

SKOOKUM INLET SURVEY

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WASHINGTON POLLUTION CONTROL COMMISSION

February through August, 1957

SKOOKUM INLET SURVEY

Purpose of the Survey

Since the spring of 1956, southern Puget Sound has been sampled extensively for the presence of sulfite waste liquor, presumably discharged from the Rayonier Incorporated operation at Shelton. With recent improvements and modifications, the analytical test for SWL as originally developed by Pearl and Benson has indicated consistent positive results in Oyster Bay, Skookum Inlet and other areas immediately adjacent to the entrance of Hammersly Inlet.

The question has arisen as to the validity of these low concentrations and whether or not such results could be due to "background" influences such as run-off from wooded areas, leachings from log storage areas, etc.

In an attempt to resolve this problem, a schedule of surveys was established for Skookum Inlet to correspond with a series of shut-downs at the pulp mill. Four stations were established in the Inlet (see Figure 1), and samples were collected at the surface, mid-depth and bottom at each station. Sampling was conducted only during the flood phase of the tide. Thirteen sampling trips were made during the course of the survey; all stations being covered in trips 1 through 6, Stations 26 and 26-A only in trips 7 through 12, and Station 26 only in trip 13. 923 samples were collected and analyzed for SWL and chlorinity.

Operations at the Rayonier, Incorporated mill have been on an intermittent basis for several months due to market conditions. There have been several shut-downs for varying periods of time and two such periods were covered during the course of the survey. Following is a list of shut-downs; those starred occurred during the survey period.

December 23, 1955 to December 31, 1955 - inclusive

July 3, 1956 to July 17, 1956 - inclusive

September 2, 1956 to September 9, 1956 - inclusive

November 13, 1956 to November 27, 1956 - inclusive

December 23, 1956 to January 6, 1957 - inclusive
*February 24, 1957 to March 17, 1957 - inclusive
*April 20, 1957 to May 19, 1957 - inclusive
*June 10, 1957 to June 30, 1957 - inclusive
August 9, 1957 to present date

The purpose of the survey then, was: To determine if a decrease in SWL concentrations in Skookum Inlet would occur during a shut-down period with a corresponding increase in SWL concentrations after the mill resumed operations.

Analytical Procedure

All determinations for sulfite waste liquor concentrations were made by the Pearl Benson method as modified by E. D. Collias of the Oceanography Department of the University of Washington. The instrument used to measure colorimetric reactions was a Beckman spectrophotometer, Model DU, set at a wave length of 420 millimicrons.

Survey Results

All analytical results of the survey are reported in the tables at the end of this report. The graphs (see Figures 2 through 5) represent an average of the bottom, mid-depth and surface concentrations for each sampling time. With one exception, a complete flood phase of the tide was sampled on each day. Due to operational difficulties, only a three-hour period was covered on March 19.

The bar graph (Figure 6) indicates the average concentrations of all samples collected at Station 26-A on each sampling day. Figures 7 and 8 depict the tidal ranges and times for each sampling day. The period of sampling time is shown by the vertical dashed lines on each tidal chart.

As can be seen visually from the graphs, there is a definite correlation between SWL concentrations in Skookum Inlet and mill operations at Shelton. A shut-down of mill operations results in a decrease in SWL concentrations; a start-up brings about an increase. There appears to be a definite time-lag involved; i.e., a noticeable reduction in SWL concentrations in the Inlet does not occur immediately

after a shut-down. The available data is not complete and continuous enough to accurately determine the lag period, but there appears to be up to a week's lapse of time before a definite decrease occurs. Similarly, a lag occurs when the mill resumes operations; SWL concentrations continue to drop for several days following a start-up.

By averaging all the results for each station on each day of sampling, the following figures are obtained: (data for Station 26-A is also shown graphically in Figure 6).

DATE	26-A	26-B	26	26-C
*2-27	3.5	3.7	3.7	3.8
*3-4	2.4	1.9	1.8	1.8
*3-13	2.3	2.6	2.4	2.3
3-19	2.2	2.1	1.8	1.2
3-28	2.0	2.9	2.8	2.6
4-12	2.6	2.6	2.4	2.2
*4-25	2.4		2.6	
*4-29	2.1		1.9	
*5-10	1.7		1.8	
5-24	1.1		1.2	
5-27	0.5		0.8	
6-7	3.2		2.9	
7-8			1.0**	

* Mill not operating

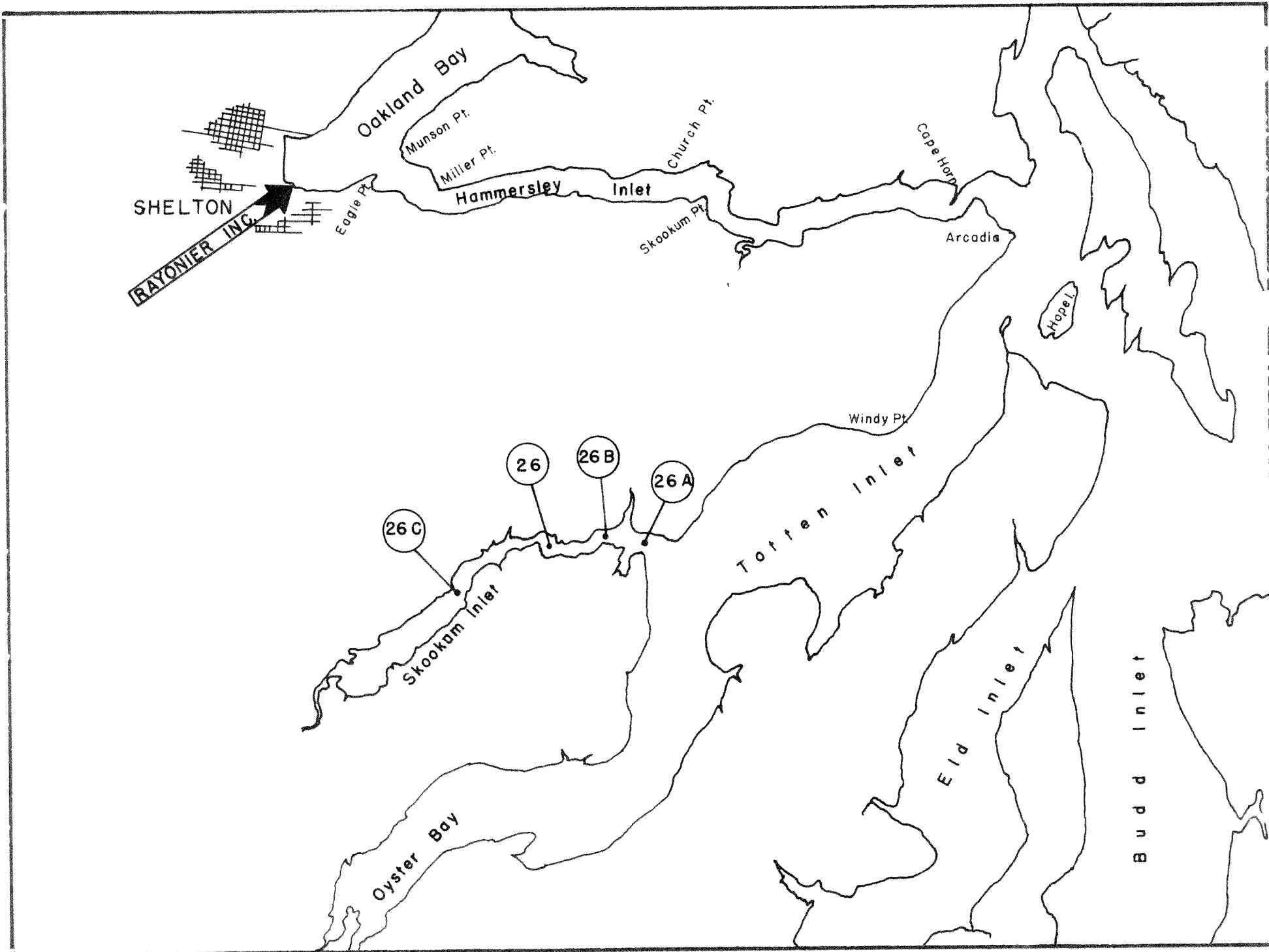
** 8 days after the June 10-30 shut-down

