REPORT

OBSERVATIONS OF TEMPORAL CHANGES IN BENTHIC COMMUNITIES AND BENTHIC RESPIRATION AT A DUMP SITE IN PORT ALBERNI, JUNE TO NOVEMBER, 1978.

File No. 08SB.KF833-8-0248

MBER 22, 1978

DOBROCKY SEATECH LIMITED
OCEANOGRAPHIC SERVICES

DOBROCKY SEATECH LIMITED
OCEANOGRAPHIC SERVICES

130 Kingston Street, Victoria, British Columbia Telephone: (604) 388-9131 Telex: 049-7232

Our file: Your file:

January 4, 1979

Subsequent to the printing of this report (December 22, 1978) pages 35a and 35b were added.

OBSERVATIONS OF TEMPORAL CHANGES IN BENTHIC COMMUNITIES AND BENTHIC RESPIRATION AT A DUMP SITE IN PORT ALBERNI, JUNE TO NOVEMBER, 1978

DSS File No. 08SB.KF833-8-0248

Edward P. Anderson
Sheila C. Byers
Gordon W. O'Connell

DECEMBER 22, 1978

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

SUMMARY

In June through November, 1978 Dobrocky SEATECH Limited made six monthly benthic sampling cruises to Alberni Inlet. The work was designed to investigate the effects of ocean dumping on benthic faunal communities and benthic oxygen demand during the permitted season of dumping, and recovery from those effects during the prohibited dumping season. The work was performed under DSS Contract Number 08SB.KF833-8-0248. Dr. Colin Levings of the Pacific Environment Institute, West Vancouver, B.C. was Scientific Authority.

Two stations were sampled on each of the six visits. One station was in the disturbed zone immediately below a designated ocean dumping site. The other was about 500 m away in a less disturbed zone of comparable depth. Three groups of measurement were made at each site. Benthic fauna and sediment characteristics were determined for three 0.1 m^2 Smith-McIntyre grabs at each station and sampling occasion. The salinity, temperature and dissolved oxygen of near-bottom water were determined immediately after taking each grab sample. The third group of measurements determined benthic oxygen demand with a tethered *in situ* respirometer. Table 1 summarizes the sampling dates, cruise objectives, and success of data recovery.

This is a data report. No interpretations are offered.

INTRODUCTION

This is the sixth and final report by Dobrocky SEATECH Limited on a series of studies of the seasonal response of benthic community composition and benthic oxygen demand to ocean dumping in Alberni Inlet, British Columbia. The field work was performed at approximately monthly intervals between June and November, 1978, under DSS Contract Number 08SB.KF833-8-0248. A comparable series by Beak Consultants Ltd. covers the period November 1977 to May 1978. The Scientific Authority for both studies was Dr. Colin Levings of the Pacific Environment Institute, West Vancouver, B.C.

This is a data report. We offer no interpretation of the significance of the results.

This report presents for the first time the results of the sixth sampling period, 15-17 November, 1978. It also summarizes the results of the first five sampling periods, which have been reported separately. We have revised some earlier identifications and re-calculated all measurements of benthic oxygen demand. These corrections are noted in the text. Where there are discrepancies between this report and the earlier individual reports, this report is correct.

CRUISE NARRATIVE, 15 - 17 NOVEMBER 1978

15 November 1978

0700	SEATECH personnel James Dempsey, Shane Muldrew depart Victoria by truck.
1030	Arrive Port Alberni. Load charter vessel "Joboy", inform harbourmaster, MacMillan Bloedel Log Supply of intentions.
1205	Depart wharf. Stop at dumpsite to interview captain of tug "Victory V" unloading barge of dredge spoil at dumpsite. Dumping in progress since 16 October. Materials dumped were said to be mostly broken rock and large debris from near Port Alberni Harbour Commission Wharf, then finer materials from near Alpulp.
1305	Place marker buoy, anchor at control site.
1315 - 1520	Grabs C-1, C-2, C-3. Each grab subsampled and preserved in formalin for later seiving.
1520	Up anchor, place marker buoy at dump site.
1555	At wharf.
1630	SEATECH second shift Edward Anderson, Sheila Byers arrive in Port Alberni.
1655	Edward Anderson, Sheila Byers depart wharf. Calm, light rain.
1800	Anchor fore-and-aft at control marker site after ~20 min search.
1845	Dinner break, followed by re-placement of dragging stern anchor.
1945	Assemble and calibrate respirometer.
2000	Start seiving control samples. Seiving time about 1.5 hours per sample.
2200	Respirometer in water.
2300, 0045,	Runs C-1, C-2.
0245	Terminate respirometry because of apparent malfunction of Hydrolab "Surveyor" O_2 system. Apply assorted remedies without success.
1530	Up anchors, depart control site.
0630	At wharf. Unload respirometer for repair ashore. Difficulty appeared to be related to dampness in on-board connector, as it was eliminated by heating on motel radiator.

0810	Jim Dempsey, Shane Muldrew depart wharf. Calm, overcast.
0845	Anchored at dumpsite. 59 m.
0855 - 1030	Grabs D-1, D-2, D-3. Each grab subsampled, preserved. Each had large component of gravel and wood debris. Niskin bottle cast for near-bottom water after each grab.
1030 - 1115	Minor repairs.
1130	Anchor at control station.
1140 - 1220	Niskin bottle casts for near-bottom water at control station.
1300	Up anchor. Overcast, wind N, 2-5 kn.
1320 - 1430	Remove 4 pairs range markers which had located stations. Small marks (pitons, nails, paint marks) left in place so markers can be replaced if necessary.
1510	At wharf. Unload grab equipment. Jim Dempsey, Shane Muldrew depart Port Alberni.
1800	Edward Anderson, Sheila Byers depart wharf.
1835	Moor fore-and-aft for second attempt to get benthic respirometer measurements at control station. Calibrate respirometer.
2000, 2200, 0130	Begin screening grab samples D-1, D-2, D-3.
2015	Respirometer in water.
2100, 0100, 0145, 0315	Respirometer runs C-3, C-4, C-5, C-6.

17 November 1978

0530	Terminate respirometry, up anchors.
0650	At wharf. Sheila Byers, Edward Anderson ashore.
1230	Unload "Joboy".
1530	Inform Scientific Authority of completion of field project. Depart Port Alberni.

METHODS

General

The general plan of each three-day field trip was to drive from Victoria to Port Alberni on the morning of the first day, sample continuously for 48 hours, and return to Victoria in the afternoon of the third day. The actual field work was performed in two cycles, taking physical samples during the day and returning at night with a second crew of two people to perform measurements of *in situ* oxygen demand and seive the day's samples of benthic fauna. Adverse weather interfered with only one night of oxygen demand measurements.

All sampling was performed from the 11 m (approximately) utility vessel "Joboy", which was chartered for this work. The vessel was equipped with two winches: one aft for towing (which we used for the stern anchor line) and one forward (which we used for the bow anchor(s) and for lowering oceanographic equipment). The equipment was handled slowly, but without difficulty. The only problem we experienced was in getting anchors to set and stay set in the soft bottom material of the inlet.

There were two sampling stations, each of which was re-visited on each of the six field trips. One station was in about 56 m depth at the dump site, which is indicated by two orange diamond-shaped markers on the west shore of Alberni Inlet about 1 mile south of Stamp Point, and the other in about 66 m depth on the eastern side of the inlet abreast the dump site.

On the first trip, the stations were located by hand-bearing compass from a Zodiac inflatable boat because the "Joboy" is a steel boat with possible large compass deviation. Winds of up to 25 kn reduced the accuracy of the operation. When a station was located, a marker buoy was dropped, and the "Joboy" anchored over it to sample.

On the second trip, the Scientific Authority again assisted us in locating each station by compass bearing and sonic depth. A temporary location buoy was placed at each station, and two sets of 0.3 x 0.9 m fluorescent range markers were set up on shore to provide two crossed lines of position for each station. The markers remained in place until the end of the program, when they were replaced by small indicator marks which will be locatable for at least one year.

The positions of the stations as determined by hand-bearing compass on the second trip, are as follows:

	BEARING, M	
	Dump Site	Control
Boy Scout House (center)	076°	081°
Coos Creek Light	156°	173°
Lone Tree Light	145°	160°
Dump Site Buoy	182°	229°
East Shore "A" Frame	000°	005°
Holm Island Light		325°

Because most of these marks are remote from the stations, and some are uncharted, the stations cannot be plotted accurately. The best method of return is by reference to the range markers.

Benthic Sampling

Three comparable 0.1 m^2 benthic grabs were used to obtain benthic samples. A "Muir" Smith-McIntyre grab was used for the first two samples, but a 0.1 m^2 Van Veen grab was substituted when premature tripping of the Muir grab caused unacceptable delay and hazard to the crew. A "Rigosha" 0.1 m^2 Smith-McIntyre grab borrowed from the Scientific Authority was used on the second and third cruises, and the "Muir" device was refurbished and used exclusively in the fourth through sixth sampling periods.

Each benthic sample was inspected for correct general appearance. Dump site samples were mostly sand with significant amounts of gravel and coarse wood. Control site samples were mostly silt with a flocculent surface layer of fecal pellets and a small amount of wood. The volume of each sample was measured directly, and any sample whose volume was less than 7 ℓ was rejected. Sample depth was determined by meter wheel.

Each sample was preserved in a sealed plastic bucket with about 1 ℓ of buffered formaldehyde containing rose Bengal stain. The formaldehyde was distributed by rolling the sample containers. Most samples were seived the night following their capture with gentle water pressure through a stack of three screens with mesh openings of 6.4 mm, 1 mm and 0.5 mm. A few were seived in Victoria. The fauna survived delayed seiving in at least as good condition as the field-sieved specimens. Seived samples were preserved in 4% buffered formaldehyde containing rose Bengal.

Every individual in the combined 6.4 mm and 1 mm seive fractions was sorted from the detritus under 3 x magnification and identified to the lowest practical level, mostly to species. The 0.5 mm mesh retained large volumes of sand, wood debris and fecal pellets. To keep the labor of sorting within reasonable bounds, 250 mℓ subsamples were made up from many small random samples. The fauna was sorted out under a dissecting microscope at 6 x or 10 x. The dumpsite samples were mostly sand. Light debris and fauna were removed from these by elutriation and recovered on a 0.5 mm screen. Two of the sandy residues of this process were sorted and found to contain no animals.

For each of the six series of samples, one dump site and one control site sample was selected in consultation with the Scientific Authority for biomass determination. Calcereous shells were dissolved in dilute HCl solution. All individuals of each species were dried at 100° C and weighed together, and a sum calculated over all species. The weighings were performed to 0.01 mg on a Mettler H51 balance.

On the first cruise, attempts to obtain gravity core samples for sediment characteriazination at the dumpsite were only partially successful because of the high proportion of gravel and wood debris. On subsequent cruises, sediment samples were made up from many small random samples spooned from the 0.1 m^2 grab samples. The samples were stored in a cool hold and frozen upon arrival in Victoria. Four characteristics were determined for each sample, as follows:

Characteristic	Method	Agency
Organic Carbon	Walkly and Black reducing material. Holme and McIntyre p. 49.	Seatech
Kjeldahl Nitrogen	Kjeldahl analysis APHA Method 421	Can Test
Volatile fraction	ignition at 600^{o}C	Seatech
Silt ratio	fraction passing 63 μ screen. Holme and McIntyre p. 35.	Seatech

Bottom Water quality

Water samples from 1 m above bottom were obtained with a 5 ℓ Niskin bottle equipped with two protected reversing thermometers. The water samples were interspersed between benthic grabs because the objective was not replications but rather a representative average of bottom water quality in a changing environment.

Classical oceanographic methods were used to determine salinity, temperature and dissolved oxygen:

Parameter	Method
Salinity	Beckman RS7C Induction Salinometer
Temperature	Average of two corrected reversing thermometer readings
Oxygen	Winkler titration

Benthic oxygen demand

Measurements of benthic oxygen demand were made on each trip with an *in situ* respirometer developed by SEATECH in a previous contract. This device is an instrumented chamber which was lowered onto the sea bed from a moored vessel. The device is shown in Figure 1. The chamber covers 0.5 m^2 of bottom and encloses a disc of water about 4 cm thick, or a volume of 24.8 ℓ including the attached hoses and instrument housing. A Hydrolab "Surveyor" Model 6D water quality analyzer was used both to gently circulate the water in the chamber and to determine the salinity, temperature and dissolved oxygen.

The respirometer was lowered to the bottom from the sampling vessel which was taut-moored between two or three anchors. The chamber was lowered sidwise on a slip line for about the first 20 m to facilitate flushing, which was continued for up to one-half hour at 5 m above bottom. Then the unstrument was gently lowered onto the bottom, a few extra meters of slack was payed out to avoid dragging the instrument, and readings of each parameter were taken every 15 minutes for at least 2 hr, unless there was obvious evidence of dragging or a poor seal to the bottom.

The instrument has the advantages of making a direct measurement on relatively large bottom area. It has the disadvantages of slow data recovery and frequent unsuccessful runs, expecially at the dumpsite where the bottom is uneven.

A delayed injection mechanism was provided to introduce concentrated salt solution into the respirometer, in order to check the integrity of the seal to the bottom and measure the volume of water enclosed. This device was modified several times, and in its final form consisted of a small plunger-type pump driven by a piece of surgical tubing. The pump was held in the cocked position by a magnesium ribbon clamped with a brass bolt. In shallow water trials, the release mechanism tripped reliably at about 130 min after immersion in salt water. In Port Alberni, the device was used on about half of all lowerings. It was always recovered in the released position, but no appropriate salinity rise was noted in any respirometer run.

The salt injection pump withdrew a sample from the respirometer chamber as it discharged. Two of these samples were collected from runs at the control site, where the bottom was softest and most easily stirred up. The samples were slightly turbid, but not muddy in appearance. They were preserved and examined in the laboratory, where they were found to contain mostly small flakes of organic debris with occasional fecal pellets and two to four calanoid copepods. This is a direct confirmation that the bottom was not stirred up by the artificial current.

In successful runs, the dissolved oxygen in the respirometer usually dropped rather rapidly for the first 15 to 30 minutes, and thereafter settled into a decline of constant slope. The rate of oxygen consumption was claculated as the regression slope of oxygen on time, for the apparently linear portion of the data.

RESULTS

Benthic sampling grabs and sediment characteristics

The objectives of the sixth trip were met. Three good grab samples were taken at each of the two stations. All samples were fixed with buffered formalin and seived on the night they were taken.

The sixth trip produced a sediment subsample from each of the six Smith-McIntyre grab samples. The analyses of all samples are now complete. The results for all six trips have been compiled in Table 2, which also summarizes the depths and volumes of the grab samples.

All identification, counting and biomass determinations are now complete. For convenience, we have compiled the faunal data from all six trips into three periods. Table 4 presents the counts of the 1.0 mm seive fraction fauna in each 0.1 m^2 sample; Table 6 gives the corresponding dry biomass for each species in selected samples; Table 7 gives the numbers of 0.5 mm seive fraction organisms in each 0.1 m^2 grab sample.

