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STATE OF WASHINGTON

DEPARTMENT OF EC

DANIEL J EVANS
GOVERNOR

JOHN A. BIGGS
DIRECTOR

May 25, 1972

MEMORANDUM

TO: Tom McCann

FROM: Ron Devitt RcD

SUBJECT: Longfellow Creek, Seattle

On April 11, 1972 Gary Rothwell, Tom McCann and I collected samples from Longfellow Creek in Seattle.

Longfellow Creek flows through a heavily industrialized area before discharging into Elliott Bay. Samples were secured at the following locations:

1. Longfellow Creek upstream of dam, south of So. West Yancy.

2. Effluent from cooling water lagoon at Bethlehem Steel.

3. Concrete sump south of Spokane Street. Mixture of cooling tower effluent and creek.

4. Open water between Hanford Street and Spokane Street under railroad trestle.

5. Open water north of Hanford Street.

6. Open water immediately south of S.W. Florida Street.

7. Elliott Bay at Wycoff dock in pole dumping area east of railroad trestle on S.W. Florida St.

Because of tidal influence on Longfellow Creek, it was necessary to sample in the early morning when the industries in question were possibly not in full operation. The tide was +2.5 feet at 0859 hours.

Conductivity values indicate that there was still salt water influence at station 6 at this stage height at 0900 hours.

In response to the expected results of your memo dated November 15, 1971, the data secured on the day of sampling indicate:

1. A temperature rise by Bethlehem Steel.

2. The pH was not changed by Bethlehem Steel, as expected.

3. Oils were contributed by Bethlehem Steel but not by the garbage fill.

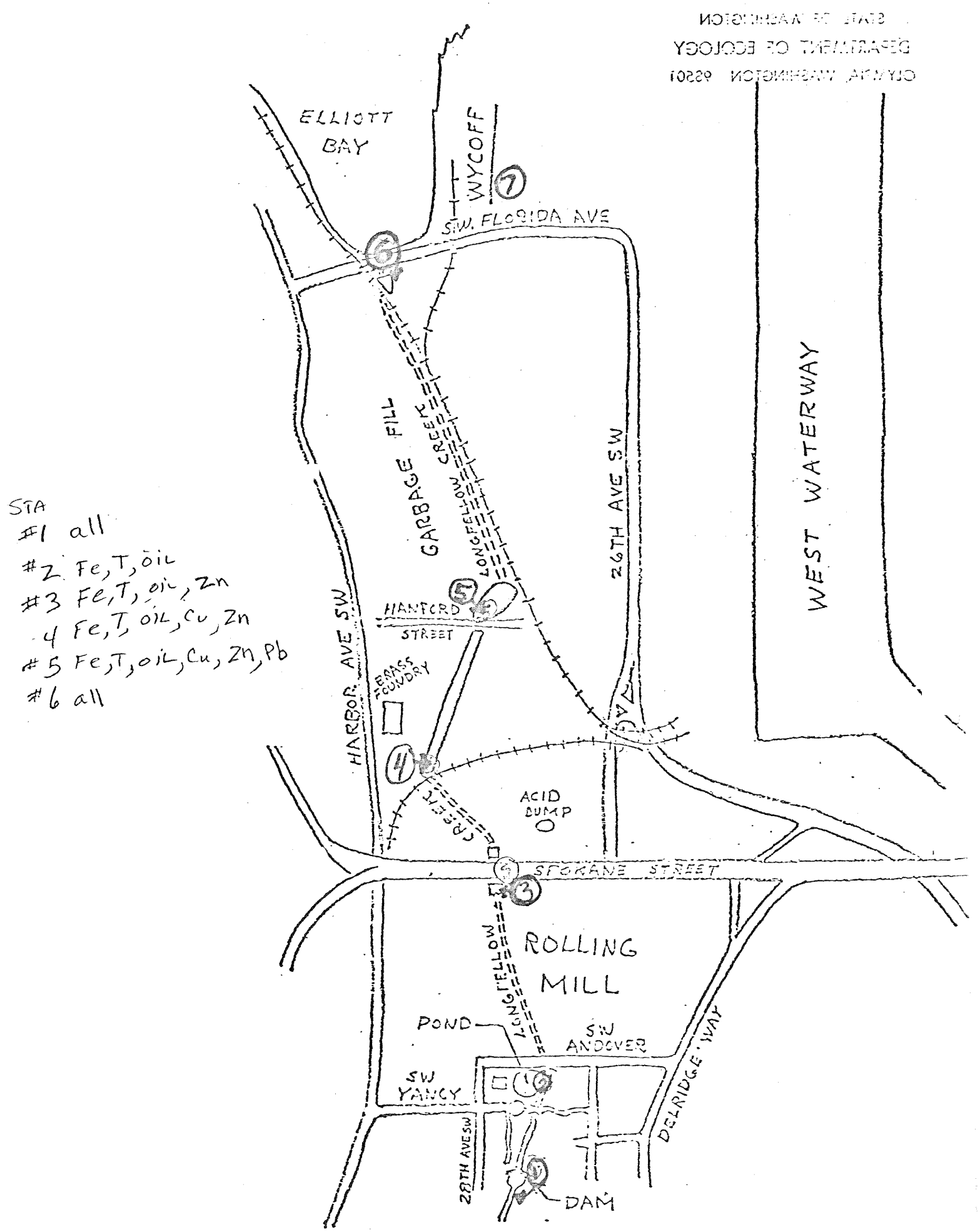
4. Small amounts of phenols were present around Wycoff log storage area.

