

M E M O R A N D U M

April 8, 1975

To: Jim Milton

From: Dan Glantz *DG*

Subject: Mabton STP Efficiency Study

The study at Mabton was made on January 14, 1975. The weather was cold, near freezing, with several inches of snow on the ground. Mr. George Wicks, the operator, took me to the plant and left after unlocking the facilities. He has other municipal responsibilities and I have the impression he does not spend much time at the STP.

It is questionable whether anything worthwhile is accomplished at this plant. The boiler is cracked, therefore the digestors are not operating. The chlorinator is out of order and there is no disinfecting. Very little effort is made to clean or maintain the comminutor and clarifier. There is no evidence that the lab has had any recent use.

The survey report and laboratory data summary is attached. Other than a slight delay, there appears to be nothing accomplished by routing Mabton's sewage through their STP.

DG:ee  
Attachment

STP Survey Report Form

Efficiency Study

City Mabton Plant Type Primary Pop. Served 1000 Design Capacity \_\_\_\_\_  
 Receiving Water Yakima River Perennial X Intermittent \_\_\_\_\_  
 Date 1/14/75 Survey Period 1200 - 1600 Survey Personnel Dan Glantz  
 Comp. Sampling Frequency 1/2 hour Sampling Alequot 1000 ML (Proportioned)  
 Weather Conditions (24 hr) Overcast and cold 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 \_\_\_\_\_

Plant Operation

Total flow 40,000 GPD How measured Recorder  
 Maximum flow \_\_\_\_\_ Time of Max. \_\_\_\_\_  
 Minimum flow \_\_\_\_\_ Time of Min. \_\_\_\_\_  
 Pre Cl<sub>2</sub> None #/day Post Cl<sub>2</sub> None #/day

Field Results

Influent

Effluent

<u>4</u> Determinations	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp °C	12°	12°		12°	12°	12°		12°
pH (Units)	7.5	7.3		7.4	12°	12°		12°
Conductivity (µmhos/cm <sup>2</sup> )	1250	1140		1238	1250	1250		1250
Settleable Solids (mls/l)	3.0	3.0	3.0	3.0	.6	.2	.4	.4

Laboratory Results on Composites

	<u>Influent</u>	<u>Effluent</u>	<u>% Reduction</u>
Laboratory No.	<u>75-0227</u>	<u>75-0228</u>	
	*		
5-Day BOD ppm	<u>&lt;200</u>	<u>185</u>	<u>--</u>
COD ppm	<u>308</u>	<u>323</u>	<u>Gain</u>
T.S. ppm	<u>734</u>	<u>743</u>	<u>Gain</u>
T.N.V.S. ppm	<u>446</u>	<u>457</u>	<u>Gain</u>
T.S.S. ppm	<u>203</u>	<u>168</u>	<u>17%</u>
N.V.S.S. ppm	<u>63</u>	<u>27</u>	<u>57%</u>
pH (Units)			
Conductivity (µmhos/cm <sup>2</sup> )	<u>1060</u>	<u>1090</u>	
Turbidity (JTU's)	<u>120</u>	<u>90</u>	

\* Estimate 175 MG/L

Laboratory Bacteriological Results

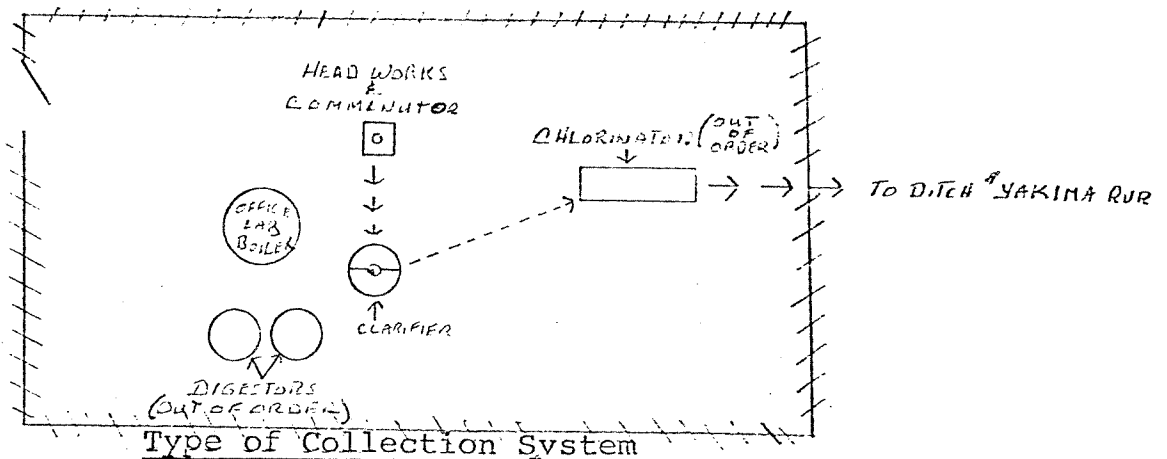
Lab No.	Sampling Time	Colonies/100 ml (MF)			Cl <sub>2</sub> Residual
		Total Coliform	Fecal Coliform	Fecal Strep	
75-0229	1300	> 4 X 10 <sup>4</sup>	> 4000		.2
75-0230	1400	> 4 X 10 <sup>4</sup>	> 4000		
75-0231	1500	> 4 X 10 <sup>4</sup>	> 4000		.6
75-0232	1600	> 4 X 10 <sup>4</sup>	> 4000		

Additional Laboratory Results

NO <sub>3</sub> -N ppm -	.02
NO <sub>2</sub> -N ppm -	.01
NH <sub>3</sub> -N ppm -	28.0
T. Kjeldahl-N ppm -	32.0
O-PO <sub>4</sub> -P ppm -	7.1
T-PO <sub>4</sub> -P ppm -	8.8

Operator's Name Gerald Wicks 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: \_\_\_\_\_

# DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

.P. Lee.....  
COPIES TO:  
.D. GLANTZ.....  
.....  
LAB FILES.....

## DATA SUMMARY

Source MALTON STP

Collected By D. GLANTZ

Date Collected 1-14-75

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

Log Number:	75-0227	28	29	30	31	32				STORET
Station:	INF	CEC	1300	1400	1500	1600				
pH	8.0	7.7								00403
Turbidity (JTU)	120.	90.								00070
Conductivity (umhos/cm)@25°C	1,060	1,090								00095
COD	308	323								00340
BOD (5 day)	<200*	185								00310
Total Coliform (Col./100ml)	-	-	>4x10 <sup>4</sup>	>4x10 <sup>4</sup>	>4x10 <sup>4</sup>	>4x10 <sup>4</sup>				31504
Fecal Coliform (Col./100ml)	-	-	>4,000	>4,000	>4,000	>4,000				31616
NO3-N (Filtered)		.02								00620
NO2-N (Filtered)		.01								00615
NH3-N (Unfiltered)		28.0								00610
T. Kjeldahl-N (Unfiltered)		32.0								00625
O-PO4-P (Filtered)		7.10								00671
Total Phos.-P (Unfiltered)		8.80								00665
Total Solids	734	743								00500
Total Non Vol. Solids	446	457								
Total Suspended Solids	203	168								00530
Total Sus. Non Vol. Solids	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<sup>3</sup>) prior to entry into STORET

\* ESTIMATE: 175 mg/L

Summary By Stephen P. Roll

Date 1-27-75