

MEMORANDUM

January 13, 1976

To: John Glynn

From: Allen Moore

Subject: Granite Falls STP Efficiency Study

An efficiency survey was performed at the Granite Falls primary STP on November 19, 1975. The plant is frequently overloaded and must bypass during and after any rainfall.

At the time of the survey there was no bypassing but the lab results on BOD reduction (18%) and total suspended solids (9%) shows that the plant operates very poorly within its design capacity. Chlorination was set up but not operating due to an empty cylinder. The operator arrived late in the afternoon and changed cylinders. The sludge drying bed is very sloppy and should be diked up on all sides. We could see where heavy rainfall was washing the sludge into a small creek which emptied into the Pilchuck River within 75 feet. Samples from the river indicate bacterial contamination from the STP with a fecal coliform reading of 30 colonies/100 ml upstream and 200 colonies/100 ml downstream.

AWM:ee

*INFLUENT & EFFLUENT DATA INDICATES STORM  
WATER INTRUSION SHOWN BY THE VERY DILUTE  
SEWAGE (40 mg/l BOD)*



Laboratory Bacteriological Results

Lab No.	Sampling Time	Colonies/100 ml (MF)			Cl <sub>2</sub> Residual
		Total Coliform	Fecal Coliform	Fecal Strep	
75-173	1010	-	> 8000		None
75-172	1300	-	200		None
75-170	1515	-	10,200		0.50 mg/l
75-171 (1)	1425	-	220		--
75-168 (2)	1415		30		--

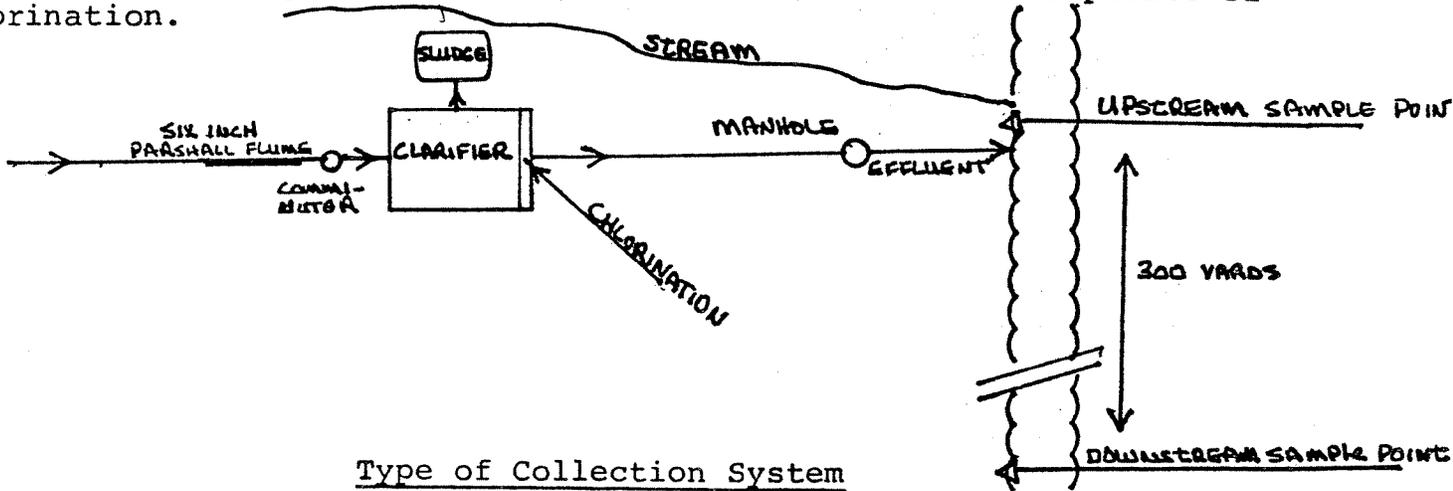
(1) Pilchuck R. below STP  
 (2) Pilchuck R. above STP

Additional Laboratory Results

		Pilchuck R.	
		Above STP	Below STP
NO <sub>3</sub> -N ppm	-	1.8	0.49
NO <sub>2</sub> -N ppm	-	ND	ND
NH <sub>3</sub> -N ppm	-	1.9	ND
T. Kjeldahl-N ppm	-	4.8	.08
O-PO <sub>4</sub> -P ppm	-	0.50	0.01
T-PO <sub>4</sub> -P ppm	-	1.9	0.03

Operator's Name Larry Knudtson 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 .16

Dry .24

Wet .6

Wet 1.0

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

DATA SUMMARY

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

Source GRANITE FALLS STP

Collected By A. Moore

Date Collected 11-19-75

Log Number: 75-5409 10 11 12

Station:	INF	EFF	PHEMOK ROOM							
			Above	Below						
pH	6.9	6.9								
Turbidity (JTU)	14.	12.								
Conductivity (umhos/cm)@25°C	170.	160.								
COD	78.	78.								
BOD (5 day)	40.	33.								
Total Coliform (Col./100ml)										
Fecal Coliform (Col./100ml)										
NO3-N (Filtered)		1.8	0.49	0.50						
NO2-N (Filtered)		ND	ND	ND						
NH3-N (Unfiltered)		1.9	ND	ND						
T. Kjeldahl-N (Unfiltered)		4.8	.08	.08						
O-PO4-P (Filtered)		0.50	0.01	0.01						
Total Phos.-P (Unfiltered)		1.9	0.04	0.03						
Total Solids	140	140								
Total Non Vol. Solids	81	74								
Total Suspended Solids	24	22								
Total Sus. Non Vol. Solids	4	2								

Note: All results are in PPM unless otherwise specified. ND is "None Detected"

Summary By Stephen P. Roll Date 12-2-75