Two reference collections of specimens have been prepared, each containing specimens of each species which occurred in the samples. The specimens are preserved in 70% ethanol/10% glycerine/water. One collection has been retained by SEATECH, and the other transmitted to the Scientific Authority. Where there was only one specimen, it went to the Scientific Authority. Table 3 gives the species list and catalog numbers for the reference collections. It also indicates the sources of all identifications.

We have revised some identifications which were presented in the first five field trip reports. A list of corrections and comments on identifications is presented in Table 5.

Near-bottom water quality

Six samples of near-bottom water were obtained on the sixth trip. They have been analysed for temperature, salinity, and dissolved oxygen. The results, together with those from the first through fifth trips, are presented in Table 8.

RESULTS

Benthic Oxygen demand

On the sixth trip we achieved six respirometer lowerings, of which two produced good results and one gave a useable but less reliable result.

The first night of respirometer measurements on the sixth trip was spent at the control site. The results of the first run indicated a poor seal to the bottom. The second run produced rather erratic results, apparently because of an instrument problem. The results of this run are shown in Figure 3, and a regression estimate of oxygen consumption for the time segment 15-90 min is 0.169 $mgO_2/m^2/min$.

When it was apparent that we could not solve the instrument problem before the scheduled change of crew, we took the respirometer ashore to work on it. The malfunction disappeared when the instrument was opened and thoroughly dried.

We returned to the control site on the second night, and obtained two particularly satisfying measurements in four lowerings. These are shown in Figure 4 and Figure 7. The oxygen consumption measurements were 0.143 $mgO_2/m^2/min$ and 0.135 $mgO_2/m^2/min$.

The results of the first through fifth trips were presented in previous reports as raw oxygen readings. These have now been corrected for salt and temperature effects. Table 9 is a summary of corrected respirometer measurements for all six trips, together with symbols indicating whether the measurement is good, fair, or unsuccessful.

TAXONOMIC REFERENCES

1. Abbott, R.T. 1974. American Seashells. The Marine Mollusca of the Atlantic and Pacific Coasts of North America. 2nd edition, Van Nostrand Reinhold Co. 663 pp.

2. Banse, Karl. 1972. On some species of Phyllodocidae, Syllidae Nephtyidae, Goniadidae, Apistobranchidae , and Spionidae (Polychaeta) from the Northeast Pacific Ocean Pac. Sci. 26: 191-222.

3. Banse, K. and K.D. Hobson. 1968. Benthic polychaetes from Puget Sound, Washington, with remarks on four other species. Proc. U.S. Nat. Mus. 125:1-53.

4. Banse, K. and K.D. Hobson. 1974. Benthic Errantiate polychaetes of British Columbia and Washington. Bull. Fish. Res. Bd. Canada No. 185:111 pp.

5. Banse, K. and K.D. Hobson. Benthic Sedentariate Polychaetes of British Columbia and Washington. In preparation.

6. Barnard, J.L. 1960. The amphipod family Phoxocephalidae in the eastern Pacific Ocean, with analyses of other species and notes for a revision of the family. Allan Hancock Pac. Expeds. 18:175-368.

7. Barnard, J.L. 1962. Benthic marine Amphipoda of southern California: Families Tironidae to Gammaridae. Pac. Nat. 3:73-115.

8. Barnard, J.L. 1969. The families and genera of marine gammaridean Amphipoda. Bull. U.S. Nat. Mus. 271:1-535.

9. Barnard, J.L. 1971. Gammaridean Amphipoda from a deep-sea transect off Oregon. Smithsonian Contr. Zool., No. 61: V + 86 pp.

10. Barnard, J.L. 1975. Phylum Arthropoda: Crustacea. Identification of Gammaridean Amphipods. In Smith, R.I. and James T. Carlton, eds. Lights Manual to the Intertidal Invertebrates of the Central California Coast, 3rd edition. University of California Press.

11. Berkeley, E., and C. Berkeley. 1948. Annelida Polychaeta Errantia. Can. Pac. Fauna No. 9B(1): 100 pp.

12. Berkeley, E., and C. Berkeley. 1952. Annelida Polychaeta Sedentaria. Can. Pac. Fauna No. 9B(2):139 pp.

13. Brinkhurst, R.O. 1978. Tubificid Key. Unpublished Manuscript, Institute of Ocean Sciences, Victoria, B.C.

14. Brinkhurst, R.O. and H.R. Baker. 1979. A review of the marine Tubificidae (Oligochaeta) of North America. Can. J. Zool. (In preparation).

15. Brinkhurst, R.O. and B.G.M. Jamieson. 1971. Aquatic Oligochaeta of the World. University of Toronto Press, Toronto. xii + 860 pp.

16. Brodskii, K.A. 1950. Calanoida of the far-eastern seas of the U.S.S.R. and of the Polar basin. Keys to the Fauna of the U.S.S.R. published by the Zoological Institute of the Academy of Sciences of the U.S.S.R. No. 35:v + 440 pp.

17. Calman, W.T. 1912. The Crustacea of the order Cumacea in the collection of the United States National Museum. Proc. U.S. Nat. Mus. 41:603-676.

18. Coan, E.V. 1971. The northwest American Tellinidae, Veliger. 14 (Suppl.):1-63.

19. Cornwall, I.E. 1955. Canadian Pacific Fauna. 10. Arthropoda: 10e Cirripedia. 49 pp.

20. Dunnill, R.M., and D.V. Ellis. 1969. Recent species of the genus *Macoma* (Pelecypoda) in British Columbia. Nat. Mus. Canada, Nat. Hist. Pap., 45:1-34.

21. Fauchald, Kristian. 1968. Onuphidae (Polychaeta) from Western Mexico. Allan Hancock Monographs in Marine Biology 3:1-82.

22. Fauchald, Kristian. 1970. Polychaetous annelids of the families Eunicidae, Lumbrineridae, Iphitimidae, Arabellidae, Lysaretidae and Dorvilleidae from Western Mexico. Allan Hancock Monographs in Marine Biology 5:1-335.

23. Fauvel, Pierre. 1923. Polychètes errantes. Faune de France 5. 488 pp.

24. Fauvel, Pierre. 1927. Polychètes sédentaires. Faune de France 16. 494 pp.

25. Hart, J.L. 1973. Pacific Fishes of Canada. Fisheries Research Board of Canada. Bull. 180. ix + 740 pp.

26. Hart, J.G.L. 1930. Some Cumacea of the Vancouver Island region. Contr. Canad. Biol. Fish. 6:1-18.

27. Hartman, Olga. 1947. Polychaetous annelids. Part VII. Capitellidae./ Part VIII. Pilargiidae. Allan Hancock Pacific Expeditions 10(4) and (5):391-522, 391-481, 483-523.

28. Hartman, Olga. 1950. Goniadidae, Glyceridae and Nephtyidae. Allan Hancock Pacific Expeditions 15(1):1-181.

29. Hartman, O. 1968. Atlas of the errantiate polychaetous annelids from California. Allan Hancock Fdn., Los Angeles, Calif. 828 pp.

30. Hartman, O. 1969. Atlas of the sedentariate polychaetous annelids from California. Allan Hancock Fdn. Los Angeles, Calif. 812 pp.

31. Hatch, M.H. 1947. The Chelifera and Isopoda of Washington and adjacent regions. Univ. Wash. Publ. Biol. 10:55-274.

32. Hobson, Katherine D. 1971. Some polychaetes of the super-family Eunicea from the North Pacific and North Atlantic Oceans. Proc. Biol. Soc. Wash. 83(47):527-544.

33. Jumars, Peter A. 1974. A generic revision of the Dorvilleidae (Polychaeta), with six new species from the deep North Pacific. Zool. J. Linn. Soc. 54(2):101-135.

34. Monniot, C. and F. Monniot. 1972. Key to ascidian genera of the world. Arc. Zoo. Exp. Gen. 113(3):315-367.

35. Oldroyd, Ida S. 1924. The marine shells of the West Coast of North America. I. Pelecypoda. Stanford Univ. Publ. Geol. Sci., 1:1-247.

36. Pettibone, Marian H. 1957. North American genera of the family Orbiniidae (Annelida: Polychaeta), with descriptions of new species. J. Wash. Acad. Sci. 47(5):159-167.

37. Pettibone, Marian H. 1966. Revision of the Pilargidae (Annelid: Polychaeta), including descriptions of new species, and redescription of the pelagic *Podarmus ploa* Chamberlin (Polynoidae). Proc. Nat. Mus. 118(3525):155-207.

38. Pettibone, Marian H. 1976. Contribution to the Polychaete Family Trochochaetidae Pettibone. Smith. Contri. Zool. No. 230. iii + 21 pp.

39. Ponomareva, L.A. 1963. Euphausiids of the North Pacific. Their distribution and ecology. Academy of Sciences of the U.S.S.R. Institute of Oceanology. 154 pp.

40. Rathbun, M.J. 1904. Decapod crustaceans of the northwest coast of North America. Harriman Alaska Exped. 10:1-210.

41. Schultz, G.A. 1969. How to know the marine Isopod Crustaceans. Dubuque: W.C. Brown. vii + 359 pp.

42. Van Name, W.G. 1945. The North and South American ascidians. Bull. Amer. Mus. Nat. Hist. 84:1-476.

43. Van Winkle Palmer, Katherine. 1958. Type specimens of marine mollusca described by P.P. Carpenter from the West Coast (San Diego to British Columbia). Geol. Soc. Am., Memoir 76. viii + 376 pp.

GENERAL REFERENCES

APHA. 1977. Standard Methods for the Examination of Water and Wastewater. 14th edition. American Public Health Association.

Holme, N.A. and A.D. McIntyre. 1971. Methods for the Study of Marine Benthos. International Biological Program Handbook No. 16.

