

Memo To: Gerry Caulkins
From: Allen Moore
Subject: STP Survey at Vader Sewage Lagoon
Date: January 2, 1975

CALCULATED FORMULA
FOR DETERMINING FLOW
FROM A PIPE FLOWING
PARTLY FULL.
METHOD PP 200-201
US DR WATER MEASUREMENT
MANUAL.

A grab sample was taken from the Vader sewage lagoon on October 30, 1974. Because there was no flow meter, careful measurements for effluent flows were taken. This flow should give a good basis to calculate total daily flows because of the use of pumping water from a well to keep the lagoon at a constant level. The large size of the lagoon should have a stabilizing effect on all laboratory parameters.

High conductivity is due to the saline water coming from a well to keep an outflow during dry weather. Due to the broken effluent pipe leading down the slope to Olequa Creek, sewage was running over the surface to the edge of the creek - - a distance of about 45 feet.

The attached STP Survey Report Form shows the laboratory results.

Att:eme

Attachment

STP Survey Report Form

Efficiency Study

City Vader Plant Type Lagoon Pop. Served _____ Design Capacity _____
 Receiving Water Olequa Creek Perennial X Intermittent _____
 Date 30 Oct. 74 Survey Period Grab Survey Personnel Allen Moore
 Comp. Sampling Frequency - - Sampling Alequot - -
 Weather Conditions (24 hr) Fair Are facilities provided for complete by-pass of raw sewage? Yes No/Frequency of bypass - -
 Reason for bypass _____ Is bypass chlorinated? Yes No
 Was DOE Notified? _____ Discharge - Intermittent _____ Continuous _____

Plant Operation

Total flow 1.673 gps=144, 547 qpd How measured Measurement and calculation
 Maximum flow _____ Time of Max. PURVE METHOD.
 Minimum flow _____ Time of Min. _____
 Pre Cl₂ _____ #/day Post Cl₂ X #/day

Field Results

Influent

Effluent

<u>Determinations</u>	<u>Max.</u>	<u>Min.</u>	<u>Mean</u>	<u>Median</u>	<u>Max.</u>	<u>Min.</u>	<u>Mean</u>	<u>Median</u>
Temp °C								11.0
pH (Units)								7.8
Conductivity (µmhos/cm ²)								2400
Settleable Solids (mls/l)								<.1

Laboratory Results on Composites

	<u>Influent</u>	<u>Effluent</u>	<u>% Reduction</u>
Laboratory No.	_____	<u>74-4326</u>	_____
5-Day BOD ppm	_____	<u>21.0</u>	_____
COD ppm	_____	<u>58.0</u>	_____
T.S. ppm	_____	<u>1032</u>	_____
T.N.V.S. ppm	_____	<u>980</u>	_____
T.S.S. ppm	_____	<u>26</u>	_____
N.V.S.S. ppm	_____	<u>5</u>	_____
pH (Units)	_____	<u>7.9</u>	_____
Conductivity (µmhos/cm ²)	_____	<u>2000</u>	_____
Turbidity (JTU's)	_____	<u>16</u>	_____

Laboratory Bacteriological Results

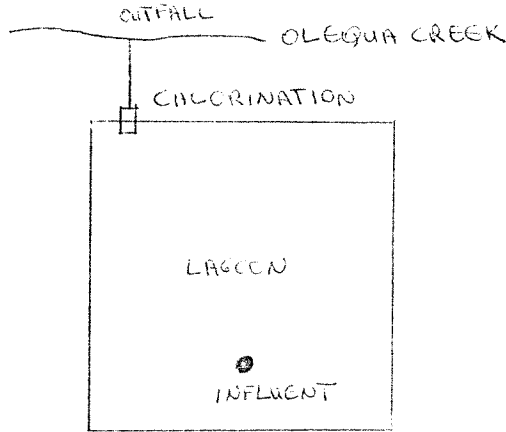
Lab No.	Sampling Time	Colonies/100 ml (MF)			Cl ₂ Residual
		Total Coliform	Fecal Coliform	Fecal Strep	
74-4326	1100	Est. 20	<10		0.4

Additional Laboratory Results

NO ₃ -N ppm	-	1.20	
NO ₂ -N ppm	-	ND	
NH ₃ -N ppm	-	0.15	
T. Kjeldahl-N ppm	-	0.66	
O-PO ₄ -P ppm	-	0.71	
T-PO ₄ -P ppm	-	1.36	

Operator's Name Paul McGinnis Phone No. 295-3222
Jess Brown - Mayor

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)

No information MGD

Plant Loading Information

Annual average daily flow rate(mgd)

Peak flow rate(mgd)

Dry No information

Dry _____

Wet _____

Wet _____

COMMENTS: _____

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

DATA SUMMARY

ORIGINAL TO: A.W. Morse.....
 COPIES TO:

 LAB FILES.....

Source Under STP

Collected By AWM

Date Collected 10-30-74

Goal, Pro./Obj. _____

Log Number: 74-4321

		STORET
Station:		
pH	7.9	00403
Turbidity (JTU)	16.	00070
Conductivity (umhos/cm)@25°C	2,000	00095
COD	58.	00340
BOD (5 day)	21.	00310
Total Coliform (Col./100ml)	EST 20	31504
Fecal Coliform (Col./100ml)	<10	31616
NO3-N (Filtered)	1.20	00620
NO2-N (Filtered)	ND	00615
NH3-N (Unfiltered)	0.15	00610
T. Kjeldahl-N (Unfiltered)	0.66	00625
O-PO4-P (Filtered)	0.71	00671
Total Phos.-P (Unfiltered)	1.36	00665
Total Solids	1082	00500
Total Non Vol. Solids	980	
Total Suspended Solids	26	00530
Total Sus. Non Vol. Solids	5	

Note: All results are in PPM unless otherwise specified. ND is "None Detected"
 Convert those marked with a * to PPB (PPM X 10³) prior to entry into STORET

Summary By Stephen D. Bell Date 12-16-74