

Memo To: Bill Burwell

From: Darrel Anderson

Subject: Efficiency Study at Dayton STP, Columbia County

Date: January 27, 1975

An efficiency study was conducted at Dayton STP on October 9, 1974. Even though the plant is quite old it seemed to be kept in good condition. The operator, Delbert Marl, mentioned that slight infiltration problems do exist during wet periods of the year.

The effluent has good disinfection (10-30 colonies); also suspended solids, and BOD are well within standards.

DA:ee
Attachment

STP Survey Report Form

Efficiency Study

City Dayton Plant Type Secondary Pop. Served 2800 Design 1 M. G.
 Receiving Water Touchet River Perennial X Intermittent _____
 Date 10-9-74 Survey Period 0900 - 1600 Survey Personnel Darrel Anderson
 Comp. Sampling Frequency 1/2 hour Sampling Alequot 1200 ml.
 Weather Conditions (24 hr) Cloudy Are facilities provided for complete by-
 pass of raw sewage? X Yes _____ No/Frequency of bypass None
 Reason for bypass - - Is bypass chlorinated? X Yes _____ No
 Was DOE Notified? - - Discharge - Intermittent _____ Continuous X

Plant Operation

Total flow .37 MGD How measured Hearsy-Sparling flow meter
 Maximum flow .42 Time of Max. 1100
 Minimum flow .15 Time of Min. 0900
 Pre Cl₂ None #/day Post Cl₂ Approx. 12 #/day

Field Results

Influent

Effluent

Determinations	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp °C	18	17		18	15	13		14
pH (Units)	7.4	6.9		7.0	7.3	6.8		7.3
Conductivity (µmhos/cm ²)	800	525		600	550	475		500
Settleable Solids (mls/l)	10	5	8.0	7	Trace		- -	- -

Laboratory Results on Composites

	Influent	Effluent	% Reduction
Laboratory No.	<u>74-4017</u>	<u>4018</u>	
5-Day BOD ppm	<u>193</u>	<u>19</u>	<u>90</u>
COD ppm	<u>324</u>	<u>69</u>	<u>79</u>
T.S. ppm	<u>576</u>	<u>372</u>	<u>46</u>
T.N.V.S. ppm	<u>270</u>	<u>220</u>	<u>20</u>
T.S.S. ppm	<u>210</u>	<u>21</u>	<u>90</u>
N.V.S.S. ppm	<u>34</u>	<u>ND</u>	<u>- -</u>
pH (Units)	<u>7.4</u>	<u>7.5</u>	
Conductivity (µmhos/cm ²)	<u>580</u>	<u>470</u>	
Turbidity (JTU's)	<u>81</u>	<u>16</u>	

Laboratory Bacteriological Results

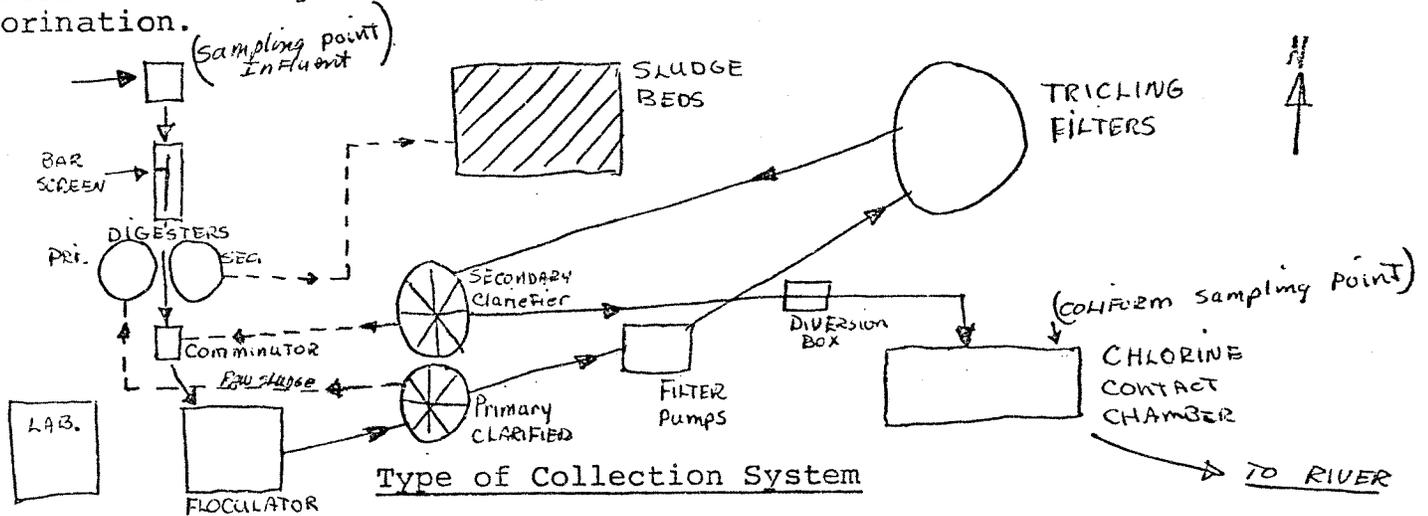
Lab No.	Sampling Time	Colonies/100 ml (MF)			Cl ₂ Residual
		Total Coliform	Fecal Coliform	Fecal Strep	
74-4019	0915	660	Est. 8	- -	.05
4020	1000	Est. 300	<10	- -	.4
4021	1100	Est. 120	Est. 10	- -	.4
4022	1300	Est. 60	Est. 10	- -	.75
4023	1400	Est. 240	Est. 8	- -	.75
4024	1500	620	Est. 30	- -	.75

Additional Laboratory Results

NO ₃ -N ppm	-	16.3
NO ₂ -N ppm	-	ND
NH ₃ -N ppm	-	.07
T. Kjeldahl-N ppm	-	2.02
O-PO ₄ -P ppm	-	6.8
T-PO ₄ -P ppm	-	8.6

Operator's Name DELBERT L. MARLL Phone No. 382 - 2937

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)

10% dry 20% wet MGD

Plant Loading Information

Annual average daily flow rate (mgd)

Peak flow rate (mgd)

Dry no data

Dry no data

Wet no data

Wet no data

COMMENTS: _____