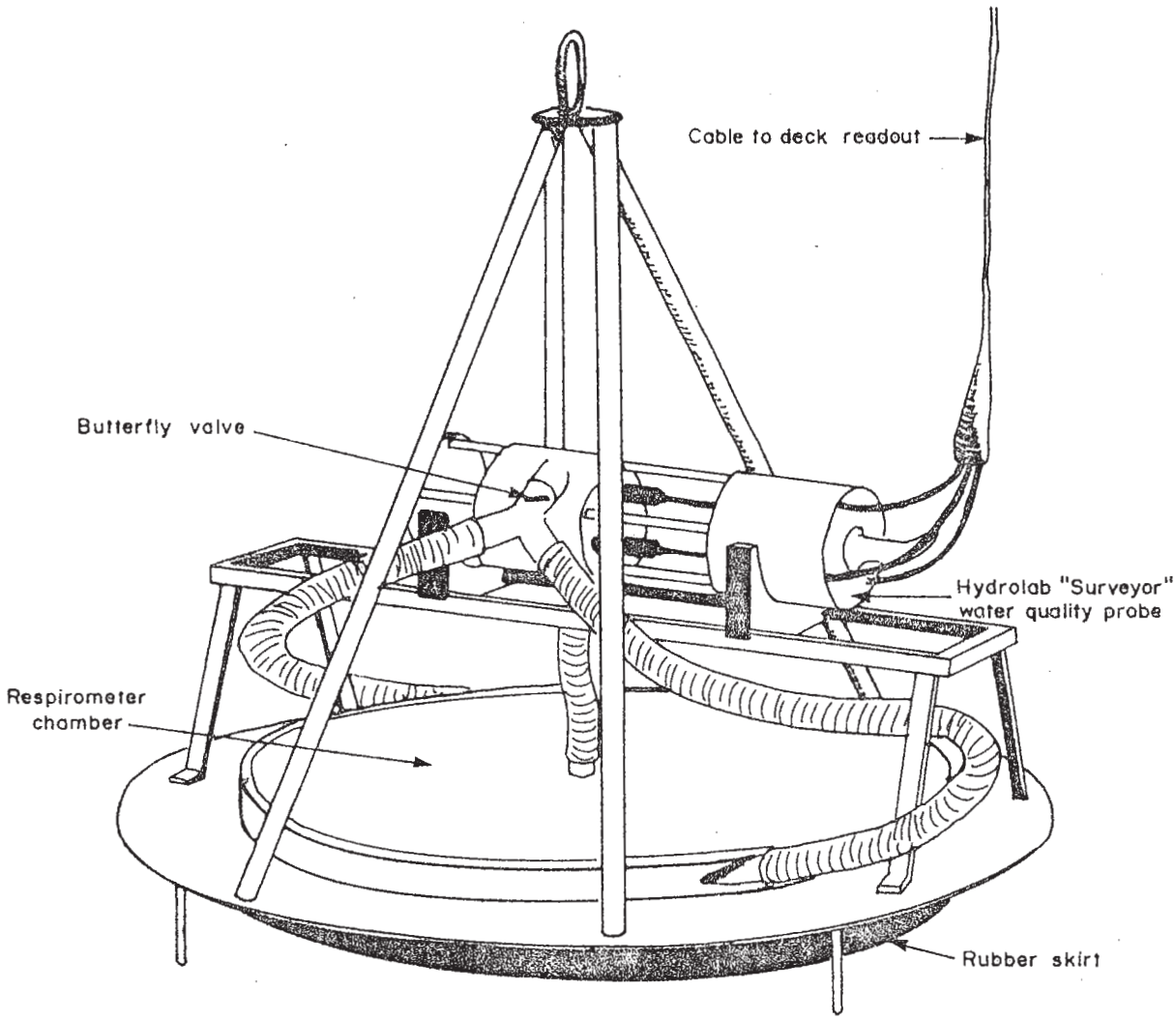


Fig. 1. In situ respirometer assembly

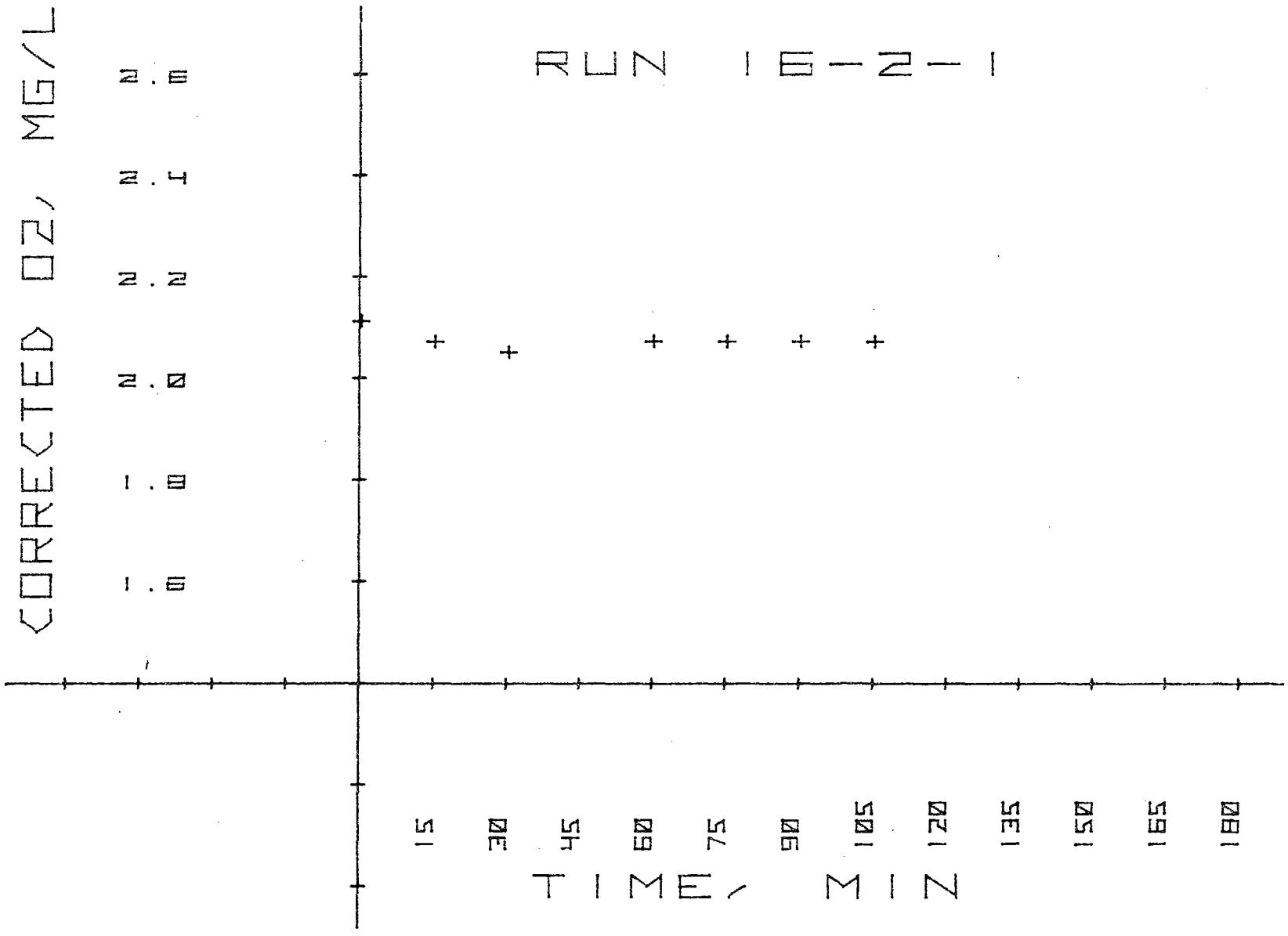


Figure 2. Respirometer Run 16-2-1, control site, November 1978.

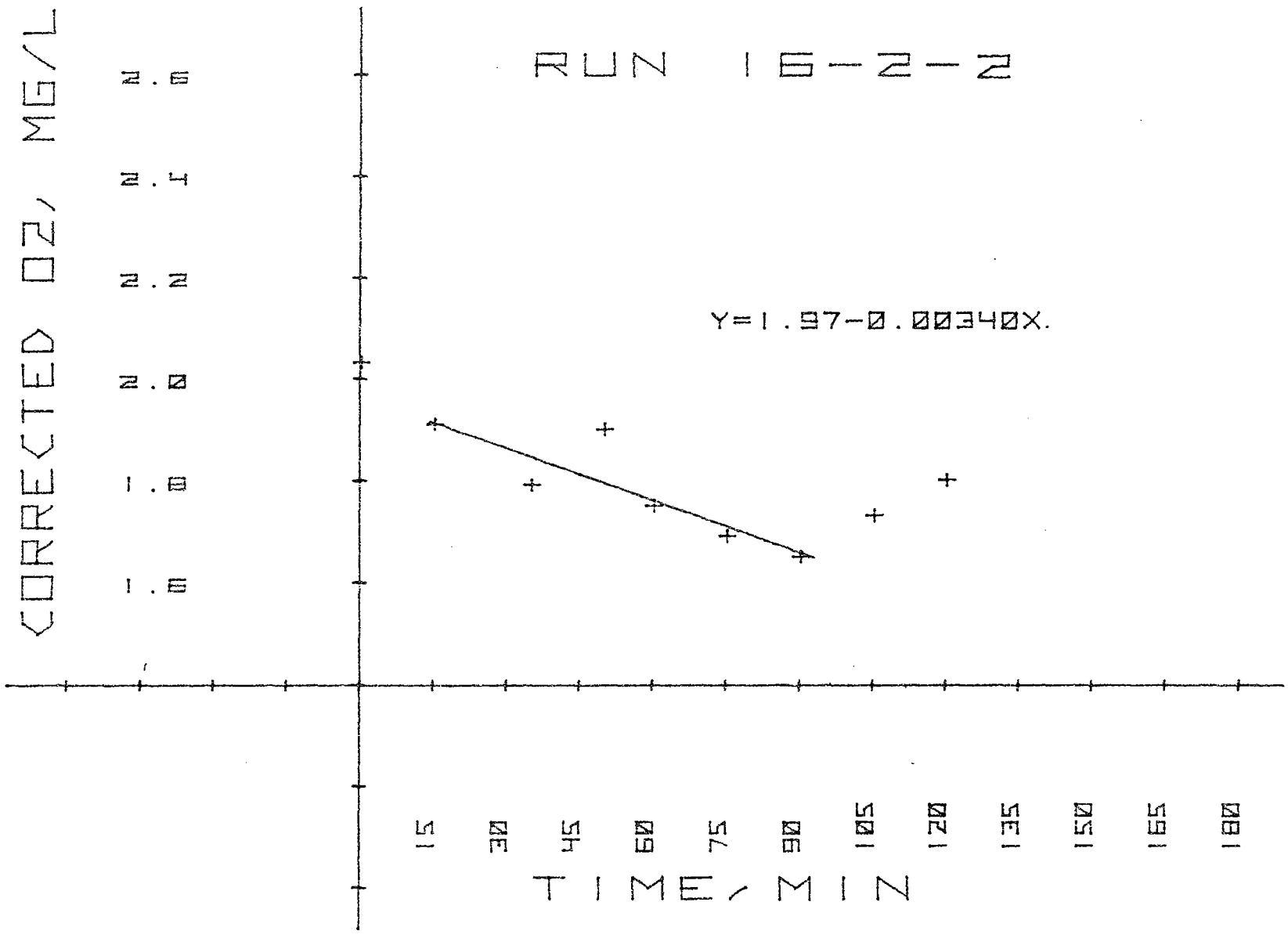


Figure 3. Respirometer Run 16-2-2, control site, November 1978.

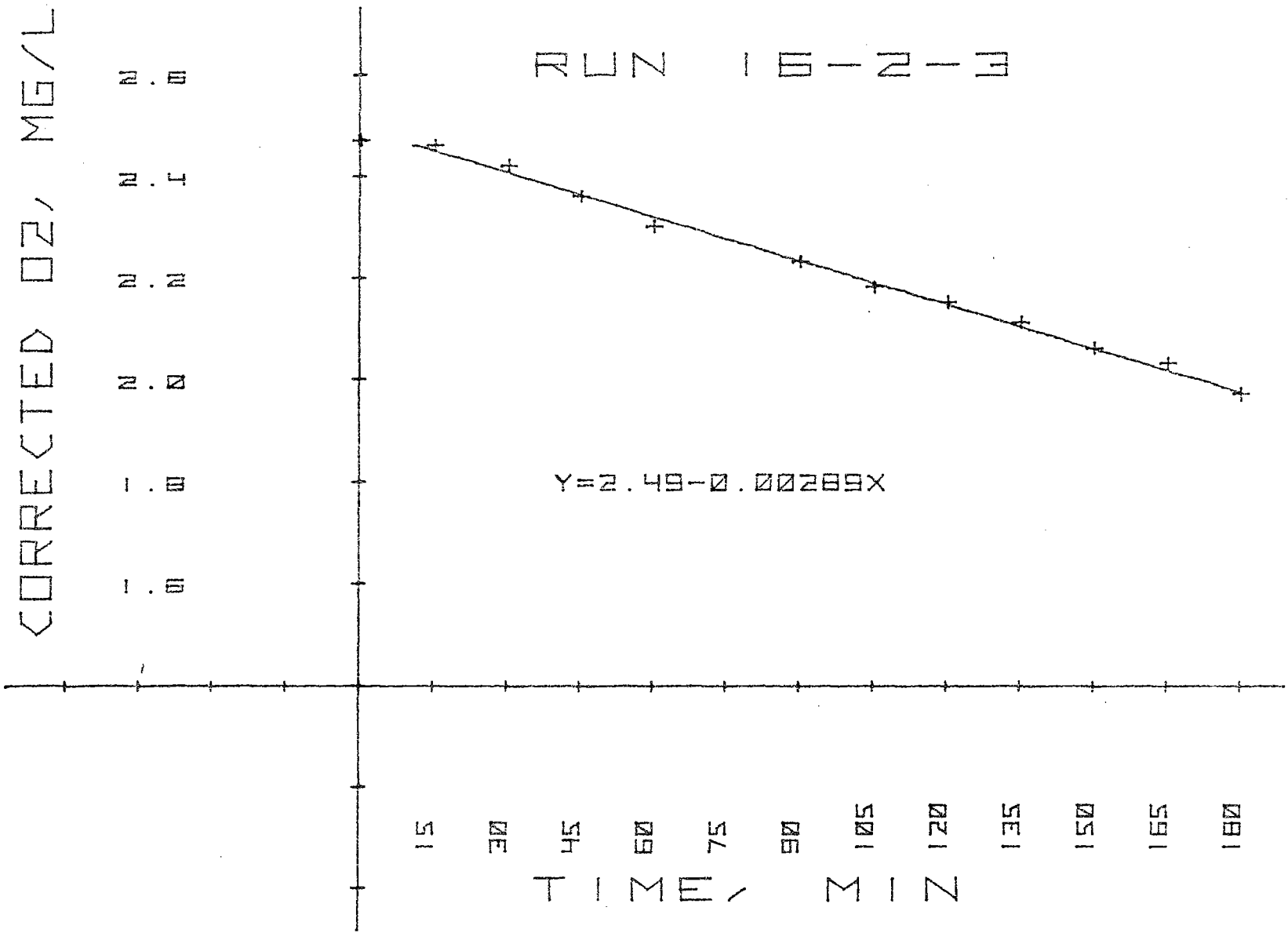


Figure 4. Respirometer Run 16-2-3, control site, November 1978.

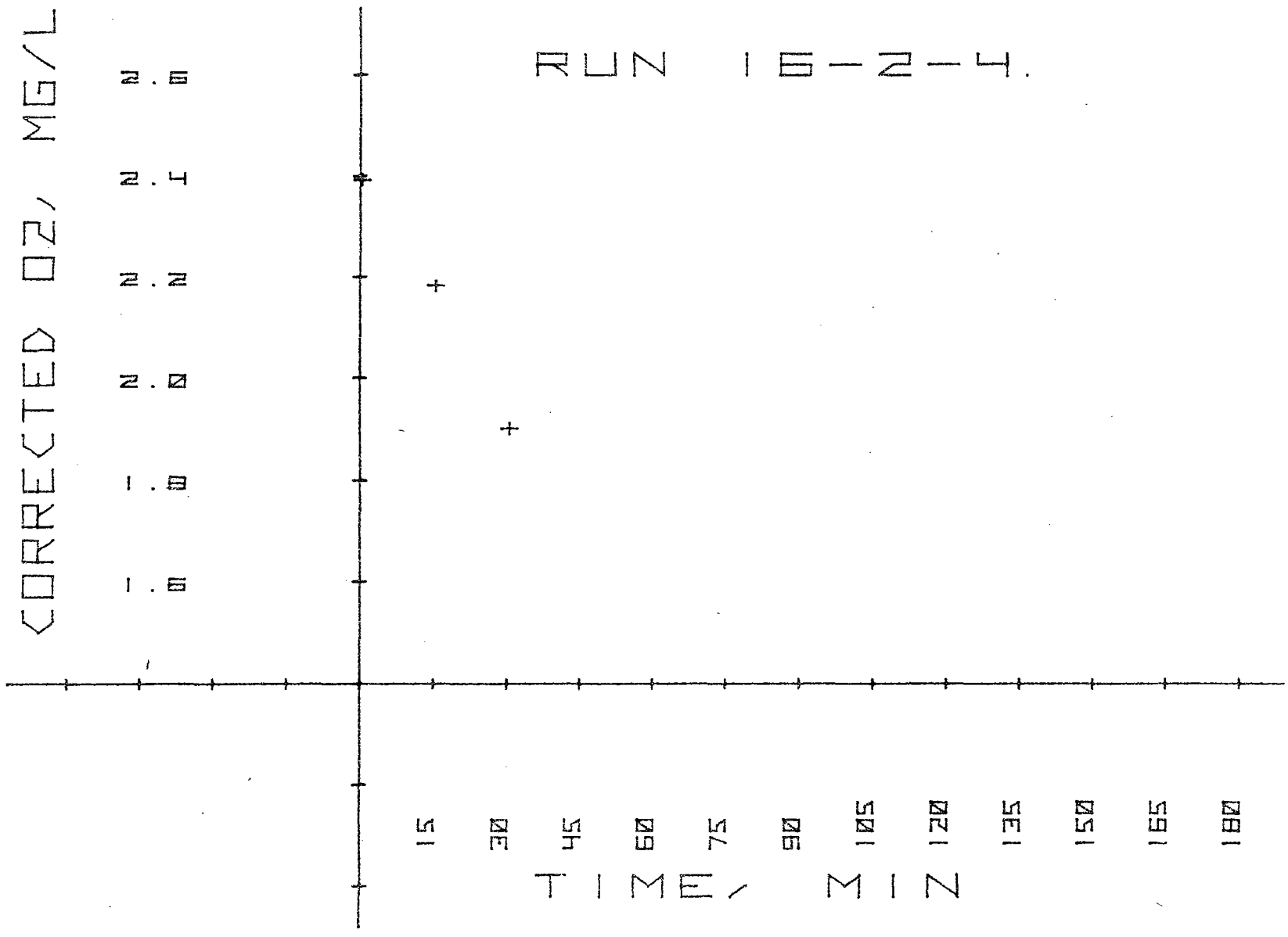


Figure 5. Respirometer Run 16-2-4, control site, November 1978.