5. Bethlehem Steel was not contributing significant amounts of the heavy metals which were tested.

Comparing data from stations 5 and 6 is difficult because of the assumed salt water influence at station 6. The value of 0.9 ppm of copper was not expected and valid conclusions could only be made after sampling at additional locations.

RCD:bj

cc: Ron Pine
Gary Rothwell
Files


STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
OLYMPIA, WASHINGTON 98501
ELLIOTT BAY
WYCOFF
S.W. FLORIDA AVE
GARBAGE FILL
LONGFELLOW CREEK
26TH AVE SW
WEST WATERWAY
HARBOR AVE SW
HANFORD STREET
BRASS FOUNDRY
ACID DUMP
SPOKANE STREET
ROLLING MILL
POND
SW ANDOVER
SW NANCY
28TH AVE SW
DELRIDGE WAY
DAM
STA
#1 all
#2 Fe, T, oil
#3 Fe, T, oil, Zn
#4 Fe, T, oil, Cu, Zn
#5 Fe, T, oil, Cu, Zn, Pb
#6 all

DATA REPORT FORM

Location: Longfellow Creek, Seattle - April 11, 1972

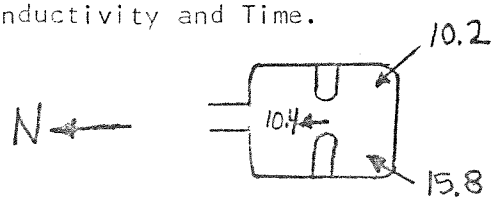
	Station						
Lab. Results	1	2	3	4	5	6	7
pH	7.6	7.6	7.8	7.5	7.8	7.2	
Zn	ND	<0.02	ND	<0.02	<0.02	0.03	
Cu	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	
Cr	ND	ND	ND	ND	ND	ND	
Fe	1.0	1.8	1.0	0.8	0.8	0.6	
Pb	<0.5	<0.5	ND	ND	<0.5	ND	
Phenols	0.003	---	---	---		0.001	0.083
Total Oils	2.	7.	5.	ND	ND	ND	
BOD						6	
Conductivity						19,900	
μ mhos/cm							
COD						123*	
Field Data							
Time	0945	0905	1145	0730	0745	0900	1215
Temp. °C	7.8	20.8	10.2 / 15.8 10.4	8.8	8.8	9.0	---
Dissolved O_2	11.0	---	---	---	---	6.1	---

Values in ppm except pH, Temp., Conductivity and Time.

* Cl^- interference present

ND - None Detected

* T @ #3 (SUMP)



pH

oil III

phenol 1

Cd III

Cr 3

Cu

Fe

Ni

Pb

Sn

Zn

Hg

6 everything

every #1 thing

#2 Fe
T
oil

#3 oil Fe
T
Zn

#4 oil
T
Cu Zn
Fe

#5
oil
T Zn Fe Cu
Pb

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M E M O R A N D U M

TO: Ron Pine, Bethlehem and Wycoff Files

FROM: T. J. McCann TJM

SUBJECT: SURVEY OF LONGFELLOW CREEK, WEST SEATTLE

DATE: November 15, 1971

Objective: To determine the effect of industrial discharges on the character of Longfellow Creek between Bethlehem Steel's dam and Elliott Bay (see sketch).

1. Bethlehem Steel discharges cooling water at several stations throughout the rolling mill south of Spokane Street and from the pond south of Southwest Andover Street. This water is oily and contains iron scale.

2. Fumes from the melting furnaces are high in heavy metal oxides, mainly zinc, but most are trapped in the bag house.

3. Bethlehem Steel dumps spent pickling solution on a slag pile north of Spokane Street. This solution is said to be 4% sulfuric acid and 5% iron sludge.

4. A brass foundry on Harbor Avenue Southwest might contribute heavy metals.

5. The garbage fill is said to be 35 feet deep in places and could contribute heavy metals, acids and oil. This is the remains of a salt water estuary.

6. Wycoff Chemical is a potential source of phenol, oil and copper.

Expected Results:

1. Temperature rise caused by Bethlehem Steel.

2. pH changes caused by Bethlehem Steel.

3. Amount of oil contributed by Bethlehem Steel, the garbage fill and Wycoff Chemical.

4. Amount of phenol contributed by Wycoff Chemical.

5. Amount of heavy metals contributed by Bethlehem Steel, the brass foundry, the garbage fill and Wycoff Chemical (Cd, Cr, Cu, Fe, Ni, Pb, Sn, Zn, and Hg).

by phone

Recommended Sample Stations:

Harold Schubert of Bethlehem Steel will cooperate with your survey team.

1. Dam site.
2. Cooling reservoir (pond on sketch).
3. Manhole at Spokane Street.
4. Effluent to open water north of rail spur.
5. Open water north of Hanford Street.
6. Effluent to Elliott Bay.

Time Schedule:

I will need the information in time to issue a permanent waste discharge permit on Bethlehem Steel and possibly Wycoff Chemical and the brass foundry before June 30, 1972.

TJM/ch

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OLYMPIA, WASHINGTON 98504