Although variations appear in the data, the overall trend is definite; i.e., a reduction in SWL concentrations during periods of shut-down and a rise after mill operations resume.

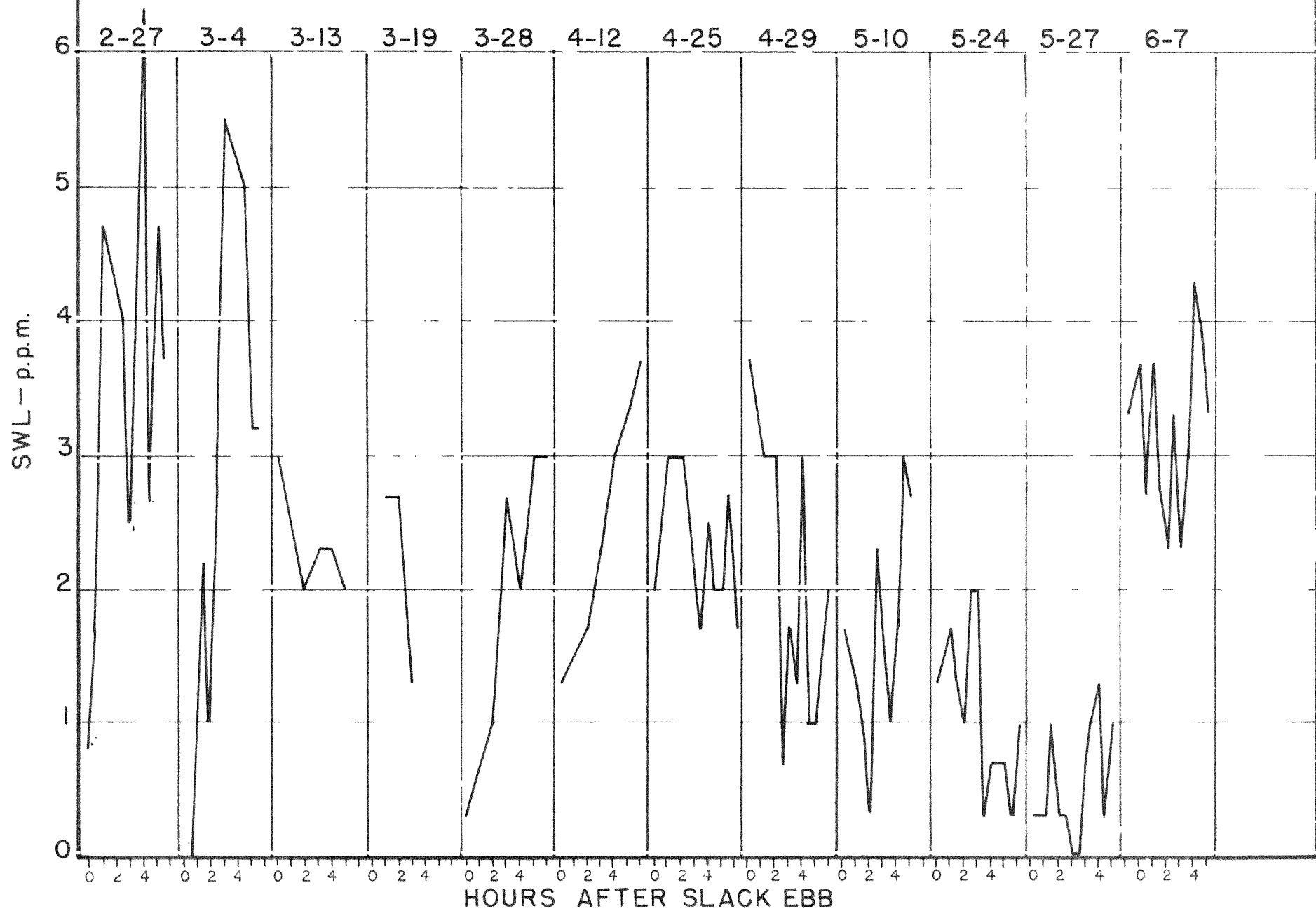
Conclusions

The data obtained from the Skookum Inlet survey demonstrates a positive correlation between the Rayonier operation at Shelton and the intensity of colorimetric reactions of samples obtained from Skookum Inlet.