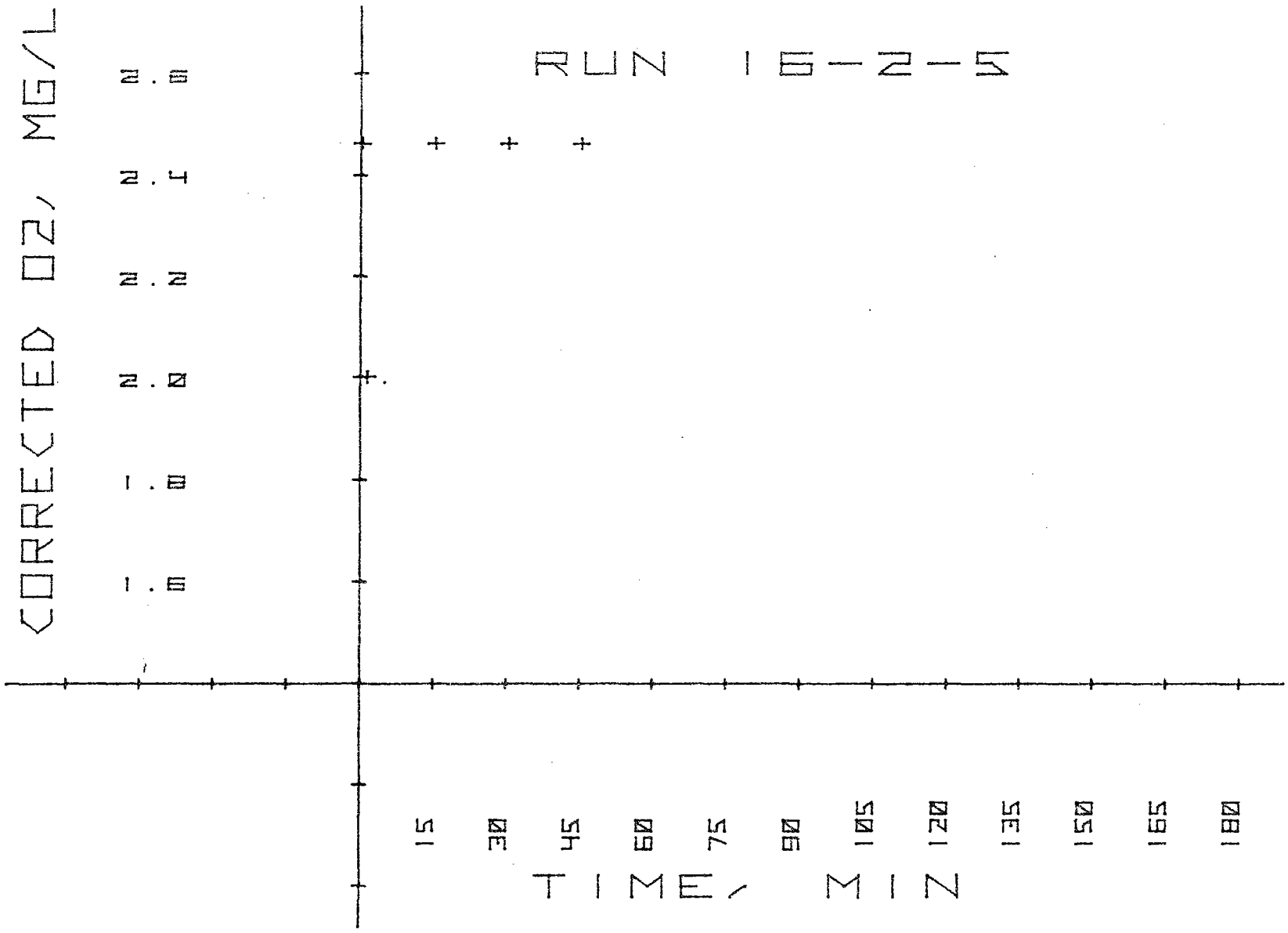


Figure 6. Respirometer Run 16-2-5, control site, November 1978.

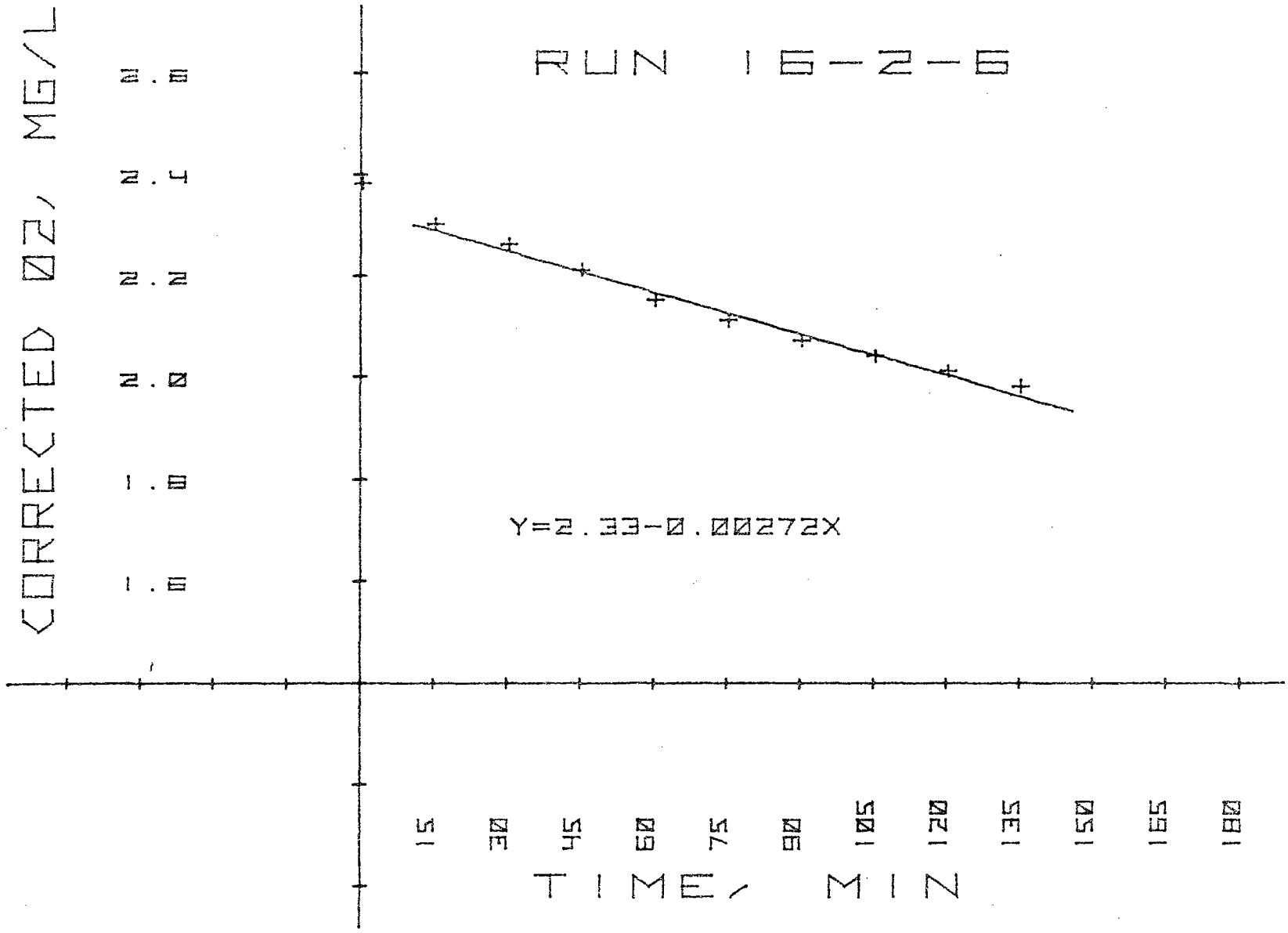


Figure 7. Respirometer Run 16-2-6, control site, November 1978.

TABLE 1. Summary of sampling dates, cruise objectives and data recovery.

Cruise	Dates	Station	Benthic fauna	Sediment Characteristics	Bottom water	Benthic O_2 demand
11	4-7 July	Dumpsite	3, 3 *	3, 0	3, 3	3, 0
	"June"	Control	3, 3	3, 3	3, 3	3, (4), 1
12	31 July-2 Aug	Dumpsite	3, 3	3, 3	3, 3	3, 0
		Control	3, (3), 2	3, 3	3, 3	3, (5), 2
13	28-30 Aug	Dumpsite	3, 3	3, 3	3, 3	3, (3), 2
		Control	3, 3	3, 3	3, 3	3, (3), 1
14	20-22 Sept	Dumpsite	3, 3	3, 3	3, 3	3, 2
		Control	3, 3	3, 3	3, 3	3, 3
15	18-20 Oct	Dumpsite	3, 3	3, 3	3, 3	3, (3), 2
		Control	3, 3	3, 3	3, 3	3, (3), 2
16	15-17 Nov	Dumpsite	3, 3	3, 3	3, 3	3, 0
		Control	3, 3	3, 3	3, 3	3, (6), 3

* Key to data recovery code:

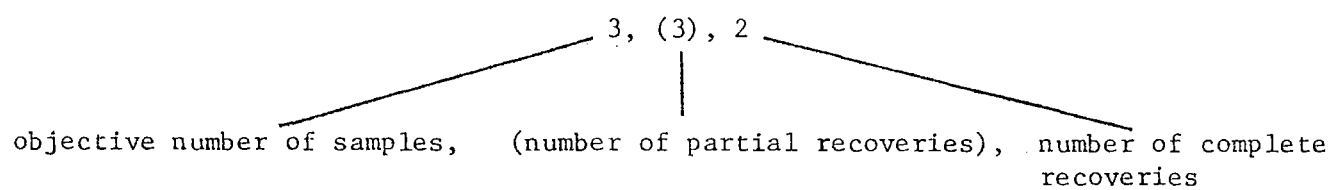


TABLE 2. Summary of grab sample characteristics, June - November, 1978.

SERIES & SAMPLE	DATE	GRAB	DEPTH m	VOLUME ℓ	VOLATILE FRACTION	SILT RATIO <63μ/TOTAL	ORGANIC C, %	KJELDAHL % N	NO. OF APPARENT TAXA	NO. OF INDIVIDUALS	BIOMASS mg/0.1 m^2	SERIES & SAMPLE
11-1-2	July 5	1	56	6.5	--	--	--	--	8	36	--	11-1-2
11-1-3	July 5	3	57	11.0	--	--	--	--	19	63	85.05	11-1-3
11-1-4	July 5	3	58	12.0	--	--	--	--	17	45	--	11-1-4
DUMP SITE AVERAGE			57	9.8	--	--	--	--	15	48	--	
11-2-1	July 6	3	65	12.0	17.1	0.958	5.07	0.18	16	67	--	11-2-1
11-2-2	July 6	3	67	11.0	17.9	0.879	5.51	0.25	18	134	91.49	11-2-2
11-2-3	July 6	3	67	9.0	16.8	0.866	5.57	0.17	20	156	--	11-2-3
CONTROL SITE AVERAGE			66	10.7	17.0	0.901	5.38	0.20	18	119	--	
12-1-1	Aug 1	2	58	~9.0	7.6	0.280	2.63	0.15	18	296	--	12-1-1
12-1-4	Aug 1	2	57	6.0	4.2	0.254	1.60	0.17	21	243	59.35	12-1-4
12-1-5	Aug 1	2	56	7.8	4.2	0.197	1.31	0.25	18	96	--	12-1-5
DUMP SITE AVERAGE			57	7.6	5.3	0.244	1.85	0.19	19	212	--	
12-2-1	Aug 1	2	66	14.0	18.3	0.909	6.79	0.17	14	96	--	12-2-1
12-2-2	Aug 1	2	67	15.0	17.8	0.877	6.11	0.15	13	58	--	12-2-2
12-2-3	Aug 1	2	66	14.0	18.2	0.829	6.05	0.17	9	31	41.79	12-2-2
CONTROL SITE AVERAGE			66	14.3	18.1	0.872	6.32	0.16	12	62	--	
13-1-1	Aug 29	2	57	9.5	0.055	0.269	2.07	0.11	22	313	122.91	13-1-1
13-1-2	Aug 29	2	59	9.5	0.048	0.266	2.65	0.26	11	110	--	13-1-2
13-1-3	Aug 29	2	58	8.0	0.042	0.278	0.77	0.07	20	372	--	13-1-3
DUMP SITE AVERAGE			58	9.0	0.048	0.271	1.83	0.15	18	265	--	

TABLE 2. (Continued)

SERIES & SAMPLE	DATE	GRAB	DEPTH m	VOLUME ℓ	VOLATILE FRACTION	SILT RATIO <63μ/TOTAL	ORGANIC C, %	KJELDAHL % N	NO. OF APPARENT TAXA	NO. OF INDIVIDUALS	BIOMASS mg/0.1 m^2	SERIES & SAMPLE
13-2-1	Aug 28	2	68	14.0	0.228	0.951	6.44	0.29	11	51	--	13-2-1
13-2-2	Aug 28	2	68	15.0	0.160	0.952	5.39	0.32	7	30	--	13-2-2
13-2-3	Aug 28	2	68	15.0	0.174	0.954	6.04	0.27	11	39	149.26	13-2-3
CONTROL SITE AVERAGE			68	14.7	0.187	0.952	5.96	0.29	10	40	--	
14-1-1	Sept 21	1	58	8	0,039	0.277	1.03	0.07	17	159	--	14-1-1
14-1-2	Sept 21	1	56	7	0.035	0.185	0.50	0.03	11	61	--	14-1-2
14-1-3	Sept 21	1	56	10	0.028	0.193	0.90	0.07	7	99	42.17	14-1-3
DUMP SITE AVERAGE			56.7	8.3	0.034	0.218	0.81	0.057	12	106	--	
14-2-1	Sept 20	1	68	15	0.177	0.960	6.08	0.22	13	78	--	14-2-1
14-2-2	Sept 20	1	68	15	0.175	0.964	5.98	0.36	18	124	151.13	14-2-2
14-2-3	Sept 20	1	68	15	0.211	0.911	5.82	0.26	15	73	--	14-2-3
CONTROL SITE AVERAGE			68	15	0.188	0.945	5.96	0.28	15	92	--	
15-1-1	Oct 19	1	57	8	0.036	0.185	0.70	0.02	22	236	--	15-1-1
15-1-2	Oct 19	1	57	9	0.037	0.164	0.95	0.04	15	149	--	15-1-2
15-1-3	Oct 19	1	59	8	0.039	0.176	1.50	0.08	12	232	86.83	15-1-3
DUMP SITE AVERAGE			57.7	8.3	0.037	0.175	1.05	0.05	16	206	--	
15-2-1	Oct 18	1	68	∿15	0.172	0.819	6.35	0.28	19	78	--	15-2-1
15-2-2	Oct 18	1	68	∿14	0.152	0.668	6.58	0.22	17	96	--	15-2-2
15-2-3	Oct 18	1	68	∿14	0.205	0.856	6.33	0.25	18	117	133.73	15-2-3
CONTROL SITE AVERAGE			68.0	14.3	0.176	0.781	6.42	0.25	18	97	--	

TABLE 2. (Continued)

SERIES & SAMPLE	DATE	GRAB	DEPTH m	VOLUME ℓ	VOLATILE FRACTION	SILT RATIO <63μ/TOTAL	ORGANIC C, %	KJELDAHL % N	NO. OF APPARENT TAXA	NO. OF INDIVIDUALS	BIOMASS mg/0.1 m^2	SERIES & SAMPLE
16-1-1	Nov 16	1	69	15	0.052	0.216	2.18	0.07	17	385	199.40	16-1-1
16-1-2	Nov 16	1	69	15	0.085	0.443	3.84	0.11	16	426	--	16-1-2
16-1-3	Nov 16	1	67	14	0.063	0.304	3.07	0.11	15	361	--	16-1-3
DUMP SITE AVERAGE			68.3	14.3	0.067	0.321	3.03	0.10	16	391	--	
16-2-1	Nov 15	1	59	8	0.192	0.905	6.28	0.25	11	49	--	16-2-1
16-2-2	Nov 15	1	62	9	0.185	0.887	6.31	0.29	11	124	--	16-2-2
16-2-3	Nov 15	1	62	8	0.153	0.804	6.77	0.28	14	148	120.41	16-2-3
CONTROL SITE AVERAGE			61.0	8.3	0.173	0.865	6.45	0.27	12	107	--	

NOTE: Grab 1 - 0.1 m^2 "Muir" Smith-McIntyre
Grab 2 - 0.1 m^2 "Rigosha" Smith-McIntyre
Grab 3 - 0.1 m^2 Van Veen

TABLE 3. Species list, reference specimen catalog numbers and sources of identifications.

