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WA-34-4010

November 29, 1974

Memo to: Bill Burwell

From: Shirley Prescott

Subject: Endicott STP Efficiency Study

A routine efficiency study was conducted on September 24, 1974 on the above subject plant.

Field and lab results are shown in attached survey form; most of which looks quite good.

Leonard Willis, plant operator is scheduled for a certification test and plans to obtain some lab equipment and implement a plan of regular testing. No particular grounds beautification but grounds are fenced and buildings in good repair.

The whole facility had just been completely cleaned out because of a sulphur loaded influent.

SP:eme

Enclosure

STP Survey Report Form

Efficiency Study

City Endicott, Wa. Plant Type Trickling Filter Pop. Served 360 Design Capacity 750

Receiving Water Rebel Flat Creek Perennial X Intermittent _____

Date 24 Sept. 74 Survey Period 6 hrs. Survey Personnel Shirley Prescott

Comp. Sampling Frequency _____ Sampling Alequot 1,000 mls

Weather Conditions (24 hr) Clear & dry Are facilities provided for complete by-pass of raw sewage? X Yes _____ No/Frequency of bypass Emergency

Reason for bypass Sulphur loaded influents Is bypass chlorinated? X Yes X No

Was DOE Notified? Yes Discharge - Intermittent _____ Continuous X

Plant Operation

Total flow .12 How measured Ruler

Maximum flow .15 Time of Max. 9 a.m. to 1 p.m. & 4 p.m. to 6 p.m.

Minimum flow .08 Time of Min. Night

Pre Cl_2 None #/day Post Cl_2 3 lbs. #/day

Field Results

	Influent				Effluent			
Determinations	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp °C	19.2	18.2		18.6	18.8	17.1		18.0
pH (Units)	7.8	7.2		7.3	7.8	7.4		7.3
Conductivity (µmhos/cm²)	900	600		700	950	725		750
Settleable Solids (mls/l)	8.	5.	7.25		.1	trace		

Laboratory Results on Composites

	Influent	Effluent	% Reduction
Laboratory No.	3871	3872	
5-Day BOD ppm	340	<40	88%
COD ppm	625	45	93%
T.S. ppm	785	533	32%
T.N.V.S. ppm	377	376	.002%
T.S.S. ppm	232	16	.93%
N.V.S.S. ppm	17	4	.76%
pH (Units)	7.8	8.1	
Conductivity (µmhos/cm²)	850	860	
Turbidity (JTU's)	90.	7.	
Chlorides	25	45.	

Laboratory Bacteriological Results

Lab No.	Sampling Time	Colonies/100 ml (MF) Total Coliform	Fecal Coliform	Fecal Strep	Cl_2 Residual .15 - - 3 min.
3873	10:30	19,000		<10	1. -- 1.
3874	12:00	12,000	140 Est.	420	1. -- 1.
3875	13:45	5,500	90 Est.	150 Est.	.75 -- 1.
3876	14:30	41,000	1,100 Est.	440	.75 --- 1.

Additional Laboratory Results

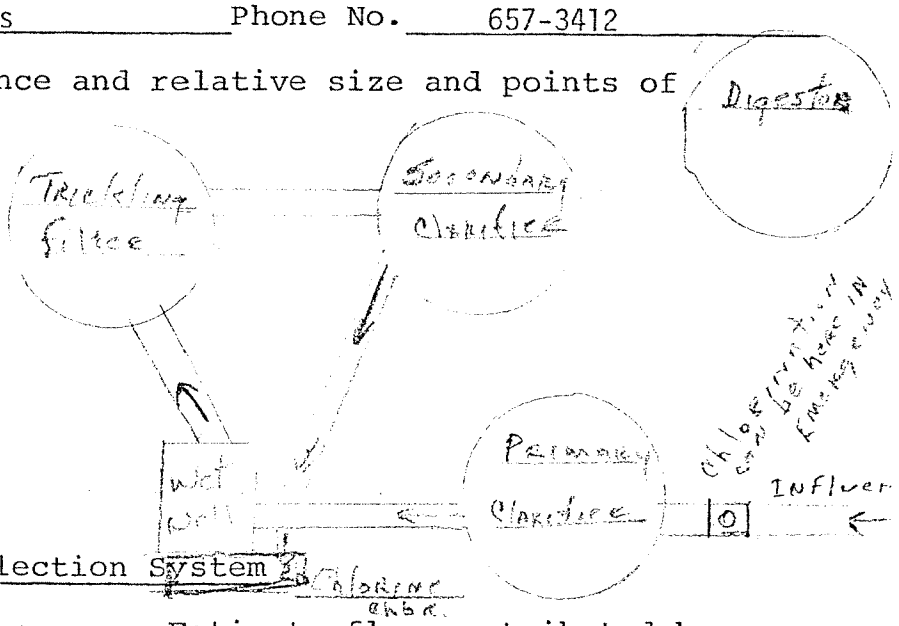
NO_3-N ppm - 1.52	
NO_2-N ppm - ND	
NH_3-N ppm - 5.4	
T. Kjeldahl-N ppm - 6.4	
O-PO_4-P ppm - 0.62	
T-PO_4-P ppm - 265	

Operator's Name Leonard W. Willis Phone No. 657-3412

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

Chlorination
Camber Size App.
4 ft. X 15 ft.- 6 ft. depth

Wet well size App.
6 ft. X 12 ft. X 6 ft. depth



Type of Collection System

__ Combined X Separate __ Both

Estimate flow contributed by surface or ground water (infiltration)

Very little MGD

Plant Loading Information

Annual average daily flow rate(mgd)		Peak flow rate(mgd)	
Dry	.10	Dry	.12
Wet	.14	Wet	.16

COMMENTS:

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO: S. Prescott.
COPIES TO:
LAB FILES

DATA SUMMARY

Source Endicott — Collected By S. Prescott

Date Collected 9-24-74 — Goal, Pro./Obj.

Log Number: 74-3871 72 73 74 75 76

Station:	Inf	Eff	1030	1200	1345	1430					STORET
pH	7.8	8.1									00403
Turbidity (JTU)	90.	7.									00070
Conductivity (umhos/cm)@25°C	850.	860.									00095
COD	625.	45.									00340
BOD (5 day)	340.	<40									00310
Total Coliform (Col./100ml)	-	-	19,000	12,000	5,500	41000					31504
Fecal Coliform (Col./100ml)	-	-	—*	EST 140	EST 90	EST 11,00					31616
NO3-N (Filtered)		1.52									00620
NO2-N (Filtered)		ND									00615
NH3-N (Unfiltered)		5.4									00610
T. Kjeldahl-N (Unfiltered)		6.4									00625
O-PO4-P (Filtered)		0.62									00671
Total Phos.-P (Unfiltered)		265									00665
Total Solids	785	533									00500
Total Non Vol. Solids	377	376									
Total Suspended Solids	232	16									00530
Total Sus. Non Vol. Solids	17	4									
Chlorides	25.	45.									
Fecal Strep (col/100ml)	-	-	<10	420	EST 150	440					

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

* UNRELIABLE RESULT

Summary By /s/ Stephen P. Roll Date 10-16-74