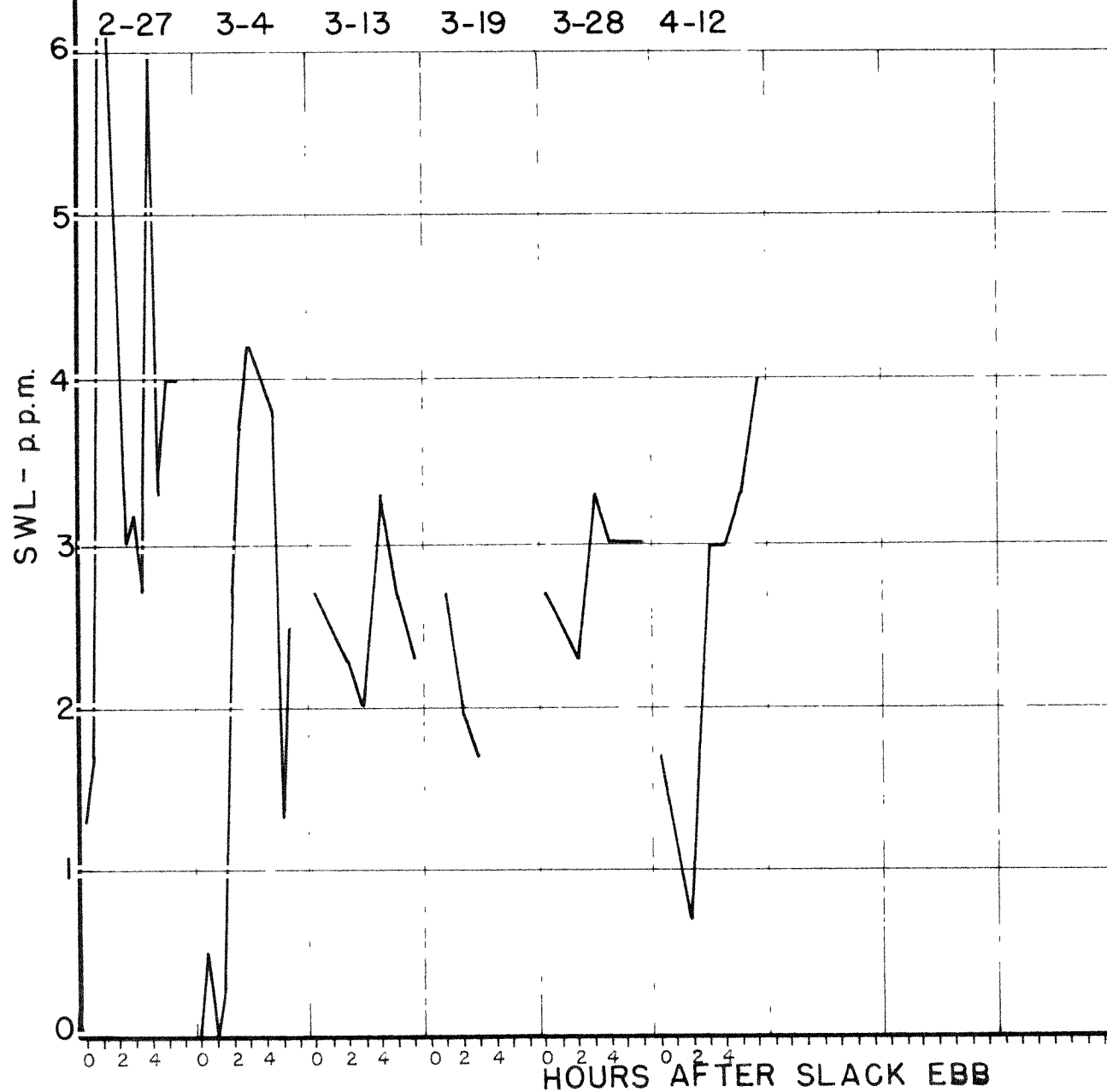
To accurately determine the background colorimetric reaction of the waters of southern Puget Sound, further data will be obtained during the current extended inoperative period of the mill.