	P.E.I. CATALOG NUMBER	SEATECH CATALOG NUMBER	REFERENCE
MOLLUSCA: BIVALVIA			
Solemya johnsoni Dall	78-3101	78-3001	1,35
Delectopecten vancouverensis (Whiteaves)	78-3102	78-3002	1,35
Parvilucina tenuisculpta (Carpenter)	78-3103	-	1,35,43
Thyasira trisinuata Orbigny	78-3104	-	1,35
Axinopsida serricata (Carpenter)	78-3105	78-3003	1,35,43
Clinocardium juv.	-	-	1,35
Macoma carlottensis (Whiteaves)	78-3106	78-3004	1,18,20,35
Xylophaga washingtona Bartsch	78-3107	78-3005	1,35
Bankia setacea Tryon	78-3108	78-3006	1,35
POLYCHAETA: ERRANTIA			
Eulalia sp. A (juv.)	78-1001	-	2,11,29
Phyllodoce cf *groenlandica* Oersted	-	-	2,11
Phyllodoce sp. A	-	-	2,11
Gyptis brevipalpa (Hartman-Schroder)	78-1002	78-0001	3,29
Gyptis cf *brunnea* (Hartman)	78-1003	78-0002	3,11,23,29
Hesionid sp. B	-	-	-
Pilargis berkeleyae Monro	78-1004	78-0003	27,29,37
Sigambra tentaculata (Treadwell)	78-1005	78-0004	3,29,37
Sigambra (bassi (Hartman)?)	78-1006	-	3,28.29
Nephtys ferruginea Hartman	78-1007	-	2,28,29
Nephtys cornuta franciscana Clark and Jones	78-1008	78-0005	2,28,29
Nephtys juv.	78-1009	-	2,28,29
Glycera capitata Oersted	78-1010	78-0006	2,11,28,29
Glycinde armigera Moore	78-1011	78-0007	2,11,28,29
Onuphis geophiliformis Moore	78-1012	-	21,29
Onuphis iridescens (Johnson)	78-1013	-	21,29,32
Lumbrineris bicirrata Treadwell	78-1014	-	12,22
Lumbrineris cf *cruzensis* Hartman	78-1015	78-0008	12,22
Lumbrineris cf *zonata* Johnson	78-1016	-	12,22
Schistomeringos juv. (cf *caeca* (Webster and Benedict))	78-1017	78-0009	4,22,23,33
Schistomeringos juv. (cf *longicornis* (Ehlers))	78-1018	78-0010	4,22,23,33
Schistomeringos japonica (Annenkova)	78-1019	78-0011	4,22,23,33
Schistomeringos longicornis (Ehlers)	78-1020	78-0012	4,22,23,32,33
Protodorvillea gracilis (Hartman)	78-1021	78-0013	4,22,23,32,33
Protodorvillea sp. A (juv.)	-	-	4,22,23,32,33
Dorvilleidae genus nov.	78-1022	78-0014	2,22,23,33

TABLE 3. (Continued)	P.E.I. CATALOG NUMBER	SEATECH CATALOG NUMBER	REFERENCE
POLYCHAETA: SEDENTARIA			
Scoloplos pugettensis Pettibone	78-1023	78-0015	5,12,36
Aricidea lopezi Berkeley and Berkeley	78-1024	78-0016	3,5,30
Paraonis gracilis (Tauber)	78-1025	78-0017	3,5,30
Laonice cirrata (Sars)	78-1026	-	5,12,30
Laonice cirrata (Sars) (juv.)	-	-	5,12,30
Paraprionospio pinnata Ehlers	78-1027	-	5,12,30
Polydora (B) hamata Webster	78-1028	78-0018	5,12,30
Prionospio cirrifera Wiren	78-1029	-	5,12,30
Prionospio dam. (cf *cirrifera* Wiren)	78-1030	78-0019	5,12,30
Prionospio steenstrupi Malmgren	78-1031	78-0020	5,12,30
Scolelepis squamata (Muller)	78-1032	-	5,24
Spiophanes kroyeri Grube	78-1033	-	5,24
Trochochaeta multisetosa (Oersted)	78-1034	78-0021	5,38
Tharyx sp. A (dam.)	78-1035	78-0022	12,30
Cossura sp. A	78-1036	78-0023	30
Capitella capitata (Fabricius)	78-1037	78-0024	12,27
Hetermastus filiformis (Claparede)	78-1038	78-0025	12,27
Heteromastus juv.	-	-	12,27
Mediomastus sp. A (juv.)	78-1039	-	12,27
Pectinaria californiensis Hartman	78-1040	78-0026	3,12,30
Ampharete dam. or juv. (cf *arctica* Malmgren)	78-1041	78-0027	30
Ampharetid sp. B	78-1042	-	30
Maldanid juv.	78-1043	-	30
OLIGOCHAETA			
Limnodriloides sp. A	78-1100	78-0101	13,14,15,16
Enchytraeid sp. A	78-1101	78-0102	13,14,15,16
CRUSTACEA: COPEPODA			
Metridia pacifica Brodsky	-	-	18
Aetidius sp. A	78-6001	78-5001	18
Harpactacoidea	78-6002	-	-
CRUSTACEA: CIRRIPEDIA			
Balanus juv.	78-6003	-	19
CRUSTACEA: CUMACEA			
Diastylis sp. A (juv.)	78-6004	-	17
Leptostylis sp. A	78-6005	78-5002	17
Eudorella pacifica Hart	78-6006	78-5003	26

TABLE 3. (Continued)	P.E.I. CATALOG NUMBER	SEATECH CATALOG NUMBER	REFERENCE
CRUSTACEA: ISOPODA			
Limnoria lignorum (Rathke)	78-6007	-	31,41
CRUSTACEA: AMPHIPODA			
Oradarea sp. A	78-6008	78-5004	8
Heterophoxus oculatus (Holmes)	78-6009	78-5005	6,8
Eusirus sp. A	78-6010	-	8
Pardaliscella sp. A	78-6011	-	8,9
Corophium ach.-insid.	-	-	10
Melita desdichada Barnard	78-6012	-	7,8
Dexaminid dam.	78-6013	-	8
CRUSTACEA: EUCARIDEA			
Euphausia pacifica Hansen	-	-	39
Axiopsis spinulicauda (Rathbun)	78-7101	78-7001	40
Crangon alaskensis Lockington	78-7102	-	40
Crangon sp. A (juv.)	78-7103	-	-
Decapod larva megalops	78-7104	-	-
VARIA			
Corella juv. or dam. (tunicate)	78-8101	78-8001	34,42
Eptatretus stouti (Lockington)	78-8102	-	25
Fish larva	78-8103	-	-

TABLE 3. (Continued)

FINE FRACTION (0.5 mm screen)	P.E.I. CATALOG NUMBER	SEATECH CATALOG NUMBER
POLYCHAETA: ERRANTIA		
Phyllodocid juv. (near *Eulalia*)	78-1044	78-0028
Sigambra tentaculata (Treadwell) juv.	78-1045	78-0029
Nephtys cornuta franciscana Clark and Jones juv.	78-1046	78-0030
Nephtys juv. or dam.	78-1047	-
Glyceroidea juv. A (near *Glycera*)	78-1048	78-0031
Glyceroidea juv. B (near *Glycinde*)	78-1049	-
Schistomeringos longicornis (Ehlers)	78-1050	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	78-1051	78-0032
Schistomeringos juv. (cf caeca (Webster and Benedict))	78-1052	78-0033
Dorvilleidae genus nov. juv.	78-1053	78-0034
Protodorvillea gracilis (Hartman) juv.	78-1054	78-0035
Dorvilleid juv. or dam.	78-1055	-
POLYCHAETA: SEDENTARIA		
Scoloplos pugettensis Pettibone juv.	78-1056	78-0036
Scoloplos juv. or dam.	78-1057	-
Aricidea lopezi Berkeley and Berkeley juv.	78-1058	78-0037
Paraonis gracilis (Tauber) juv.	78-1059	78-0038
Spionid juv. A (near *Laonice*)	78-1060	78-0039
Spionid juv. B (near *Spiophanes*)	78-1061	-
Spionid juv. C (near *Prionospio*)	78-1062	-
Spionid juv. D	78-1063	78-0040
Polydora hamata Webster juv.	78-1064	78-0041
Polydora juv. and dam.	78-1065	-
Trochochaeta multisetosa (Oersted) juv.	78-1066	-
Cirratulid juv. or dam.	78-1067	-
Cossura sp. A juv.	78-1068	78-0042
Capitella capitata (Fabricius)	78-1069	-
Capitella juv. or dam.	78-1070	78-0043
Ampharete juv. (cf *arctica* Malmgren)	78-1071	78-0044
Ampharetid juv.	78-1072	-
Terebellid juv. or dam.	78-1073	-
Other polychaete fragments	-	-
OLIGOCHAETA		
Naidid juv.	78-1102	-
Tubificid juv. A (near *Limnodriloides*)	78-1103	78-0103
Tubificid juv. B	78-1104	78-0104

TABLE 3. (Continued)

FINE FRACTION (0.5 mm screen)	P.E.I. CATALOG NUMBER	SEATECH CATALOG NUMBER
CRUSTACEA: COPEPODA		
Paracalanus sp. A	78-6014	78-5006
Pseudocalanus sp. A	78-6015	78-5007
Metridia sp. A	78-6016	78-5008
Aetidius sp. A	78-6017	78-5009
Tortanus sp. A	78-6018	-
Calanus (copepodites)	78-6019	-
Harpacticoid forma 1	78-6020	78-5010
Harpacticoid forma 2	78-6021	78-5011
Harpacticoid forma 3	78-6022	78-5012
Harpacticoid forma 4	78-6023	-
Harpacticoid forma 5	78-6024	-
Harpacticoid forma 6	78-6025	-
Harpacticoid forma 7	78-6026	-
CRUSTACEA: PERACARIDA		
Mysid (dam.)	78-6027	
Eudorella pacifica Hart juv.	78-6028	78-5013
Leptostylis sp. A (juv.)	78-6029	78-5014
Hemilamprops? sp. A	78-6030	-
Limnoria lignorum (Rathke)	78-6031	78-5015
Heterophoxus juv.	78-6032	78-5016
Gammarid juv. (near *Melita*)	78-6033	78-5017
CRUSTACEA: MISCELLANEOUS		
Ostracod sp. A (near *Pontocypris*)	78-6034	78-5018
Ostracod sp. B	78-6035	-
Nebalia juv.	78-6036	-
Decapod zoea	-	-
VARIA		
Trematoda	78-8104	-
Nematoda	-	-
Bryozoa (lunulitiform)	78-8105	78-8002
Bivalvia juv. (viscera)	-	-
Solemya juv.	78-8106	-
Hemichordata	78-8107	-

TABLE 4. Numbers of organisms found in each 0.1 m^2 grab sample, 1.0 mm seive fraction, June - November, 1978.

