp °C	20.0	17.0		18.0	19	18		19
pH (Units)	8.6	7.6		7.7	7.2	7.2		7.2
Conductivity (µmhos/cm ²)	700	400		500	850	700		750
Settleable Solids (mls/l)	10.0	4.0	7.0	--	Trace	--	--	--

Laboratory Results on Composites

	Influent	Effluent	% Reduction	lbs/day
Laboratory No.	<u>75-3115</u>	<u>3116</u>		
5-Day BOD ppm	<u>240</u>	<u>18</u>	<u>94</u>	
COD ppm	<u>310</u>	<u>56</u>	<u>82</u>	
T.S. ppm	<u>398</u>	<u>403</u>	<u> </u>	
N.V.S. ppm	<u>215</u>	<u>344</u>	<u> </u>	
V.S.S. ppm	<u>110</u>	<u>9</u>	<u>92</u>	
V.S.S. ppm	<u>21</u>	<u>5</u>	<u>77</u>	
pH (Units)	<u>8.0</u>	<u>7.6</u>		
Conductivity (µmhos/cm ²)	<u>600</u>	<u>860</u>		
Turbidity (JTU's)	<u>55</u>	<u>9</u>		

Laboratory Bacteriological Results

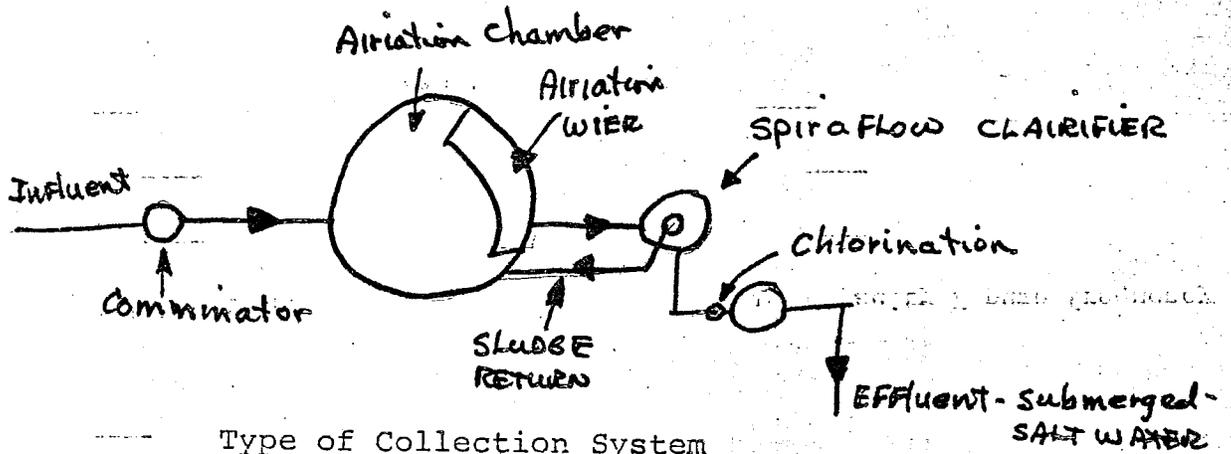
Lab No.	Sampling Time	Colonies/100 ml (MF)			Cl ₂ Residual
		Total Coliform	Fecal Coliform	Fecal Strep	
75-3117	1430	< 20	< 10	--	> 1.0
3118	1530	1,400	< 10	--	> 1.0
3119	1700	3,000	< 10	--	> 1.0

Additional Laboratory Results

NO ₃ -N ppm	-	.02			
NO ₂ -N ppm	-	N.D.			
NH ₃ -N ppm	-	20.			
T. Kjeldahl-N ppm	-	20.			
O-PO ₄ -P ppm	-	4.9			
T-PO ₄ -P ppm	-	6.2			

Operator's Name Dick Hickey Phone No. _____

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



Type of Collection System

Combined Separate Both

Estimate flow contributed by surface or ground water (infiltration)

MGD

Plant Loading Information

Annual average daily flow rate (mgd)

Peak flow rate (mgd)

Dry 11,088 gallons

Dry --

Wet

Wet --

COMMENTS: _____

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

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

POPE & TALBOT DEVELOPMENT DATA SUMMARY

Source PORT LULLOW STP

Collected By A. Moore

Date Collected 7-21-75

Goal, Pro./Obj. _____

Log Number:	75-3115	-16	-17	-18	-19						STORET
Station:	INF	EFF	1430	1530	1700						
pH	8.0	7.6									00403
Turbidity (JTU)	55.	9.									00070
Conductivity (umhos/cm)@25°C	600.	860.									00095
COD	310.	56.									00340
BOD (5 day)	240.	18.									00310
Total Coliform (Col./100ml)	-	-	<20	1400	3000						31504
Fecal Coliform (Col./100ml)	-	-	<10	<10	<10						31616
NO3-N (Filtered)	-	.02									00620
NO2-N (Filtered)	-	N.D.									00615
NH3-N (Unfiltered)	-	20.									00610
T. Kjeldahl-N (Unfiltered)	-	20.									00625
O-PO4-P (Filtered)	-	4.9									00671
Total Phos.-P (Unfiltered)	-	6.2									00665
Total Solids	398.	403.									00500
Total Non Vol. Solids	215.	344.									
Total Suspended Solids	110.	9.									00530
Total Sus. Non Vol. Solids	21.	5.									

Note: All results are in PPM unless otherwise specified. ND is "None Detected"
Convert those marked with a * to PPB (PPM X 10³) prior to entry into STORET

Summary By Stephen P. Nell Date 8-12-75