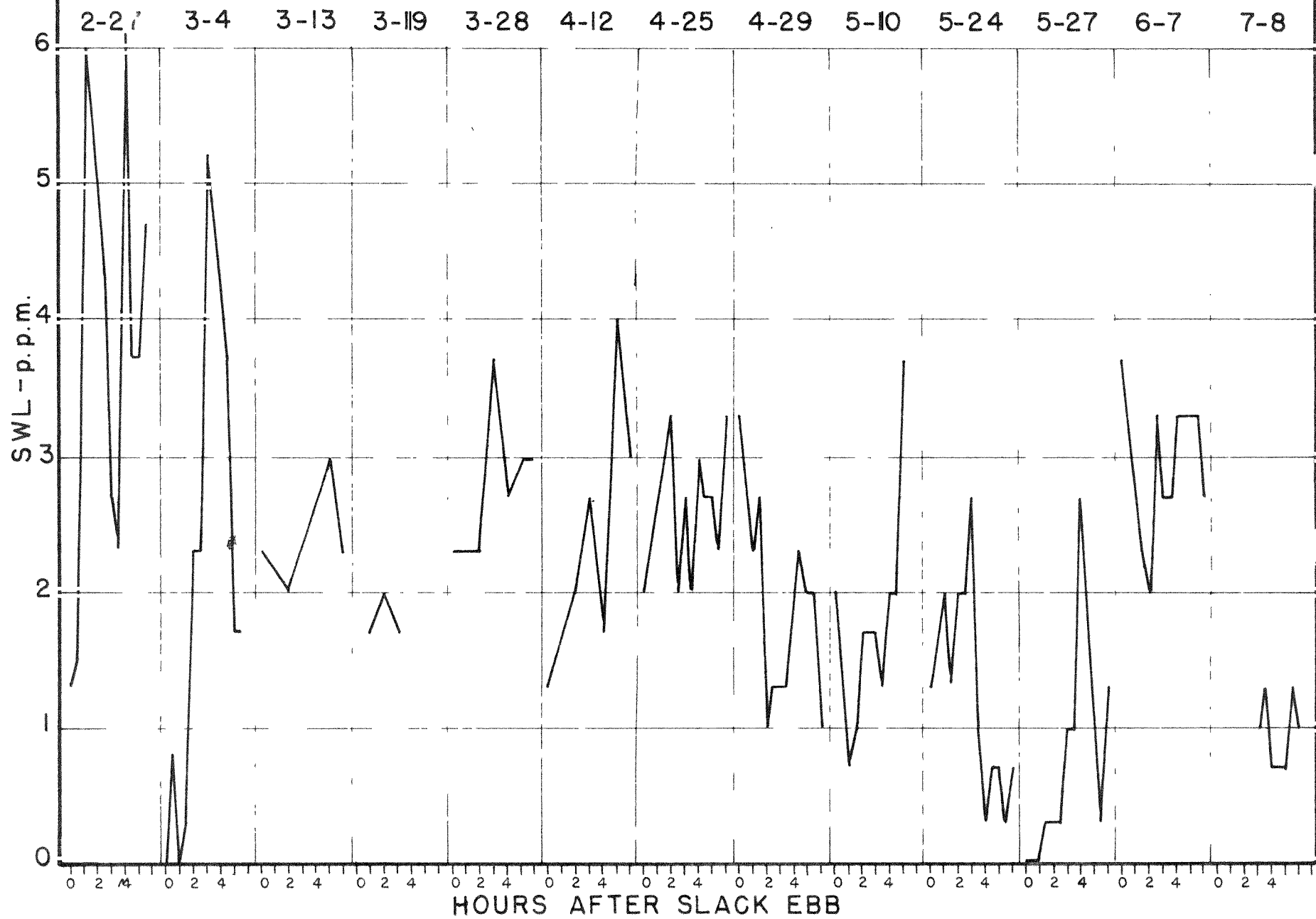
STATION 26-A



STATION 26-B

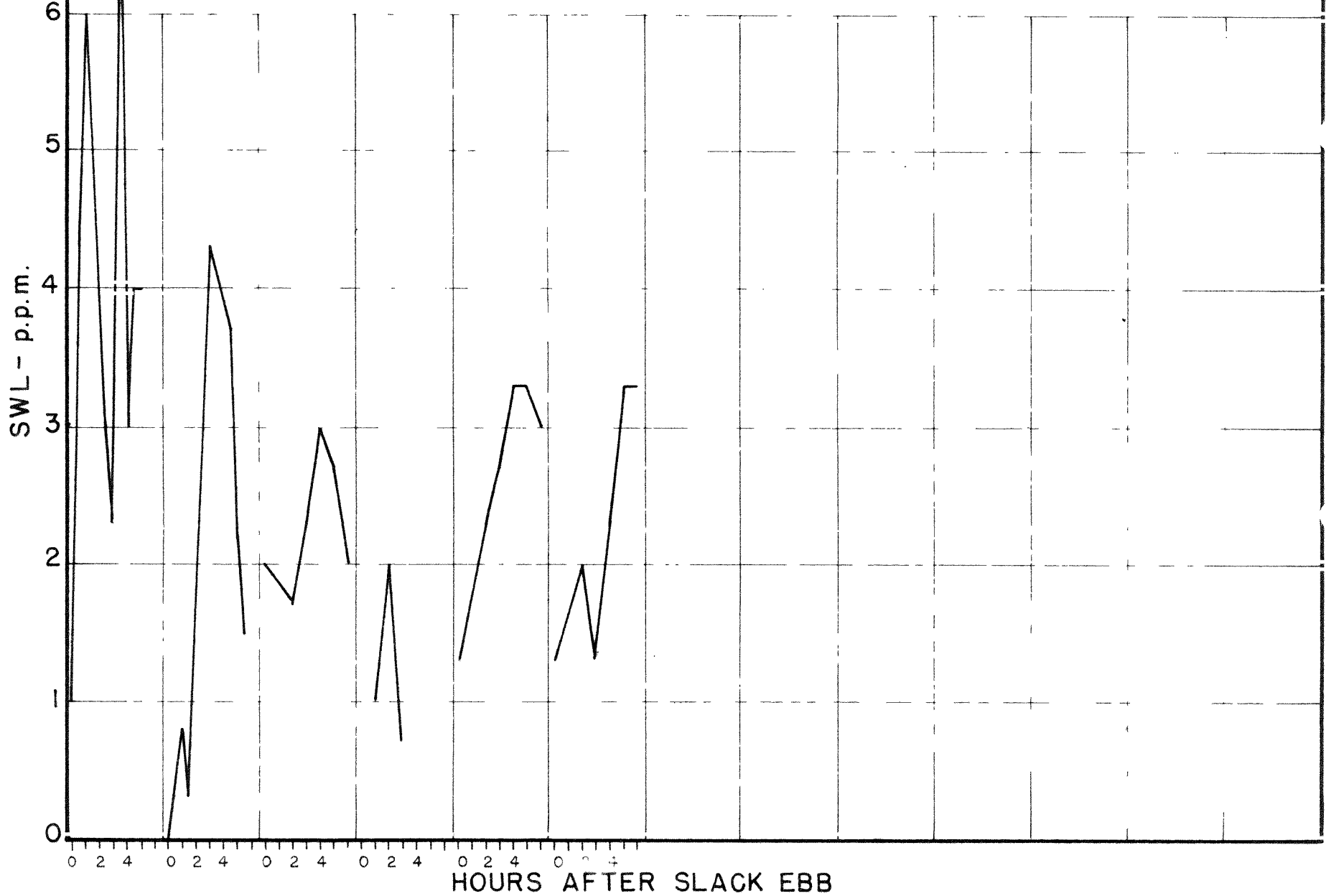


'STATION 26



STATION 26-C

2-27 3-4 3-13 3-19 3-28 4-12



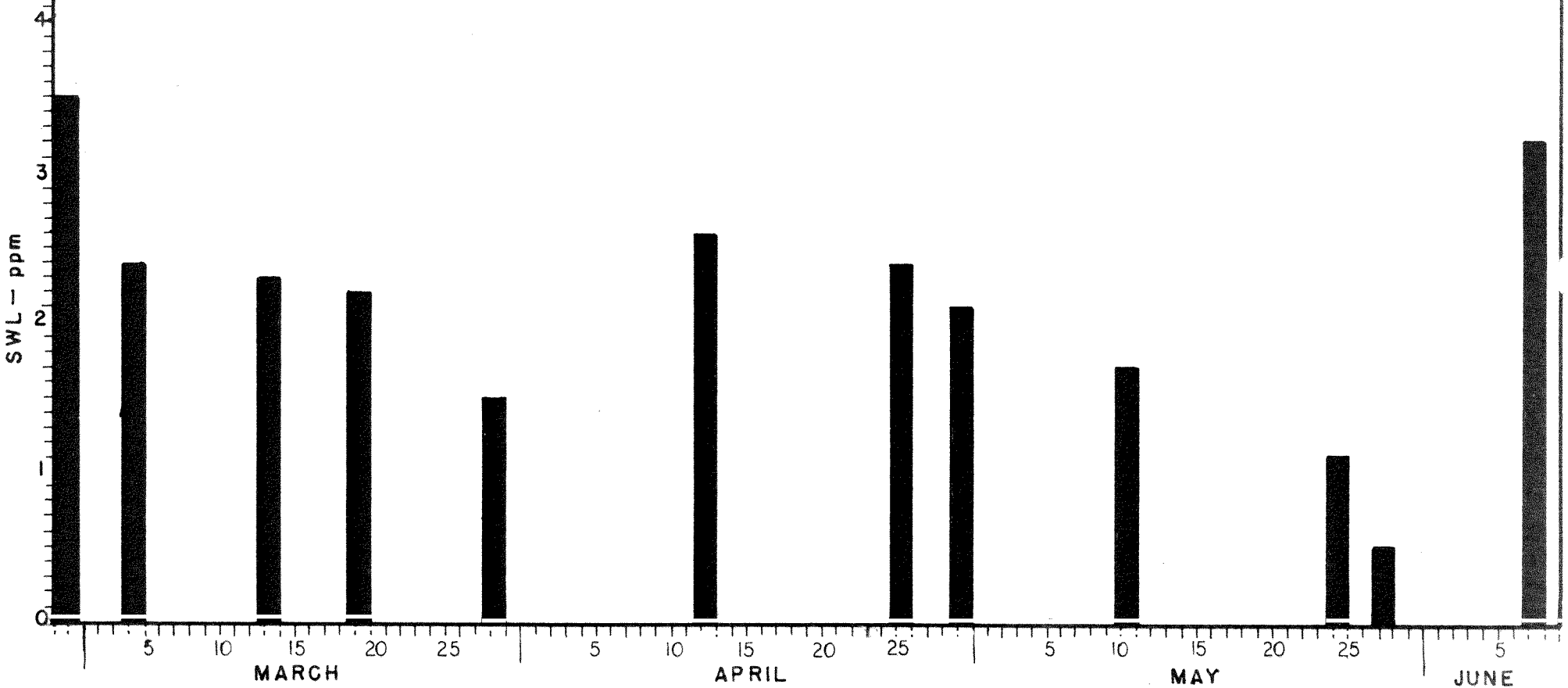
STATION 26-A -- AVERAGE CONCENTRATIONS

MILL DOWN

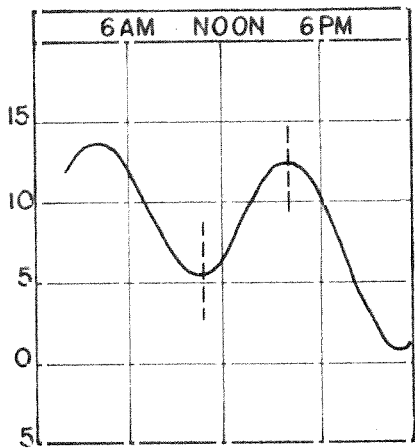
MILL DOWN

FEB. 24 TO MAR. 17

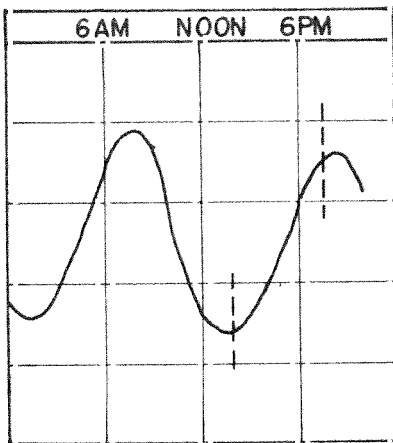
APR. 20 TO MAY 19



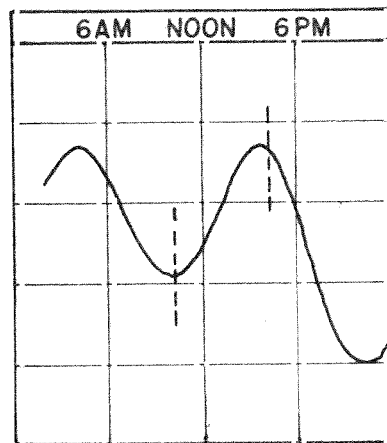
2-27-57



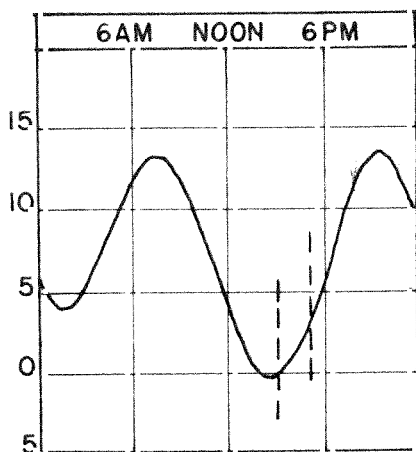
3-4-57



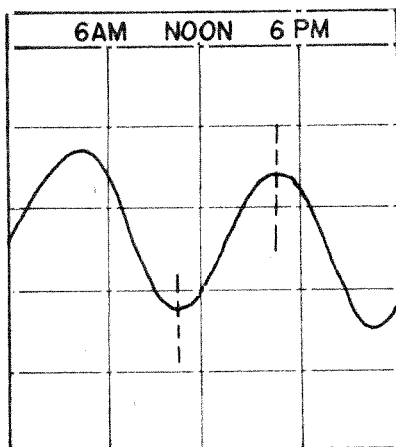
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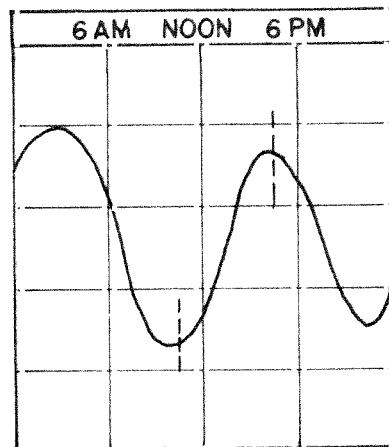