	SERIES 11					
SAMPLE CODE	1-2	1-3	1-4	2-1	2-2	2-3
	D-2	D-3	D-4	C-1	C-2	C-3
MOLLUSCA: BIVALVIA						
Solemya johnsoni Dall	-	-	-	1	-	-
Solemya juv.	-	-	-	-	-	-
Delectopecten vancouverensis (Whiteaves)	-	-	-	-	-	2
Parvilucina tenuisculpta (Carpenter	-	-	-	-	-	-
Thyasira trisinuata Orbigny	-	-	-	-	-	-
Axinopsida serricata (Carpenter)	-	-	4	3	31	26
Axinopsida juv.	-	1	-	7	24	69
Clinocardium juv.	-	1	-	-	-	-
Macoma carlottensis (Whiteaves)	-	-	-	-	-	2
Macoma juv.	-	1	1	-	1	-
Xylophaga washingtona Bartsch	-	-	-	6	7	3
Bankia setacea Tryon	-	-	-	-	-	-
Bivalvia juv.	12	8	11	-	-	-
POLYCHAETA: ERRANTIA						
Eulalia sp. A (juv.)	-	-	2	-	-	1
Phyllodoce cf *groenlandica* Oersted	-	1	-	-	-	-
Phyllodoce sp. A	-	-	-	-	-	-
Gyptis brevipalpa (Hartman-Schroder)	3	3	1	-	1	2
Gyptis cf *brunnea* (Hartman)	-	-	-	-	-	-
Gyptis dam.	-	-	-	-	-	-
Hesionid sp. B	-	1	-	-	-	-
Pilargis berkeleyae Monro	-	-	-	-	-	-
Sigambra tentaculata (Treadwell)	1	-	1	-	-	-
Sigambra (bassi (Hartman)?)	-	-	-	-	-	-
Nephtys ferruginea Hartman	-	-	-	-	-	-
Nephtys cornuta franciscana Clark and Jones	-	-	-	-	2	1
Nephtys juv.	-	-	-	-	-	
Glycera capitata Oersted	2	1	1	1	1	2
Glycinde armigera Moore	1	-	1	-	-	1
Onuphis geophiliformis Moore	-	-	-	-	-	-
Onuphis iridescens (Johnson)	-	1	-	-	-	-
Onuphis juv.	-	-	1	-	-	-
Lumbrineris bicirrata Treadwell	-	-	-	-	-	-
Lumbrineris cf *cruzensis* Hartman	-	-	-	-	-	-
Lumbrineris cf *zonata* (Johnson)	-	-	-	-	-	-
Schistomeringos japonica (Annenkova)	-	-	-	-	-	-
Schistomeringos longicornis (Ehlers)	-	2	-	6	11	2
Schistomeringos juv. (cf *caeca* (Webster and Benedict))	-	9	1	-	-	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	-	3	4	4	-	-
Protodorvillea gracilis (Hartman)	2	3	-	-	-	-
Protodorvillea sp. A (juv.)	-	-	-	1	-	-
Dorvilleidae genus nov.	-	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 11					
	1-2	1-3	1-4	2-1	2-2	2-3
	D-2	D-3	D-4	C-1	C-2	C-3
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone	1	-	1	-	-	-
Scoloplos dam.	-	-	-	1	-	-
Aricidea lopezi Berkeley and Berkeley	-	7	7	9	14	8
Paraonis gracilis (Tauber)	-	-	-	6	2	1
Laonice cirrata (Sars)	-	1	2	2	1	-
Laonice cirrata (Sars) (juv.)	-	-	-	-	-	-
Paraprionospio pinnata Ehlers	-	-	-	-	-	-
Polydora (B) *hamata* Webster	14	13	3	13	26	16
Prionospio dam. (cf *cirrifera* Wiren)	-	1	-	1	1	1
Prionospio steenstrupi Malmgren	-	-	-	-	-	-
Scolelepis squamata Grube	-	-	-	-	-	-
Spiophanes kroyeri (Oersted)	-	-	-	-	-	-
Trochochaeta multisetosa (Oersted)	-	1	2	-	-	-
Tharyx sp. A (dam.)	-	-	-	-	-	1
Cossura sp. A	-	-	-	-	-	-
Capitella capitata (Fabricius)	-	-	-	-	-	-
Capitella juv.	1	3	1	-	-	-
Heteromastus filiformis (Claparede)	-	-	-	-	-	-
Heteromastus juv.	1	-	-	-	-	-
Mediomastus sp. A (juv)	-	-	-	-	-	1
Pectinaria californiensis Hartman	-	-	-	-	1	-
Ampharete dam. or juv. (cf *arctica* Malmgren)	-	-	-	-	-	-
Ampharetid sp. B	-	-	-	-	1	-
Polynoid fragments	-	-	-	-	-	-
Capitellid fragments	-	-	-	-	-	-
Maldanid fragments	-	-	-	-	-	-
Terebellid fragments	-	-	-	-	-	-
Other polychaete fragments	+	+	+	+	+	+
OLIGOCHAETA: TUBIFICIDAE						
Limnodriloides sp. A	-	-	-	-	1	-
CRUSTACEA: COPEPODA						
Metridia pacifica Brodsky	-	-	-	1	-	-
Aetidius sp. A	1	-	-	-	-	-
Harpactacoidea	-	-	-	-	-	-
CRUSTACEA: CIRRIPEDIA						
Balanus juv.	-	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 11					
	1-2	1-3	1-4	2-1	2-2	2-3
	D-2	D-3	D-4	C-1	C-2	C-3
CRUSTACEA: CUMACEA						
Diastylis sp. A (juv.)	-	-	1	-	-	-
Leptostylis sp. A	-	1	-	-	-	-
Eudorella pacifica Hart	-	-	-	2	5	9
CRUSTACEA: ISOPODA						
Limnoria lignorum (Rathke)	-	-	-	-	-	3
CRUSTACEA: AMPHIPODA						
Oradarea sp. A	1	-	-	-	-	-
Heterophoxus oculatus (Holmes)	-	-	-	1	2	2
Heterophoxus juv.	-	-	-	2	-	-
Eusirus sp. A	-	-	-	-	-	-
Pardaliscella sp. A	-	-	-	-	-	-
Corophium ach.-insid.	-	-	-	-	-	-
Melita desdichada Barnard	-	-	-	-	-	-
Dexaminid dam.	-	-	-	-	-	-
CRUSTACEA: EUCARIDEA						
Euphausia pacifica Hansen	-	-	-	-	-	-
Euphausid dam.	-	-	-	-	-	-
Axiopsis spinulicauda (Rathbun)	-	-	-	-	-	-
Crangon alaskensis Lockington	-	-	-	-	-	-
Crangon sp A. (juv.)	-	-	-	-	-	-
Decapod larva (megalops)	-	-	-	-	-	-
VARIA						
Corella dam. or juv. (tunicate)	-	1	-	-	2	3
Styelid (near *Cnemidocarpa;* tunicate)	-	-	-	-	-	-
Eptatretus stouti (Lockington) (Pacific hagfish)	-	-	-	-	-	-
Fish larva	-	-	-	-	-	-

TABLE 4. (Continued)

SAMPLE CODE	SERIES 12					
	1-1	1-4	1-5	2-1	2-2	2-3
	D-1	D-4	D-5	C-1	C-2	C-3
MOLLUSCA: BIVALVIA						
Solemya johnsoni Dall	2	-	-	-	-	-
Solemya juv.	2	1	-	-	-	-
Delectopecten vancouverensis (Whiteaves)	-	-	-	-	-	-
Parvilucina tenuisculpta (Carpenter)	-	-	-	-	-	-
Thyasira trisinuata Orbigny	-	-	-	-	-	-
Axinopsida serricata (Carpenter)	5	2	-	14	11	9
Axinopsida juv.	208	181	30	11	9	3
Clinocardium juv.	-	-	-	-	-	-
Macoma carlottensis (Whiteaves)	5	-	-	-	-	1
Macoma juv.	1	5	2	-	-	-
Xylophaga washingtona Bartsch	-	-	-	-	-	-
Bankia setacea Tryon	-	-	-	-	-	-
Bivalvia juv.	-	-	-	-	-	-
POLYCHAETA: ERRANTIA						
Eulalia sp. A (juv.)	-	-	-	-	-	-
Phyllodoce cf *groenlandica* Oersted	-	-	-	-	-	-
Phyllodoce sp. A	-	-	-	-	-	-
Gyptis brevipalpa (Hartman-Schroder)	6	-	1	-	-	-
Gyptis cf *brunnea* (Hartman)	-	-	-	-	-	-
Gyptis dam.	-	-	-	-	-	-
Hesionid sp. B	-	-	-	-	-	-
Pilargis berkeleyae Monro	-	-	-	-	1	-
Sigambra tentaculata (Treadwell)	1	1	7	2	4	-
Sigambra (bassi (Hartman)?)	-	-	-	-	-	-
Nephtys ferruginea Hartman	-	-	-	-	-	-
Nephtys cornuta franciscana Clark and Jones	1	1	-	-	-	-
Nephtys juv.	-	-	-	-	-	-
Glycera capitata Oersted	9	2	2	3	1	1
Glycinde armigera Moore	1	1	2	1	-	-
Onuphis geophiliformis Moore	-	-	-	1	-	-
Onuphis iridescens (Johnson)	-	-	-	-	-	-
Onuphis juv.	-	-	-	-	-	-
Lumbrineris bicirrata Treadwell	-	-	-	-	-	-
Lumbrineris cf *cruzensis* Hartman	1	1	1	1	-	-
Lumbrineris cf *zonata* (Johnson)	-	-	-	-	-	-
Schistomeringos japonica (Annenkova)	-	-	-	-	-	-
Schistomeringos longicornis (Ehlers)	2	1	12	-	-	-
Schistomeringos juv. (cf *caeca* (Webster and Benedict))	3	9		-	1	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	2	-	5	-	1	-
Protodorvillea gracilis (Hartman)	1	-	9	-	-	-
Protodorvillea sp. A (juv.)	-	-	-	-	-	-
Dorvilleidae genus nov.	-	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 12					
	1-1	1-4	1-5	2-1	2-2	2-3
	D-1	D-4	D-5	C-1	C-2	C-3
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone	-	3	-	-	1	-
Scoloplos damaged	-	-	-	-	-	-
Aricidea lopezi Berkeley and Berkeley	34	25	9	40	13	-
Paranois gracilis (Tauber)	6	1	-	5	10	10
Laonice cirrata (Sars)	-	1	1	1	-	-
Laonice cirrata (Sars)	1	-	-	-	-	-
Paraprionospio pinnata Ehlers juv.	-	-	-	-	-	1
Polydora (B) *hamata* Webster	Post	1	7	-	-	-
Prionospio dam. (cf *cirrifera* Wiren)	-	-	4	-	2	3
Prionospio steenstrupi Malgren	-	-	-	1	-	-
Scolelepis squamata (Muller)	-	-	-	-	-	-
Spiophanes kroyeri Grube	-	-	-	-	-	-
Trochochaeta multisetosa (Oersted)	3	1	-	1	-	-
Tharyx sp. A (dam.)	-	1	1	-	-	-
Cossura sp. A	-	-	-	-	-	-
Capitella capitata (Fabricius)	-	-	-	-	-	-
Capitella juv.	-	2	1	-	-	-
Heteromastus filiformis (Claparede)	-	-	-	-	-	-
Heteromastus juv.	-	-	-	-	-	-
Mediomastus sp. A (juv.)	-	1	-	-	-	-
Pectinaria californiensis Hartman	-	-	-	-	-	-
Ampharete dam. or juv. (cf *arctica* Malmgren)	-	-	1	-	-	-
Ampharetid sp. B	-	-	-	-	-	-
Polynoid fragments	-	-	-	-	-	-
Capitellid fragments	-	-	-	-	-	-
Maldanid fragments	-	-	-	-	-	-
Terebellid fragments	-	-	-	-	-	-
Other polychaete fragments	+	+	+	+	+	+
OLIGOCHAETA: TUBIFICIDAE						
Limnodriloides sp. A	-	-	-	1	-	-
CRUSTACEA: COPEPODA						
Metridia pacifica Brodsky	-	-	-	-	-	-
Aetidius sp. A	-	-	-	-	-	-
Harpactacoidea	-	-	-	-	-	-
CRUSTACEA: CIRRIPEDIA						
Balanus juv.	-	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 12					
	1-1	1-4	1-5	2-1	2-2	2-3
	D-1	D-4	D-5	C-1	C-2	C-3
CRUSTACEA: CUMACEA						
Diastylis sp. A (juv.)	-	-	-	-	-	-
Leptostylis sp. A	-	-	-	-	-	-
Eudorella pacifica Hart	1	1	-	13	2	-
CRUSTACEA: ISOPODA						
Limnoria lignorum (Rathke)	-	-	-	-	-	-
CRUSTACEA: AMPHIPODA						
Oradarea sp. A	1	-	-	-	-	-
Heterophoxus oculatus (Holmes)	-	-	-	1	1	1
Heterophoxus juv.	-	-	-	-	-	
Eusirus sp. A	-	-	-	-	-	-
Pardaliscella sp. A.	-	-	-	-	-	-
Corophium ach.-insid	-	-	-	-	-	-
Melita desdichada Barnard	-	-	-	-	-	-
Dexaminid dam.	-	-	-	-	-	-
CRUSTACEA: EUCARIDEA						
Euphausia pacifica Hansen	-	-	-	-	-	-
Euphausid dam.	-	-	-	-	-	1
Axiopsis spinulicauda (Rathbun)	-	-	-	-	1	1
Crangon alaskensis Lockington	-	-	-	-	-	-
Crangon sp. A (juv.)	-	1	-	-	-	-
Decapod larva (megalops)	-	-	-	-	-	-
VARIA						
Corella dam. or juv. (tunicate)	-	-	1	-	-	-
Styelid (near *Cnemidocarpa;* tunicate)	-	-	-	-	-	-
Eptatretus stouti (Lockington) (Pacific hagfish)	-	-	-	-	-	-
Fish larva	-	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 13					
SAMPLE CODE	1-1 D-1	1-2 D-2	1-3 D-3	2-1 C-1	2-2 C-2	2-3 C-3
MOLLUSCA: BIVALVIA						
Solemya johnsoni Dall	3	-	-	-	-	-
Solemya juv.	-	1	-	-	-	-
Delectopecten vancouverensis (Whiteaves)	-	-	-	-	-	-
Parvilucina tenuisculpta (Carpenter)	-	-	-	-	-	-
Thyasira trisinuata Orbigny	-	-	-	-	-	-
Axinopsida serricata (Carpenter)	7	2	32	12	3	11
Axinopsida juv.	215	63	258	16	3	6
Clinocardium juv.	-	-	-	-	-	-
Macoma carlottensis (Whiteaves)	1	4	1	-	-	1
Macoma juv.	3	3	1	-	-	-
Xylophaga washingtona Bartsch	-	-	6	-	-	-
Bankia setacea Tryon	-	-	1	-	-	-
Bivalvia juv.	-	-	3	-	-	-
POLYCHAETA: ERRANTIA						
Eulalia sp. A (juv.)	-	-	-	-	-	-
Phyllodoce cf *groenlandica* Oersted	-	-	-	-	-	-
Phyllodoce sp. A	1	-	-	-	-	-
Gyptis brevipalpa (Hartman-Schroder)	1	-	-	-	-	-
Gyptis cf *brunnea* (Hartman)	-	-	1	-	-	-
Gyptis dam.	-	-	-	-	-	-
Hesionid sp. B	-	-	-	-	-	-
Pilargis berkeleyae Monro	-	-	-	-	-	-
Sigambra tentaculata (Treadwell)	9	-	-	-	-	-
Sigambra (bassi (Hartman)?)	-	-	-	-	-	-
Nephtys ferruginea Hartman	-	-	-	-	-	-
Nephtys cornuta franciscana Clark and Jones	-	1	-	1	2	1
Nephtys juv.	-	-	-	-	-	-
Glycera capitata Oersted	3	-	4	-	2	-
Glycinde armigera Moore	1	-	1	-	-	-
Onuphis geophiliformis Moore	-	-	-	-	-	-
Onuphis iridescens (Johnson)	-	-	-	post	-	-
Onuphis juv.	-	-	-	-	-	-
Lumbrineris bicirrata Treadwell	-	-	-	-	-	-
Lumbrineris cf *cruzensis* Hartman	-	-	1	-	-	-
Lumbrineris cf *zonata* (Johnson)	1	-	-	-	-	-
Schistomeringos japonica (Annenkova)	1	-	-	1	-	-
Schistomeringos longicornis (Ehlers)	8	-	2	-	-	-
Schistomeringos juv. (cf *caeca* (Webster and Benedict))	5	1	3	-	-	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	5	-	1	-	-	-
Protodorvillea gracilis (Hartman)	5	-	1	-	-	-
Protodorvillea sp. A (juv.)	-	-	-	-	-	-
Dorvilleidae genus nov.	8	27	1	-	-	-

TABLE 4. (Continued)

