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September 9, 1974

State of Washington
Department of Ecology

Memo to: Ron Robinson

From: Shirley Prescott

Subject: Montesano STP Efficiency Study

On July 10, 1974, an efficiency study was conducted on the Montesano STP. When we arrived, the clarifier tank looked and smelled very bad. The tank was scummy and the wastewater very dark in color. The operator on duty advised that the return flow line from the digester had been plugged and he had just managed to get it flowing again.

The condition of the clarifier tank appeared to improve during the day as far as scum, grease and odor, but it would also appear that they have a sludge problem with the digester.

The first Cl_2 residual reading at 1000 hours showed 0.2 at 15 seconds and 0.15 at 3 minutes. The following hourly readings became less until there was no reading at all. We checked the chlorine coming in to the contact chamber to be sure it was getting there but it seemed to dissipate immediately upon entering the contact chamber.

At 1400 hours the influent was oily and smelled of gasoline. The operator said he felt that one of the service stations was probably washing down or dumping into the sewer. Mike Tomlinson walked through town to see what he might find but found nothing that anyone would admit to.

The plant area is fenced, buildings are painted and generally in good condition. The house keeping leaves something to be desired. There is some lab equipment visible and some testing is done but it doesn't appear to be a regular thing. They apparently have had some problems with help. The regular operator was on vacation, the temporary help had quit and Jake Blanchard, another county employee, was trying to keep the plant functioning when we were there.

The lab results show problems as did our field tests; very low pH, no solids reduction; generally all bad. The results are similar to a survey done about 6 months ago.

SP:jmh

STP Survey Report Form

Efficiency Study

City Montesano Plant Type Primary Pop. Served 2,500 Design Capacity 2,500 ?

Receiving Water Chehalis River Perennial X Intermittent ____

Date 07/10/74 Survey Period 1000 - 1600 Survey Personnel Prescott, Lindskog, Tomlinson

Comp. Sampling Frequency 1 hour Sampling Alequot 1200 ml.

Weather Conditions (24 hr) Rain Are facilities provided for complete by-pass of raw sewage? X Yes ____ No/Frequency of bypass Rarely

Reason for bypass Breakdown Is bypass chlorinated? ____ Yes X No

Was DOE Notified? Always Discharge - Intermittent ____ Continuous ____

Plant Operation

Total flow ____ How measured Flowmeter

Maximum flow ____ Time of Max. ____

Minimum flow ____ Time of Min. ____

Pre Cl_2 0 #/day Post Cl_2 ~30 - 40 #/day

Field Results

	Influent				Effluent			
Determinations	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp °C	17.0	16.0		16.0	17.0	16.0		16.5
pH (Units)	7.5	6.2		6.3	6.7	3.8		4.4
Conductivity ($\mu mhos/cm^2$)	370	250		325	1250	525		750
Settleable Solids (mls/l)	3.5	.3	2.87	3.45	.1	0	0	0

Laboratory Results on Composites

	Influent	Effluent	% Reduction
Laboratory No.	74-2853	2854	
5-Day BOD ppm	210	>750	
COD ppm	301	2020	
T.S. ppm	365	1057	
T.N.V.S. ppm	185	352	
T.S.S. ppm	118	348	
N.V.S.S. ppm	20	63	
pH (Units)	7.2	4.9	
Conductivity ($\mu mhos/cm^2$)	420	960	
Turbidity (JTU's)	75	210	