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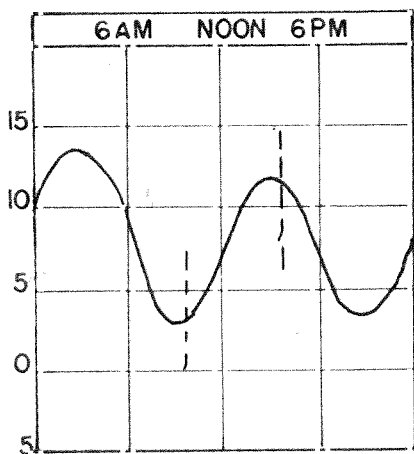
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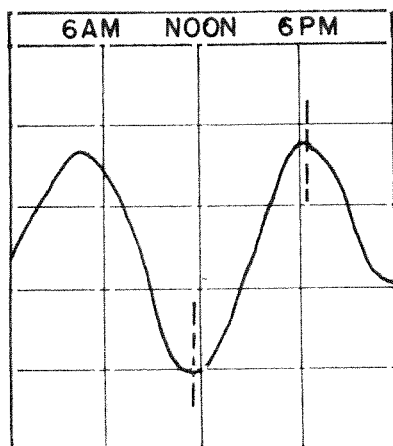
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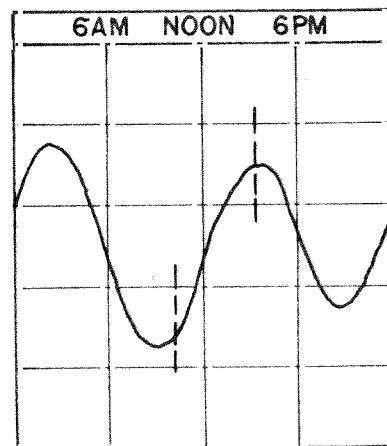
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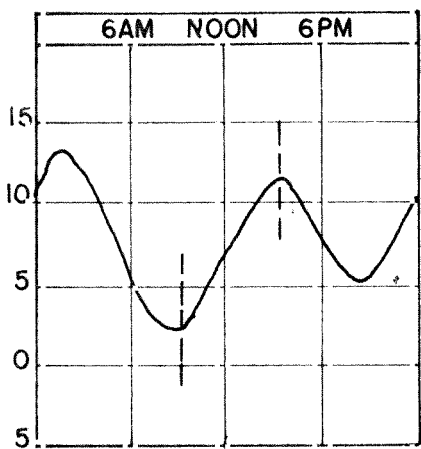
4-29-57



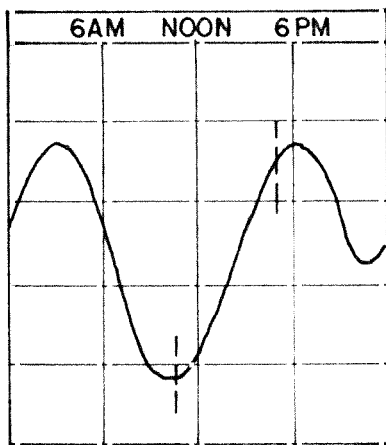
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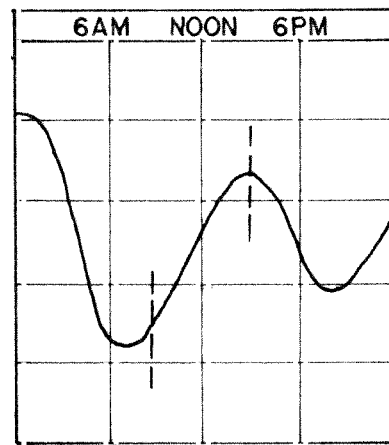
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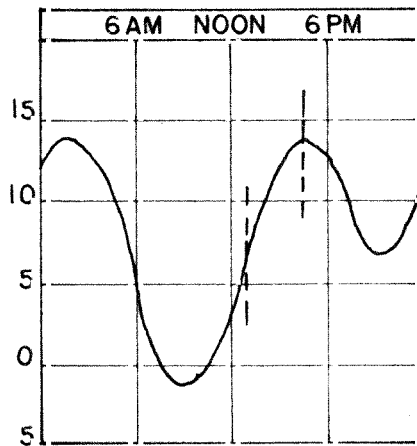
5-27-57