	SERIES 13					
	1-1	1-2	1-3	2-1	2-2	2-3
	D-1	D-2	D-3	C-1	C-2	C-3
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone	1	-	2	2	-	-
Scoloplos dam.	-	-	-	-	-	-
Aricidea lopezi Berkeley and Berkeley	16	3	40	12	13	12
Paraonis gracilis (Tauber)	1	1	-	2	5	-
Laonice cirrata (Sars)	-	-	-	-	-	-
Laonice cirrata (Sars)(juv.)	-	-	3	-	-	1
Paraprionospio pinnata Ehlers	-	-	-	-	-	-
Polydora (B) *hamata* Webster	14	-	3	-	-	-
Prionospio dam.(cf *cirrifera* Wiren)	-	-	-	1	-	1
Prionospio steenstrupi Malmgren	-	-	1	1	-	-
Scolelepis squamata (Muller)	-	-	-	-	-	-
Spiophanes kroyeri Grube	-	-	-	-	-	-
Trochochaeta multisetosa (Oersted)	-	-	-	-	-	1
Tharyx sp. A (dam)	1	-	-	-	-	-
Cossura sp. A	-	-	-	-	1	-
Capitella capitata (Fabricius)	-	2	-	-	-	-
Capitella juv.	-	1	-	-	-	-
Heteromastus filiformis (Claparede)	1	-	-	-	-	-
Heteromastus juv.	-	-	-	-	-	-
Mediomastus sp. A. (juv)	-	-	-	-	-	-
Pectinaria californiensis Hartman	-	-	-	-	-	-
Ampharete dam. or juv. (cf *arctica* Malmgren)	1	-	-	-	-	-
Ampharetid sp. B.	-	-	-	-	-	-
Polynoid fragments	-	-	+	-	-	-
Capitellid fragments	-	-	-		-	-
Maldanid fragments	-	-	+	-	-	-
Terebellid fragments	-	-	-	-	-	-
Other polychaete fragments	+	+	+	+	+	+
OLIGOCHAETA: TUBIFICIDAE						
Limnodriloides sp. A	-	-	-	-	-	-
CRUSTACEA: COPEPODA						
Metridia pacifica Brodsky	-	-	-	-	-	-
Aetidius sp. A	-	-	-	-	-	-
Harpactacoidea	-	-	-	-	-	-
CRUSTACEA: CIRRIPEDIA						
Balanus juv.	-	-	1	-	-	-

TABLE 4. (Continued)

	SERIES 13					
	1-1	1-2	1-3	2-1	2-2	2-3
	D-1	D-2	D-3	C-1	C-2	C-3
CRUSTACEA: CUMACEA						
Diastylis sp. A. (juv.)	-	-	-	-	-	
Leptostylis sp. A	-	-	-	-	-	-
Eudorella pacifica Hart	1	-	-	1	-	1
CRUSTACEA: ISOPODA						
Limnoria lignorum (Rathke)	-	-	-	-	-	-
CRUSTACEA: AMPHIPODA						
Oradarea sp. A	-	-	-	-	-	-
Heterophoxus oculatus (Holmes)	-	-	-	1	1	2
Heterophoxus juv.	-	-	-	-	-	-
Eusirus sp. A	-	-	-	-	-	-
Pardaliscella sp. A	-	-	-	-	-	1
Corophium ach.-insid	-	-	-	-	-	-
Melita desdichada Barnard	-	-	-	-	-	-
Dexaminid dam.	-	-	-	-	-	-
CRUSTACEA: EUCARIDEA						
Euphausia pacifica Hansen	-	-	-	-	-	-
Duphausid dam.	-	-	-	-	-	-
Axiopsis spinulicauda (Rathbun)	-	-	-	1	-	-
Crangon alaskensis Lockington	-	-	1	-	-	-
Crangon sp. A (juv.)	-	-	-	-	-	-
Decapod larva (megalops)	-	-	-	-	-	-
VARIA						
Corella dam. or juv. (tunicate)	-	1	4	-	-	-
Styelid (near *Cnemidocarpa*; tunicate)	-	-	-	-	-	1
Eptatretus stouti (Lockington) (Pacific hagfish)	-	-	-	-	-	-
Fish larva	-	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 14					
SAMPLE CODE	1-1 D-1	1-2 D-2	1-3 D-3	2-1 C-1	2-2 C-2	2-3 C-3
MOLLUSCA: BIVALVIA						
Solemya johnsoni Dall	-	-	-	-	-	
Solemya juv.	1	-	-	-	-	-
Delectopecten vancouverensis (Whiteaves)	-	-	-	-	-	-
Parvilucina tenuisculpta (Carpenter)	-	-	-	-	1	-
Thyasira trisinuata Orbigny	-	-	-	-	-	-
Axinopsida serricata (Carpenter)	-	1	1	27	25	11
Axinopsida juv.	124	43	85	22	37	14
Clinocardium juv.	-	-	-	-	-	-
Macoma carlottensis (Whiteaves)	-	-	-	2	1	1
Macoma juv.	2	-	-	-	-	-
Xylophaga washingtona Bartsch	-	-	-	-	-	-
Bankia setacea Tryon	-	-	-	-	-	-
Bivalvia juv.	-	-	-	-	-	-
POLYCHAETA: ERRANTIA						
Eulalia sp. A (juv.)	-	-	-	-	-	-
Phyllodoce cf *groenlandica* Oersted	-	-	-	-	-	-
Phyllodoce sp. A	-	-	-	-	-	-
Gyptis brevipalpa (Hartman-Schroder)	1	2	-	-	-	-
Gyptis cf *brunnea* (Hartman)	-	-	-	-	-	-
Gyptis dam.	-	-	-	-	1	-
Hesionid sp. B.	-	-	-	-	-	-
Pilargis berkeleyae Monro	-	-	-	-	-	1
Sigambra tentaculata (Treadwell)	6	-	-	-	5	2
Sigambra (bassi (Hartman)?)	-	-	-	-	-	-
Nephtys ferruginea Hartman	-	-	-	1	-	-
Nephtys cornuta franciscana Clark and Jones	-	-	-	3	2	2
Nephtys juv.	-	-	-	-	1	-
Glycera capitata Oersted	2	2	-	1	5	3
Glycinde armigera Moore	-	-	1	1	3	1
Onuphis geophiliformis Moore	-	-	-	-	-	-
Onuphis iridescens (Johnson)	-	-	-	-	-	-
Onuphis juv.	-	-	-	-	-	-
Lumbrineris bicirrata Treadwell	-	-	-	-	1	-
Lumbrineris cf *cruzensis* Hartman	1	-	-	-	-	1
Lumbrineris cf *zonata* (Johnson)	-	-	-	-	-	-
Schistomeringos japonica (Annenkova)	-	1	-	-	-	-
Schistomeringos longicornis (Ehlers)	-	2	-	-	-	-
Schistomeringos juv. (cf *caeca* (Webster and Benedict))	-	2	-	-	-	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	-	1	-	-	-	-
Protodorvillea gracilis (Hartman)	-	-	-	-	-	-
Protodorvillea sp. A (juv.)	-	-	-	-	-	-
Dorvilleidae genus nov.	4	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 14					
	1-1	1-2	1-3	2-1	2-2	2-3
	D-1	D-2	D-3	C-1	C-2	C-3
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone	-	-	-	-	1	-
Scoloplos dam.	-	-	-	-	-	-
Aricidea lopezi Berkeley and Berkeley	3	3	8	10	29	19
Paraonis gracilis (Tauber)	-	-	-	3	6	5
Laonice cirrata (Sars)	-	-	-	-	-	-
Laonice cirrata (Sars)(juv.)	2	-	-	-	-	-
Paraprionospio pinnata Ehlers	-	-	-	-	-	-
Polydora (B) *hamata* Webster	1	post	1	-	-	-
Prionospio dam.(cf *cirrifera* Wiren)	-	-	-	-	1	2
Prionospio steenstrupi Malmgren	-	-	-	-	-	1
Scolelepis squamata (Muller)	-	-	-	-	-	-
Spiophanes kroyeri Grube	-	-	1	-	-	-
Trochochaeta multisetosa (Oersted)	-	-	-	1	1	1
Tharyx sp. A (dam.)	-	-	1	-	-	-
Cossura sp. A	1	-	-	1	1	-
Capitella capitata (Fabricius)	-	-	-	-	-	-
Capitella juv.	-	-	-	-	-	-
Heteromastus filiformis (Claparede)	-	1	-	-	-	-
Heteromastus juv.	-	-	-	-	-	-
Mediomastus sp. A (juv.)	-	-	-	-	-	-
Pectinaria californiensis Hartman	-	1	-	-	-	-
Ampharete dam. or juv. (cf *arctica* Malmgren)	3	-	1	1	-	2
Ampharetid sp. B	-	-	-	-	-	-
Polynoid fragments	-	-	-	-	-	-
Capitellid fragments	-	-	-	-	-	-
Maldanid fragments	-	-	-	-	-	-
Terebellid fragments	-	-	-	-	-	-
Other polychaete fragments	+	+	+	+	+	+
OLIGOCHAETA: TUBIFICIDAE						
Limnodriloides sp. A	-	-	-	-	-	-
CRUSTACEA: COPEPODA						
Metridia pacifica Brodsky	-	-	-	-	-	-
Aetidius sp. A	-	-	-	-	-	-
Harpactacoidea	-	-	-	-	-	-
CRUSTACEA: CIRRIPEDIA						
Balanus juv.	-	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 14					
	1-1	1-2	1-3	2-1	2-2	2-3
	D-1	D-2	D-3	C-1	C-2	C-3
CRUSTACEA: CUMACEA						
Diastylis sp. A (juv.)	-	-	-	-	-	-
Leptostylis sp. A	-	-	-	-	-	-
Eudorella pacifica Hart	1	-	-	3	2	7
CRUSTACEA: ISOPODA						
Limnoria lignorum (Rathke)	-	-	-	-	-	-
CRUSTACEA: AMPHIPODA						
Oradarea sp. A	1	1	-	-	-	-
Heterophoxus oculatus (Holmes)	-	-	-	1	-	-
Heterophoxus juv.	-	-	-	1	1	-
Eusirus sp. A	-	-	-	-	-	-
Pardaliscella sp. A	-	-	-	-	-	-
Corophium ach.-insid.	-	-	-	-	-	-
Melita desdichada Barnard	-	-	-	-	-	-
Dexaminid dam.	-	-	-	-	-	-
CRUSTACEA: EUCARIDEA						
Euphausia pacifica Hansen	-	-	-	-	-	-
Euphausid dam.	-	-	-	-	-	-
Axiopsis spinulicauda (Rathbun)	1	-	-	-	-	-
Crangon alaskensis Lockington	-	-	-	-	-	-
Crangon sp. A (juv.)	-	-	-	-	-	-
Decapod larva (megalops)	-	1	-	-	-	-
VARIA						
Corella dam. or juv. (tunicate)	5	-	-	-	-	-
Styelid (near *Cnemidocarpa*; tunicate)	-	-	-	-	-	-
Eptatretus stouti (Lickington) (Pacific hagfish)	-	-	-	-	-	-
Fish larva	-	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 15					
SAMPLE CODE	1-1	1-2	1-3	2-1	2-2	2-3
	D-1	D-2	D-3	C-1	C-2	C-3
MOLLUSCA: BIVALVIA						
Solemya johnsoni Dall	-	1	-	-	-	-
Solemya juv.	9	1	1	-	-	-
Delectopecten vancouverensis (Whiteaves)	1	-	-	-	-	-
Parvilucina tenuisculpta (Carpenter)	-	-	-	-	-	1
Thyasira trisinuata Orbigny	-	-	-	1	-	-
Axinopsida serricata (Carpenter)	1	1	7	20	20	32
Axinopsida juv.	52	92	180	13	26	33
Clinocardium juv.	-	-	-	-	-	-
Macoma carlottensis (Whiteaves)	-	-	-	1	1	1
Macoma juv.	2	2	5	-	1	
Xylophaga washingtona Bartsch	52	3	-	-	-	-
Bankia setacea Tryon	2	-	-	-	-	-
Bivalvia juv.	-	-	-	-	-	-
POLYCHAETA: ERRANTIA						
Eulalia sp. A. (juv.)	-	-	-	-	-	-
Phyllodoce cf *groenlandica* Oersted	-	-	-	-	-	-
Phyllodoce sp. A		-	-	-	-	-
Gyptis brevipalpa (Hartman-Schroder)	1	-	-	-	-	-
Gyptis cf *brunnea* (Hartman)	-	-	-	-	-	-
Gyptis dam.	-	-	-	-	-	-
Hesionid sp. B	-	-	-	-	-	-
Pilargis berkeleyae Monro	-	-	-	-	-	-
Sigambra tentaculata (Treadwell)	-	2	2	2	-	2
Sigambra (bassi (Hartman)?)	-	2	-	-	-	-
Nephtys ferruginea Hartman	-	-	-	-	-	-
Nephtys cornuta franciscana Clark and Jones	-	-	-	1	3	1
Nephtys juv.	-	-	-	2	-	-
Glycera capitata Oersted	1	1	6	3	7	2
Glycinde armigera Moore	-	-	1	2	-	1
Onuphis geophiliformis Moore	-	-	-	-	-	-
Onuphis iridescens (Johnson)	-	-	-	-	-	1
Onuphis juv.	-	-	-	-	-	-
Lumbrineris bicirrata Treadwell	-	-	-	-	-	-
Lumbrineris cf *cruzensis* Hartman	-	-	3	-	-	-
Lumbrineris cf *zonata* (Johnson)	-	-	-	-	-	-
Schistomeringos japonica (Annenkova)	1	-	-	-	-	-
Schistomeringos longicornis (Ehlers)	3	-	-	3	-	-
Schistomeringos juv. (cf *caeca* (Webster and Benedict))	1	-	-	-	3	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	1	1	2	-	1	2
Protodorvillea gracilis (Hartman)	6	-	-	-	-	-
Protodorvillea sp. A (juv.)	2	-	-	-	-	-
Dorvilleidae genus nov.	44	29	-	-	-	-

TABLE 4. (Continued)