Laboratory Bacteriological Results

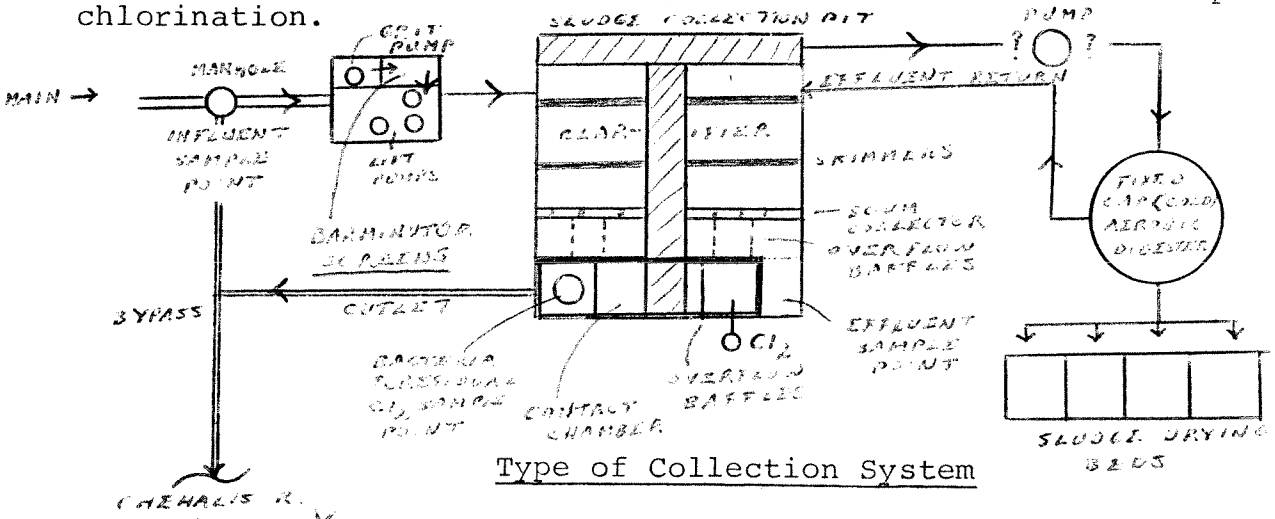
Lab No.	Sampling Time	Colonies/100 ml (MF) Total Coliform	Fecal Coliform	Fecal Strep	Cl_2 Residual 15 sec	3 min
2856	1000	16,000	100 est.		.2	.15
2857	1200	>40,000	>4000		<.05	---
2858	1400	>40,000	>4000		<.05	<.05
2859	1600	>40,000	>4000			

Additional Laboratory Results

NO_3-N ppm -	
NO_2-N ppm -	
NH_3-N ppm -	
T. Kjeldahl-N ppm -	
O-PO_4-P ppm -	
T-PO_4-P ppm -	

Operator's Name _____ Phone No. _____

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



Type of Collection System

___ Combined X Separate ___ Both

Estimate flow contributed by surface or ground water (infiltration)

30 - 40%

Plant Loading Information

Annual average daily flow rate(mgd)

Dry .323 MGD

Wet .900 MGD

Peak flow rate(mgd)

Dry .323 MGD

Wet 1500 MGD

COMMENTS: _____

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO: S. Prescott

COPIES TO:

LAB FILES

DATA SUMMARY

Source Montesano STP Collected By S.P.

Date Collected 7-10-74 Goal, Pro./Obj.

Log Number: 74- 2853	54	55	56	57	58	59					STORET
Station:	INF	EFF	GRAB NEAR Cl$_2$ OUT.	1000	1200	1400	1600				
pH	7.2	4.9	5.4								00403
Turbidity (JTU)	75.	210.	90.								00070
Conductivity (μmhos/cm)@25°C	420.	960.	600.								00095
COD	501	2020	847								00340
BOD (5 day)	210	>750.	490								00310
Total Coliform (Col./100ml)	-	-	-	16,000	>40,000	>40,000	>40,000				31504
Fecal Coliform (Col./100ml)	-	-	-	GST 100	>4000	>4000	>4000				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	365	1057	721								00500
Total Non Vol. Solids	185	352	288								
Total Suspended Solids	118	348	157								00530
Total Sus. Non Vol. Solids	20	63	27								

Note: All results are in PPM unless otherwise specified. ND is "None Detected"
Convert those marked with a * to PPB (PPM X 10^3) prior to entry into STORET

Summary By Stephen D. Roll Date 7-30-74