6-7-57



7-8-57



SKOOKUM INLET SURVEY

Trip No. 1

2-27-57

		1035	1105	1135	1300	1330	1400	1430	1500	1530	1600
		to	to	to	to	to	to	to	to	to	to
STATION		1050	1120	1150	1315	1345	1415	1445	1515	1545	1615
26A-B	SWL	0	2	4	4	3.5	3	5	2	5	3
	CL	14.6	14.7	13.8	13.8	13.1	13.8	11.1	12.2	13.1	12.7
M	SWL	1.5	0	5	4	3	4.5	8	3	5	4
	CL	13.9	13.3	13.0	13.1	13.5	13.5	11.6	12.8	13.0	12.7
S	SWL	1	3	5	4	1	3	6	3	4	4
	CL	11.8	11.6	10.6	11.9	11.1	13.5	10.6	13.1	12.5	11.6
26B-B	SWL	2	2	11	3	3	2	7	3	4	3
	CL	12.5	12.5	12.8	13.5	13.5	11.2	11.4	13.8	13.5	12.8
M	SWL	0	2	7	3	4.5	3	5	3	4	4
	CL	11.8	11.7	11.4	12.8	12.8	13.1	12.2	13.0	13.1	12.7
S	SWL	2	1	6	3	2	3	6	4	4	5
	CL	11.1	10.8	10.0	10.9	10.9	11.6	10.9	11.6	11.6	11.4
26 -B	SWL	1	2	5	4	3	3	6	4	3	4
	CL	10.3	10.2	9.6	11.4	12.5	13.8	11.9	13.5	12.8	12.5
M	SWL	1.5	1.5	8	4	2	2	6	3	4	6
	CL	9.9	10.0	9.4	10.9	10.9	13.1	12.2	13.1	12.5	12.2
S	SWL	1.5	1	5	5	3	2	8	4	4	4
	CL	9.5	9.6	8.5	10.2	11.4	12.5	11.8	12.8	12.5	12.2
26C-B	SWL	1	5	8	4	2	9	5	4	4	-
	CL	12.5	11.6	12.7	10.4	10.2	9.4	10.9	12.7	12.5	-
M	SWL	0	4	4	3	3	6	0	4	4	-
	CL	11.9	10.4	11.9	10.0	10.0	9.8	11.0	12.2	12.5	-
S	SWL	2	4	6	2	2	6	4	4	4	-
	CL	5.0	4.4	4.4	8.7	7.7	8.8	9.2	11.6	11.6	-

NOTE: B - Bottom, M - Middepth, S - Surface
Chloride expressed as parts per thousand

SKOOKUM INLET SURVEY

Trip No. 2

3-4-57

		1100	1130	1500	1530	1600	1630	1700	1830	1900	1930
STATION		to 1115	to 1145	to 1515	to 1545	to 1615	to 1645	to 1715	to 1845	to 1915	to 1945
26A-B	SWL	0	0	1	6.5	1	2	3	5	3.5	3
	CL	12.6	12.6	12.9	12.7	12.9	14.3	13.9	13.1	13.2	13.4
M	SWL	0	0	2	0	0	3	9.5	4	4	1.5
	CL	11.8	12.3	12.7	12.3	12.7	13.5	12.9	12.9	13.1	13.5
S	SWL	0	0	0	0	2	3	4	6	2	5
	CL	11.3	11.3	11.7	11.8	12.6	12.3	12.7	12.7	12.6	12.7
26B-B	SWL	0	0	0	0	3	3.5	5	3	1	3.5
	CL	11.7	11.7	12.0	12.1	13.5	13.5	13.0	13.2	13.4	13.4
M	SWL	0	0	0	1	2	3	4.5	5	1	4
	CL	10.5	11.0	11.6	11.4	13.2	12.9	13.2	13.1	13.2	13.4
S	SWL	0	1.5	0	0	3	4.5	3	3.5	2	0
	CL	10.2	10.5	11.2	11.4	13.0	13.2	12.7	12.4	12.9	12.7
26 -B:	SWL	0	1.5	0	0	2	2	4	4	0	2
	CL	9.6	10.5	11.1	11.3	12.7	12.9	12.4	13.1	13.2	12.9
M	SWL	0	1	0	0	3	3	7	5	2	1.5
	CL	9.4	10.5	11.1	11.4	12.6	13.4	12.3	12.9	13.1	13.2
S	SWL	0	0	0	1	2	2	4.5	2	3	1.5
	CL	9.3	10.0	11.2	11.4	12.6	12.6	12.4	12.9	12.7	13.2
26C-B	SWL	0	1	1.5	0	1.5	3	4	3	3	0
	CL	8.5	9.0	8.2	9.2	11.2	12.3	12.3	13.2	12.9	13.2
M	SWL	-	-	0	1	2	3	4.5	4	2	3
	CL	-	-	6.8	9.0	10.9	12.3	12.3	13.1	12.9	13.1
S	SWL	0	0	1	0	1.5	3	4.5	4	1.5	1.5
	CL	8.2	8.9	3.0	6.3	8.9	12.3	12.1	12.7	11.8	12.6

SKOOKUM INLET SURVEY

Trip No. 3

3-13-57

STATION		1010	1200	1300	1400	1500	1600
		to 1025	to 1215	to 1315	to 1415	to 1515	to 1615
26A-B	SWL	2	2	3	2	2	2
	CI	12.9	12.9	13.1	13.4	13.0	13.9
M	SWL	5	2	2	3	2	2
	CI	11.7	12.6	13.5	13.0	13.2	13.2
S	SWL	2	2	2	2	2	2
	CI	11.7	11.4	13.0	12.9	12.9	12.3
26B-B	SWL	3	2	2	3	4	2
	CI	11.7	12.3	13.5	13.5	13.2	13.5
M	SWL	2	3	2	4	2	3
	CI	11.4	11.0	13.4	13.2	12.6	13.0
S	SWL	3	2	2	3	2	2
	CI	11.3	11.4	12.3	12.9	12.9	13.2
26 -B	SWL	3	2	2	3	4	2
	CI	10.5	11.4	13.2	13.0	13.2	13.2
M	SWL	2	1	3	2	2	2
	CI	10.2	11.4	12.9	13.2	13.2	13.4
S	SWL	2	3	2	3	3	3
	CI	9.8	10.9	12.7	12.9	12.6	12.9
26C-B	SWL	2	2	2	3	3	2
	CI	11.2	10.5	13.1	12.9	12.9	13.2
M	SWL	2	2	3	4	3	2
	CI	10.0	10.1	11.1	13.2	12.3	12.3
S	SWL	2	1	2	2	2	2
	CI	7.2	10.0	10.9	13.2	11.7	11.5

