MEMORANDUM

Department of Ecology
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Publication No. 71-e15

TO: Nelson Graham

DATE: March 1, 1971

FROM: Ron Lee

SUBJECT: Ridgefield Wildlife Refuge Wetlands Pumping Project

Listed in Table 1 are the bacteriological results of the Ridgefield Wildlife Refuge project. Station locations are presented as an attachment. Samples were collected about an hour prior to pumping (2/2/71) and again the next day during the pumping operation (2/3/71). The data suggests that no significant increase in bacteriological contamination occurred due to the draining of these wetlands. An increase in nutrients, however, was observed 50 yards downstream from the wetlands wastewater discharge (Table 2). The presence of ammonia (NH_3) indicates recent contamination and results from decomposition of organic nitrogen which is high in the wastewater sample.

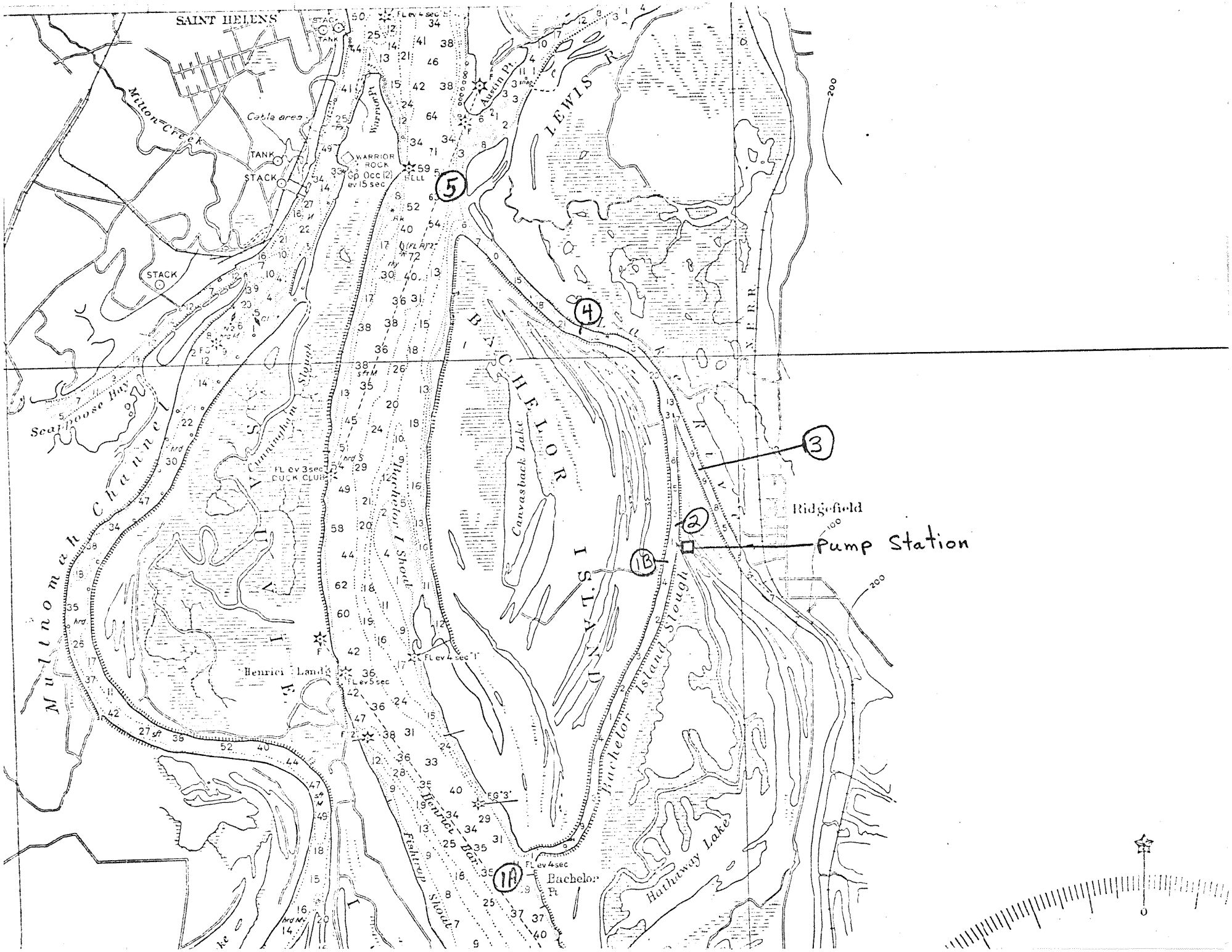
Table 1.

Date	Station	Colonies/100 ml Total	Fecal
2/2/71	1A	400	<100
	2	460	<200
	3	480	<100
	4	680	<200
	5	700	<100
	Wastewater (Pump Station)	620	<200
2/3/71	1A	220	<100
	1B	<400	<100
	2	<400	<100
	3	<400	<100
	4	<400	<100
	5	500	<100
	Wastewater (Pump Station)	1500	<100

Table 2. Nutrient data in ppm as N or P

Location	NO_3	NH_3	Organic N	$O\text{-}PO_4$	Total PO_4
50 Yds. Upstream (1B)	0.50	0	0.175	0.045	0.178
Wastewater Discharge	0.20	0.04	0.777	0.046	0.165
50 Yds. Downstream (2)	0.53	0.03	0.355	0.060	0.206

RL:lg


SAINT HELENS
Milton Creek
Cable area
TANK
STACK
WARRIOR ROCK
Gp Occ (2) ev 15 sec
Warrior Pt
Austin Pt
LEWIS R
BACHELOR ISLAND
Canvasback Lake
Bachelor I Shoal
Cunningham Slough
Scappoose Bay
Multnomah Channel
FL ev 3 sec
DUCK CLUB
Henrici Land
FL ev 5 sec
FL ev 4 sec
Henrici Bar
Fishtrap Shoal
FL ev 4 sec
Bachelor Pt
Bachelor Island Slough
Hathaway Lake
Ridgefield
Pump Station
N.E.R.R.
1A
1B
2
3
4
5

STATE OF WASHINGTON

WATER POLLUTION CONTROL COMMISSION

ANALYTICAL REPORT SHEET

Routing

Original to Lab

Copies to: Ron Lee

P.P

To: R. Lee

The following are the analytical results from survey conducted at:

Columbia R. & Lake River near Ridgefield

LAB. NO.	STATION NO.	col/100ml TOT. COLIF.	col/100ml FECAL COL.						
71-306	1	400	< 100						
307	2	460	< 200						
308	3	480	< 100						
309	4	680	< 200						
310	5	700	< 100						
311	Special Pump Station Wetlands	620	< 200						
315	1 A	220	< 100						
316	1 B	< 400	< 100						
317	2	< 400	< 100						
318	3	< 400	< 100						
319	4	< 400	< 100						
320	5	500	< 100						
321	Special Wetlands	1500	< 100						
		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
		NO_3-N Filt	NO_2-N Filt	NH_3-N	Or. Kjel-N	Filt O-Phos-P	Filt T-Phos-P	Unfilt T-Phos-P	Unfilt O-Phos-P
71-0312	Special	0.20	0.010	0.038	0.777	0.034	0.164	0.165	0.046
313	1-A	0.50	0.005	0.0	0.175	0.049	0.178	0.178	0.045
314	2	0.53	0.005	0.026	0.355	0.038	0.206	0.206	0.060

Notes:

Date 2-16-71

by Stephen D. Robb

~~Supervising~~ Chemist