

M E M O R A N D U M

January 14, 1976

To: Ron Robinson

From: Allen Moore

Subject: Sequim STP Efficiency Survey

An efficiency survey was conducted at the Sequim STP on July 30, 1975. The plant is well kept and neat. The effluent was very clear until about 1500 when a fine floc started to rise to the surface in the inner port of the clarifier and go out with the effluent. Correspondingly the ss in the effluent went from a trace to about 125 ml/l. Because the effluent sample for lab analysis was composited, the results are biased by the very high solids in the effluent from 1500 until the end of the sampling time. The high ammonia (6.4 ppm) and nitrite (1.52 ppm) indicate a problem of denitrification. Dick Parker, the operator, said that this problem occurs regularly on sunny days. Bacteria counts were very high due to no chlorination. The supplier had failed to deliver chlorine several days before when they ran out. Chlorine finally arrived late that day.

AWM:ee

STP Survey Report Form

Efficiency Study

City Sequim Plant Type Oxidation ditch Pop. Served 2332 Design .35 MGD  
Secondary Capacity  
 Receiving Water Washington Harbor-Straits Perennial  Intermittent \_\_\_\_\_  
of Juan de Fuca  
 Date 30 July 75 Survey Period 0930 - 1630 Survey Personnel Allen Moore  
 Comp. Sampling Frequency 1/2 hour Sampling Alequot Flow X 1000 ml  
Peak flow  
 Weather Conditions (24 hr) clear, warm Are facilities provided for complete by-  
 pass of raw sewage?  Yes \_\_\_\_\_ No/Frequency of bypass None  
 Reason for bypass \_\_\_\_\_ Is bypass chlorinated?  Yes \_\_\_\_\_ No  
 Was DOE Notified? \_\_\_\_\_ Discharge - Intermittent \_\_\_\_\_ Continuous \_\_\_\_\_

Plant Operation

Total flow 104,800 gal How measured Totalizer  
 Maximum flow .41 MGD Time of Max. 1000  
 Minimum flow .25 MGD Time of Min. 1630  
 Pre Cl<sub>2</sub> None #/day Post Cl<sub>2</sub> 10 #/day

Field Results

Influent

Effluent

Determinations	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp °C	22.0	19.5		20.5	22.0	19.0		20.5
pH (Units)	7.6	7.0		7.1	7.1	6.9		7.0
Conductivity (µmhos/cm <sup>2</sup> )	650	420		550	500	350		450
Settleable Solids (mls/l)	15	10	12.3	12.5	125.	T	---	T

Laboratory Results on Composites

	Influent	Effluent	% Reduction	lbs/day
Laboratory No.	<u>75-3477</u>	<u>75-3478</u>		
5-Day BOD ppm	<u>250</u>	<u>110</u>	<u>56%</u>	<u>376</u>
BOD ppm	<u>370</u>	<u>125</u>		
T.S. ppm	<u>454</u>	<u>297</u>		
T.N.V.S. ppm	<u>221</u>	<u>299</u>		
T.S.S. ppm	<u>147</u>	<u>85</u>	<u>42%</u>	<u>291</u>
T.V.S.S. ppm	<u>14</u>	<u>15</u>		
pH (Units)	<u>7.0</u>	<u>7.2</u>		
Conductivity (µmhos/cm <sup>2</sup> )	<u>490</u>	<u>390</u>		
Turbidity (JTU's)	<u>90</u>	<u>32</u>		

Laboratory Bacteriological Results

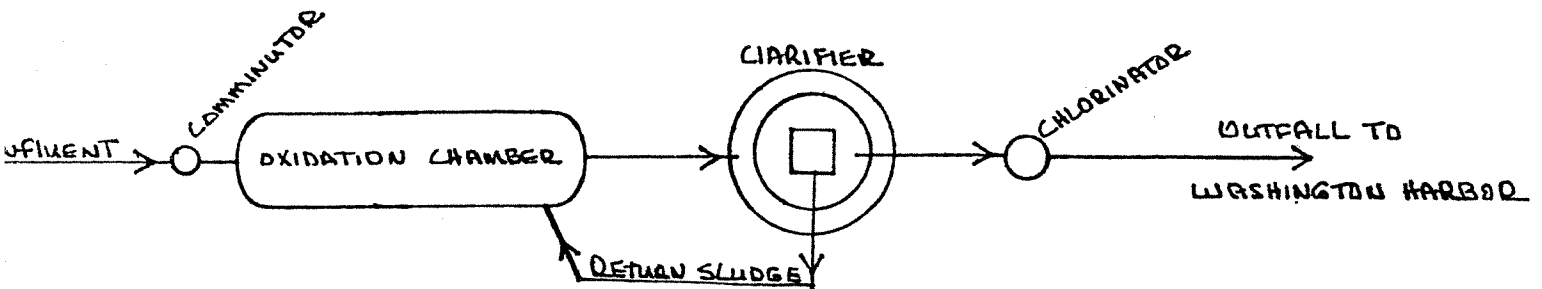
Lab No.	Sampling Time	Colonies/100 ml (MF)			Cl <sub>2</sub> Residual
		Total Coliform	Fecal Coliform	Fecal Strep	
75-3479	0930	>4 X 10 <sup>4</sup>	> 4000		0.0
75-3480	1530	>4 X 10 <sup>4</sup>	> 4000		0.0

Additional Laboratory Results

NO <sub>3</sub> -N ppm	-	1.48	
NO <sub>2</sub> -N ppm	-	1.52	
NH <sub>3</sub> -N ppm	-	6.4	
T. Kjeldahl-N ppm	-	17.8	
O-PO <sub>4</sub> -P ppm	-	3.6	
T-PO <sub>4</sub> -P ppm	-	6.6	

Operator's Name Dick Parker 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 \_\_\_\_\_

Dry \_\_\_\_\_

Wet \_\_\_\_\_

Wet \_\_\_\_\_

COMMENTS: Chlorine supply ran out - no chlorination for past several days