SKOOKUM INLET SURVEY

Trip No. 1

3-19-57

STATION		1500 to 1530	1600 to 1630	1700 to 1730
26A-B	SWL	2	3	1
	CI	12.2	13.2	14.2
M	SWL	3	3	2
	CI	12.2	13.5	13.9
S	SWL	3	2	1
	CI	11.5	11.9	13.5
26B-B	SWL	3	2	1
	CI	10.7	11.8	13.0
M	SWL	3	2	2
	CI	10.1	11.7	12.8
S	SWL	2	2	2
	CI	9.0	10.2	12.5
26 -B	SWL	1	2	2
	CI	9.5	11.5	12.6
M	SWL	2	3	1
	CI	9.1	11.6	12.8
S	SWL	2	1	2
	CI	8.4	10.2	12.2
26C-B	SWL	1	3	1
	CI	7.4	10.4	12.2
M	SWL	1	2	1
	CI	7.4	10.8	12.2
S	SWL	1	1	0
	CI	6.2	10.4	12.2

SKOOKUM INLET SURVEY

Trip No. 5

3-28-57

STATION		1030 to 1045	1230 to 1245	1330 to 1345	1430 to 1445	1530 to 1545	1630 to 1645
26A-B	SWL	0	1	3	2	2	3
	CI	14.3	14.5	13.9	12.4	13.7	13.4
M	SWL	1	1	3	2	4	3
	CI	12.9	14.1	14.3	12.7	13.0	13.4
S	SWL	0	1	2	2	3	3
	CI	12.6	12.7	13.2	12.3	12.4	13.2
26B-B	SWL	1	1	3	4	3	3
	CI	12.6	14.1	14.1	12.7	13.2	13.8
M	SWL	6	4	4	3	3	3
	CI	12.0	13.3	13.5	12.6	12.9	13.9
S	SWL	1	2	3	2	3	3
	CI	12.3	12.7	13.0	12.4	12.9	13.0
26 -B	SWL	2	3	4	2	4	3
	CI	11.7	13.2	13.3	12.6	13.2	13.8
M	SWL	3	4	4	4	2	2
	CI	11.4	12.5	13.3	12.4	13.0	13.4
S	SWL	2	0	3	2	3	4
	CI	11.6	13.0	12.1	12.4	12.9	13.0
26C-B	SWL	2	3	3	5	3	3
	CI	10.4	11.8	11.7	12.1	12.7	13.4
M	SWL	0	2	3	2	3	2
	CI	9.1	11.9	11.4	12.6	12.7	13.0
S	SWL	2	2	2	3	4	4
	CI	7.5	11.5	11.0	12.4	12.7	12.7

SKOOKUM INLET SURVEY

Trip No. 6

4-12-57

STATION		1030 to 1045	1230 to 1245	1330 to 1345	1430 to 1445	1530 to 1545	1630 to 1645
26A-B	SWL	1	2	3	3	2	3
	C1	12.5	12.5	12.8	13.7	13.3	12.8
M	SWL	2	3	2	3	4	4
	C1	12.2	12.2	12.5	13.7	13.7	13.0
S	SWL	1	0	2	3	4	4
	C1	11.6	12.2	12.5	13.3	13.3	12.8
26B-B	SWL	2	0	1	4	3	3
	C1	11.4	12.2	12.5	13.3	13.3	13.0
M	SWL	2	1	7	1	3	5
	C1	10.7	12.2	12.4	13.3	13.2	12.8
S	SWL	1	1	1	4	4	4
	C1	10.2	12.5	12.2	13.2	13.5	13.2
26 -B	SWL	2	1	3	2	4	3
	C1	9.6	11.7	12.1	13.3	13.7	12.7
M	SWL	1	3	2	3	4	3
	C1	9.3	11.7	11.9	13.0	13.5	13.2
S	SWL	1	2	3	0	4	3
	C1	9.4	11.8	12.5	13.0	13.3	12.8
26C-B	SWL	1	2	3	3	4	3
	C1	7.7	10.6	12.8	13.3	13.5	13.2
M	SWL	3	2	0	1	3	4
	C1	6.6	10.9	12.8	13.0	13.5	13.0
S	SWL	0	2	1	3	3	3
	C1	2.1	10.9	12.8	13.5	13.2	12.8

SKOOKUM INLET SURVEY

Trip No. 7

4-25-57

		0930	1030	1100	1130	1200	1230	1300	1330	1400	1430	1500	1530
STATION		to	to	to	to	to	to	to	to	to	to	to	to
		0935	1035	1105	1135	1205	1235	1305	1335	1405	1435	1505	1535
26A-B	SWL	2	3	4	5	3	3	2	-	2	-	3	1
	CI	15.4	14.7	14.6	15.4	15.2	15.4	15.4	-	15.4	15.8	15.4	15.0
M	SWL	3	3	3	3	1	1	2	3	2	2	3	2
	CI	14.7	14.7	14.6	15.4	15.0	15.0	15.6	15.6	15.4	15.4	15.8	15.4
S	SWL	1	3	2	3	4	2	1	2	2	2	2	2
	CI	13.5	13.9	14.2	15.0	15.0	15.0	15.8	15.4	15.2	15.4	15.0	15.4
26 -B	SWL	3	2	2	4	1	2	3	3	3	5	2	4
	CI	12.9	13.4	13.0	14.2	14.7	14.7	15.4	15.4	15.2	15.4	15.4	15.4
M	SWL	3	3	4	3	3	4	2	3	3	1	3	3
	CI	12.3	13.2	13.0	14.2	14.6	14.4	15.4	15.4	15.2	15.4	15.2	15.4
S	SWL	0	3	3	3	2	2	1	3	2	2	2	3
	CI	12.3	12.9	13.0	14.2	14.2	14.6	15.4	15.4	15.4	15.8	15.0	15.6

SKOOKUM INLET SURVEY

Trip No. 8

4-29-57

		1130	1230	1300	1330	1400	1430	1500	1530	1600	1630	1700	1730
STATION		to	to	to	to	to	to	to	to	to	to	to	to
		1135	1235	1305	1335	1405	1435	1505	1535	1605	1635	1705	1735
26A-B	SWL	4	4	4	3	0	3	1	3	2	1	2	3
	CI	15.4	15.8	16.0	16.0	15.8	15.8	16.1	16.4	15.9	15.9	15.3	15.5
M	SWL	4	3	2	4	2	1	2	3	1	1	1	1
	CI	14.8	15.3	15.5	16.0	15.8	15.8	16.1	16.4	15.9	15.3	15.3	15.5
S	SWL	3	2	3	2	0	1	1	3	0	1	2	2
	CI	14.6	14.9	14.9	14.7	15.4	15.6	16.1	15.7	15.9	15.3	15.3	15.3
26 -B	SWL	4	1	3	1	1	1	0	2	3	2	2	1
	CI	12.6	13.2	13.8	14.4	15.6	15.6	15.9	15.9	15.9	15.3	15.3	15.1
M	SWL	3	3	4	1	1	2	2	2	2	2	2	2
	CI	11.9	13.0	13.8	14.7	15.4	15.4	15.9	15.7	15.9	15.3	15.3	15.1
S	SWL	3	3	1	1	2	1	2	2	2	2	2	0
	CI	12.1	12.5	13.8	15.2	15.2	15.6	15.9	15.9	15.9	15.3	15.3	15.1

SKOCKUM INLET SURVEY

Trip No. 9

5-10-57

		1000	1100	1130	1200	1230	1300	1330	1400	1430	1500
		to	to	to	to	to	to	to	to	to	to
STATION		1005	1105	1135	1205	1235	1305	1335	1405	1435	1505
26A-B	S.W.L	0	3	1	1	3	1	1	2	2	3
	C1	14.3	14.7	15.4	15.4	15.4	15.6	15.6	15.6	15.6	14.4
	M	S.W.L	2	0	1	0	2	2	2	1	4
	C1	14.1	15.6	15.4	15.4	15.6	15.6	15.6	15.6	14.6	14.4
	S	S.W.L	3	1	1	0	2	2	0	2	3
	C1	14.0	15.2	14.8	15.2	15.0	15.2	15.4	15.4	14.6	14.6
26 -B	S.W.L	2	1	0	2	2	2	1	2	2	3
	C1	13.0	14.6	14.6	14.8	15.2	15.2	15.6	15.4	14.6	14.6
	M	S.W.L	2	0	2	2	1	2	1	2	3
	C1	13.3	14.4	14.6	15.2	15.0	14.8	15.2	15.4	14.4	14.4
	S	S.W.L	2	1	1	1	2	1	2	2	5
	C1	13.1	14.4	14.8	14.8	15.0	14.8	15.2	15.4	14.4	14.4

SKOOKUM INLET SURVEY

Trip No. 10

5-24-57

STATION		0900 to 0905	1000 to 1005	1030 to 1035	1100 to 1105	1130 to 1135	1200 to 1205	1230 to 1235	1300 to 1305	1330 to 1335	1400 to 1405	1430 to 1435	1500 to 1505
26A-B	SWL	1	2	0	1	2	0	0	0	1	1	0	1
	CI	14.6	14.8	14.8	15.0	14.6	14.8	14.8	15.2	15.2	15.6	15.6	15.6
M	SWL	1	2	2	1	1	3	0	1	1	0	1	1
	CI	14.4	14.8	14.8	14.8	14.6	15.0	14.8	15.0	15.2	15.6	15.6	15.6
S	SWL	2	1	2	1	3	3	1	1	0	1	0	1
	CI	14.2	14.6	14.6	14.8	14.4	14.4	15.0	14.8	15.0	15.4	15.6	15.4
26 -B	SWL	2	1	0	3	3	3	1	1	0	1	1	0
	CI	13.5	14.1	14.2	14.2	14.4	14.4	14.8	15.0	14.8	15.4	15.6	15.6
P	SWL	1	2	2	2	2	2	1	0	2	1	0	2
	CI	13.9	14.1	14.2	14.2	14.2	14.6	14.8	15.0	14.8	15.4	15.6	15.6
S	SWL	1	3	2	1	1	3	1	0	0	0	0	0
	CI	13.7	14.2	14.2	14.1	14.2	14.6	14.6	14.8	14.8	15.2	15.6	15.4

SKOOKUM LALET SURVEY
 Trip No. 11
 5-27-57

		1030	1130	1200	1230	1300	1350	1400	1430	1500	1530	1600	1630
		to	to	to	to	to	to	to	to	to	to	to	to
STATION		1035	1135	1205	1235	1305	1355	1405	1435	1505	1535	1605	1635
26A-B	S/L	0	1	1	0	0	0	0	0	1	2	1	1
	Cl	14.5	15.7	15.7	16.1	16.1	16.0	16.3	16.0	14.8	15.2	15.5	15.5
M	S/L	1	0	1	0	1	0	0	0	0	1	0	1
	Cl	14.3	15.7	15.3	16.1	15.9	16.0	16.0	16.3	14.8	15.2	15.5	15.5
S	S/L	0	0	1	1	0	0	0	2	2	1	0	1
	Cl	14.9	14.9	14.9	16.1	15.9	16.0	15.8	14.8	14.6	15.0	15.5	15.0
26 -B	S/L	0	0	1	1	1	1	1	3	2	1	1	2
	Cl	14.2	14.2	14.5	15.1	15.7	15.8	15.6	14.8	14.8	14.8	15.2	15.2
M	S/L	0	0	0	0	0	2	1	3	2	1	0	1
	Cl	14.2	14.2	15.1	15.1	15.7	16.0	16.0	14.8	14.8	15.0	15.2	15.0
S	S/L	0	0	0	0	0	0	1	2	2	1	0	1
	Cl	14.2	14.4	14.9	14.9	15.7	16.0	16.0	14.6	14.8	15.0	14.8	14.8

SKOOKUM INLET SURVEY
 Trip No. 12
 6-7-57

STATION		0830	0930	1000	1030	1100	1130	1200	1230	1300	1330	1400	1430
		to 0835	to 0935	to 1005	to 1035	to 1105	to 1135	to 1205	to 1235	to 1305	to 1335	to 1405	to 1435
26A-B	SWL	2	3	3	3	h	1	3	2	3	h	h	3
	CL	14.2	14.4	14.6	14.4	14.4	15.0	15.2	14.8	15.0	14.7	15.2	15.2
H	SWL	h	h	3	5	1	3	h	3	3	5	h	3
	CL	14.2	14.8	14.6	14.4	14.4	15.0	14.8	15.2	15.0	14.7	15.0	14.7
S	SWL	h	h	2	3	3	3	3	2	3	h	h	h
	CL	14.2	14.2	14.2	14.6	14.4	15.2	15.0	14.8	15.2	15.0	14.7	15.0
26 -B	SWL	3	1	3	2	4	3	3	3	3	3	h	3
	CL	14.0	14.2	14.2	14.4	14.8	14.8	15.0	14.7	15.0	15.0	14.7	15.2
H	SWL	h	3	2	2	3	2	3	3	h	h	2	3
	CL	14.0	14.2	14.0	14.0	14.8	14.6	14.8	14.7	14.7	15.2	15.0	14.7
S	SWL	h	h	2	2	3	3	2	h	3	3	h	2
	CL	14.0	14.2	13.8	14.0	15.0	15.0	14.8	15.0	14.7	15.0	15.0	14.7

SKOOKUM INLET SURVEY

Trip No. 13

7-8-57

STATION		1300	1330	1400	1430	1500	1530	1600
26 - B	SWL	2	2	2	1	0	1	1
	CI	14.4	14.6	14.6	15.0	15.0	15.0	15.0
M	SWL	0	1	0	1	1	2	1
	CI	14.4	14.6	14.8	14.8	15.0	15.0	15.0
S	SWL	1	1	0	0	1	1	1
	CI	14.6	14.6	15.0	14.6	15.2	15.0	15.0