SERIES 15

	1-1 D-1	1-2 D-2	1-3 D-3	2-1 C-1	2-2 C-2	2-3 C-3
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone	-	-	-	-	2	1
Scoloplos dam.	-	-	-	-		-
Aricidea lopezi Berkeley and Berkeley	5	3	13	12	12	22
Paraonis gracilis (Tauber)	1	1	-	7	4	-
Laonice cirrata (Sars)	-	-	-	-	-	-
Laonice cirrata (Sars) (juv.)	1	-	-	-	-	-
Paraprionospio pinnata Ehlers	-	-	-	-	-	
Polydora (B) *hamata* Webster	4	1	10	-	-	-
Prionospio dam. (cf *cirrifera* Wiren)	1	-	-	2	3	1
Prionospio steenstrupi Malmgren	-	-	-	-	2	-
Scolelepis squamata (Muller)	-	-	-	-	2	-
Spiophanes kroyeri Grube	-	-	-	-	-	-
Trochochaeta multisetosa (Oersted)	-	-	-	-	-	-
Tharyx sp. A (dam)	-	-	-	1	-	-
Cossura sp. A	-	-	-	-	1	1
Capitella capitata (Fabricius)	3	-	-	-	-	-
Capitella juv.	5	6	-	-	-	-
Heteromastus filiformis (Claparede)	-	-	-	-	-	-
Heteromastus juv.	-	-	-	-	-	-
Mediomastus sp. A (juv.)	-	-	-	-	-	-
Pectinaria californiensis Hartman	-	-	-	-	-	-
Ampharete dam. or juv. (cf *arctica* Malmgren)	-	-	1	1	1	-
Ampharetid sp. B	-	-	-	-	-	-
Polynoid fragments	-	-	-	-	-	-
Capitellid fragments	-	-	-	+	-	-
Maldanid fragments	-	-	-	-	-	-
Terebellid fragments	+	-	-	-	-	-
Other polychaete fragments	+	+	+	+	+	+
OLIGOCHAETA: TUBIFICIDAE						
Limnodriloides sp. A	-	-	-	-	-	-
CRUSTACEA: COPEPODA						
Metridia pacifica Brodsky	-	-	-	-	-	-
Aetidius sp. A	-	-	-	1	1	-
Harpactacoidea	4	-	-	-	-	-
CRUSTACEA: CIRRIPEDIA						
Balanus juv.	-	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 15					
	1-1 D-1	1-2 D-2	1-3 D-3	2-1 C-1	2-2 C-2	2-3 C-3
CRUSTACEA: CUMACEA						
Diastylis sp. A. (juv.)	-	-	-	-	-	-
Leptostylis sp. A	-	-	-	-	-	-
Eudorella pacifica Hart	-	-	-	3	4	10
CRUSTACEA: ISOPODA						
Limnoria lignorum (Rathke)	-	-	-	-	-	-
CRUSTACEA: AMPHIPODA						
Oradarea sp. A	-	-	-	-	-	1
Heterophoxus oculatus (Holmes)	-	-	-	1	-	
Heterophoxus juv.	-	-	-	-	2	2
Eusirus sp. A	-	-	-	-	-	-
Pardaliscella sp. A	-	-	-	-	-	-
Corophium ach.-insid.	-	-	-	-	-	1
Melita desdichada Barnard	-	1	-	-	-	-
Dexaminid dam.	-	-	-	1	-	-
CRUSTACEA: EUCARIDEA						
Euphausia pacifica Hansen	-	-	-	-	-	2
Euphausid dam.	-	-	-	-	-	-
Axiopsis spinulicauda (Rathbun)	-	-	-	-	-	-
Crangon alaskensis Lockingron	-	-	-	-	-	-
Crangon sp. A (juv.)	-	-	1	-	-	-
Decapod larva (megalops)	-	-	-	-	-	-
VARIA						
Corella dam. or juv. (tunicate)	33	2	-	-	-	-
Styelid (near *Cnemidocarpa*; tunicate)	-	-	-	-	-	-
Eptatretus stouti (Lockington) (Pacific hagfish)	-	-	-	-	-	
Fish larva	-	-	-	1	-	-

TABLE 4. (Continued)

	SERIES 16					
SAMPLE CODE	1-1	1-2	1-3	2-1	2-2	2-3
	D-1	D-2	D-3	C-1	C-2	C-3
MOLLUSCA: BIVALVIA						
Solemya johnsoni Dall	-	-	-	-	-	-
Solemya juv.	-	1	-	-	-	-
Delectopecten vancouverensis (Whiteaves)	-	-	-	-	-	-
Parvilucina tenuisculpta (Carpenter)	-	-	-	1	-	-
Thyasira trisinuata Orbigny	-	-	-	-	-	-
Axinopsida serricata (Carpenter)	26	38	36	4	22	41
Axinopsida juv.	242	295	201	9	21	25
Clinocardium juv.	-	-	-	-	-	-
Macoma carlottensis (Whiteaves)	-	-	-	-	-	1
Macoma juv.	1	8	2	-	-	1
Xylophaga washingtona Bartsch	1	-	-	-	-	-
Bankia setacea Tryon	-	-	-	-	-	-
Bivalvia juv.	-	-	-	-	-	-
POLYCHAETA: ERRANTIA						
Eulalia sp. A. (juv.)	-	-	-	-	-	-
Phyllodoce cf *groenlandica* Oersted	-	-	-	-	-	-
Phyllodoce sp. A	-	-	-	-	-	-
Gyptis brevipalpa (Hartman-Schroder)	-	3	-	-	-	-
Gyptis cf *brunnea* (Hartman)	-	-	1	1	-	-
Gyptis dam.	-	-	-	-	-	
Hesionid sp. B	-	-	-	-	-	-
Pilargis berkeleyae Monro	-	-	-	-	-	-
Sigambra tentaculata (Treadwell)	7	2	6	6	11	2
Sigambra (bassi (Hartman)?)	-	-	-	-	-	-
Nephtys ferruginea Hartman	-	-	-	-	-	-
Nephtys cornuta franciscana Clark and Jones	1	1	2	1	-	4
Nephtys juv.	-	-	-	-	-	-
Glycera capitata Oersted	3	3	-	-	-	2
Glycinde armigera Moore	1	-	1	2	1	1
Onuphis geophiliformis Moore	-	-	-	-	-	-
Onuphis iridescens (Johnson)	-	-	-	-	-	-
Onuphis juv.	-	-	-	-	-	-
Lumbrineris bicirrata Treadwell	-	-	-	-	-	-
Lumbrineris cf *cruzensis* (Hartman)	4	2	2	1	-	-
Lumbrineris cf *zonata* (Johnson)	-	-	-	-	-	-
Schistomeringos japonica (Annenkova)	-	-	-	-	-	-
Schistomeringos longicornis (Ehlers)	28	5	63	-	5	1
Schistomeringos juv. (cf *caeca* Webster and Benedict))	-	-	1	-	-	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	8	6	12	-	-	1
Protodorvillea gracilis (Hartman)	-	-	1	-	-	-
Protodorvillea sp. A (juv.)	-	-	-	-	-	-
Dorvilleidae genus nov.	-	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 16					
	1-1	1-2	1-3	2-1	2-2	2-3
	D-1	D-2	D-3	C-1	C-2	C-3
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone	1	5	3	-	-	2
Scoloplos dam.	-	-	-	-	-	-
Aricidea lopezi Berkeley and Berkeley	52	52	20	7	36	42
Paranois gracilis (Tauber)	2	1	5	8	9	15
Laonice cirrata (Sars)	-	-	-	-	-	-
Laonice cirrata (Sars) (juv.)	3	1	3	-	-	-
Paraprionospio pinnata Ehlers	-	-	-	-	-	-
Polydora (B) *hamata* Webster	-	-	-	-	-	-
Prionospio dam (cf *cirrifera* Wiren)	1	-	-	6	8	1
Prionospio steenstrupi Malmgren	-	-	-	-	-	-
Scolelepis squamata (Muller)	-	-	-	-	-	-
Spiophanes kroyeri Grube	-	-	-	-	-	-
Trochochaeta multisetosa (Oersted)	1	-	-	-	-	-
Tharyx sp. A (dam.)	-	1	-	-	-	-
Cossura sp. A	-	-	-	-	-	1
Capitella capitata (Fabricius)	-	-	-	-	-	-
Capitella juv.	-	1	-	-	-	-
Heteromastus filiformis (Claparede)	-	-	-	-	-	-
Heteromastus juv.	-	-	-	-	-	-
Mediomastus sp. A (juv)	1	-	-	-	-	-
Pectinaria californiensis Hartman	-	-	-	-	-	-
Ampharete dam. or juv. (cf *arctica* Malmgren)	2	1	-	-	1	1
Ampharetid sp. B	-	-	-	-	-	-
Polynoid fragments	-	-	-	-	-	-
Capitellid fragments	-	-	-	-	-	-
Maldanid fragments	-	-	-	-	-	-
Terebellid fragments	-	-	-	-	-	-
Other polychaete fragments	+	+	+	+	+	+
OLIGOCHAETA: TUBIFICIDAE						
Limnodriloides sp. A	-	-	-	-	-	-
CRUSTACEA: COPEPODA						
Metridia pacifica Brodsky	-	-	-	-	-	-
Aetidius sp. A	-	-	-	-	-	-
Harpactacoidea	-	-	-	-	-	-
CRUSTACEA: CIRRIPEDIA						
Balanus juv.	-	-	-	-	-	-

TABLE 4. (Continued)

	SERIES 16					
	1-1	1-2	1-3	2-1	2-2	2-3
	D-1	D-2	D-3	C-1	C-2	C-3
CRUSTACEA: CUMACEA						
Diastylis sp. A. (juv.)	-	-	-	-	-	-
Leptostylis sp. A	-	-	-	-	-	-
Eudorella pacifica Hart	-	-	2	-	6	7
CRUSTACEA: ISOPODA						
Limnoria lignorum (Rathke)	-	-	-	-	-	-
CRUSTACEA: AMPHIPODA						
Oradarea sp. A	-	-	-	-	-	-
Heterophoxus oculatus (Holmes)	-	-	-	1	2	-
Heterophoxus juv.	-	-	-	2	1	-
Eusirus sp. A	-	-	-	-	-	-
Pardaliscella sp. A	-	-	-	-	-	-
Corophium ach.-insid.	-	-	-	-	-	-
Melita desdichada Barnard	-	-	-	-	-	-
Dexaminid dam.	-	-	-	-	-	-
CRUSTACEA: EUCARIDEA						
Euphausia pacifica Hansen	-	-	-	-	-	-
Euphausid dam.	-	-	-	-	-	-
Axiopsis spinulicauda (Rathbun)	-	-	-	-	1	-
Crangon alaskensis Lockington	-	-	-	-	-	-
Crangon sp. A (juv.)	-	-	-	-	-	-
Decapod larva (megalops)	-	-	-	-	-	-
VARIA						
Corella dam. or juv. (tunicate)	-	-	-	-	-	-
Styelid (near *Cnemidocarpa*; tunicate)	-	-	-	-	-	-
Eptatretus stouti (Lockington) (Pacific hagfish)	-	-	-	-	-	-
Fish larva	-	-	-	-	-	-

TABLE 5. Corrections to identifications reported in first through fifth field trip reports.

1. *Axinopsida serricata* (Carpenter), *Axinopsida* juv. and Lucinid juv.: We have used an arbitrary but consistent size of 4 mm by which we have separated adult and juvenile *Axinopsida*. Abbott (1974) and Oldroyd (1924) give the adult size range of *Axinopsida* as about 5 to 6 mm. Large *Axinopsida* show considerable variation in shell shape, so much so that we have included Lucinid juv. under *Axinopsida serricata*.

2. *Solemya johnsoni* Dall and *Solemya* juv.: A size of 11 mm was used to separate *Solemya* adults from juveniles.

3. *Macoma carlottensis* (Whiteaves) and *Macoma* juv.: A size of 8 mm was used to separate *Macoma* adults from juveniles.

4. *Lumbrineris bicirrata ?* Treadwell (Series 12) is changed to *Lumbrineris* cf *cruzensis* Hartman.

5. *Schistomeringos rudolphi* (delle Chaije) (Series 11, 12) is changed to *Schistomeringos longicornis* (Ehlers) following Jumars (1974). Differences in the numbers recorded for this species in the present tables reflect the separation of this species into adult and juvenile forms.

6. *Ophyotrocha*? sp. A (Series 11) is changed to *Protodorvillea* sp. A.

7. *Aricidea lopezi* Berkeley and Berkeley has been added to sample 1-2, (D-2) for Series 11.

8. *Prionospio* sp. C has subsequently been found to be inseparable from *P.* dam. (cf *cirrifera* Wiren).

9. *Tharyx monilaris* Hartman (Series 12) has been changed to *Tharyx* sp. A. Not enough of the posterior end or gill structure of the worm is available to make a positive identification. *Tharyx* sp. B was also found to be inseparable from *Tharyx* sp. A (Series 11).

10. *Trochochaeta* sp.B (Series 11, 12, 13) was determined to be a fragmentary polynoid.

11. Ampharetid? sp.C (Series 12) was not identifiable to family and has been included in polychaete biomass.

12. An additional specimen of *Capitella capitata* Fabricius (juv.) was found in sample 1-2, (D-2) of series 11.

TABLE 5. (Continued)

13. *Isochaeta hamata* (Moore, 1905) (Series 11, 12) has been shown to be a new species of *Limnodriloides* and is presently being described by Brinkhurst and Baker. (Note Taxonomic Reference 14).

14. Phelbobranchid (Series 11, 12) has been determined to be a species of *Corella*. Most specimens were either damaged or very small.

15. Euphausid (dam.) has been added to sample 12-2-3.

16. *Ampharete* sp. A (juv.) and *Ampharete* juv. (Series 11 to 15) have been changed to *Ampharete* dam. or juv. (cf *arctica* Malmgren).

17. *Lumbrineris* sp. B (Series 13) has been changed to *L.* cf *zonata* Johnson in sample 13-1-1 and *L.* cf *cruzensis* Hartman in sample 13-1-3.

18. *Eudorella* juv. has been removed from sample 13-2-2. These individuals belonged to the fine fraction sample.

19. *Eptatretus stouti* (Lockington) (the Pacific hagfish) has been added to the data table for Series 13.

20. Copepod species belonging to the genera *Gaidius* and *Gaetanus* have been reexamined and found to belong to genus *Aetidius*.

21. *Lumbrineris* sp. B in samples 14-1-1 and 14-2-3 has been changed to *Lumbrineris* cf *cruzensis* Hartman.

22. *Prionospio* sp. B dam. from samples 14-2-2 and 14-2-3 was found to be inseparable from *Prionospio* dam (cf *cirrifera* Wiren).

23. *Schistomeringos* juv. for all series have been identified as *Schistomeringos* juv. (cf *longicornis* (Ehlers)).

24. *Schistomeringos caeca* (Webster and Benedict) from Series 11 through 14 were reexamined and found to be juveniles of the same species. They have herein been referred to as *Schistomeringos* juv. (cf *caeca* (Webster and Benedict)).

25. *Schistomeringos japonica* (Annenkova) from Series 11 through 15 was separated from *S. longicornis* (Ehlers) using the characters given in Banse and Hobson (1974). There is some question in our minds regarding the validity of *S. japonica* since the characters used (presence or absence of furcate setae on setiger 1 or 2) showed considerable variability. We have corresponded with Dr. Peter Jumars (University of Washington) regarding this question and are presently awaiting his comment.

TABLE 6. Biomass determinations for selected 0.1 m^2 grab samples, June - November 1978.

SAMPLE CODE	11-2-2 (C-2)	11-1-3 (D-3)	12-2-3 (C-3)	12-1-4 (D-4)	13-2-3 (C-3)	13-1-1 (D-1)
MOLLUSCA: BIVALVIA						
Solemya johnsoni Dall	-	-	-	-	-	17.73
Solemya juv.	-	-	-	0.22	-	-
Delectopecten vancouverensis (Whiteaves)	-	-	-	-	-	-
Parvilucina tenuisculpta (Carpenter)	-	-	-	-	-	-
Thyasira trisinuata Orbigny	-	-	-	-	-	-
Axinopsida serricata (Carpenter)	10.16	0.03	5.10	2.12	11.87	5.05
Axinopsida juv.	8.94	-	0.50	14.20	2.55	-
Clinocardium juv.	-	0.01	-	-	-	-
Macoma carlottensis (Whiteaves)	-	-	6.82	-	13.51	2.91
Macoma juv.	<.01	<.01	-	0.60	-	1.73
Xylophaga washingtona Bartsch	6.83	-	-	-	-	-
Bankia setacea Tryon	-	-	-	-	-	-
Bivalvia juv.	-	0.09	-	-	-	-
POLYCHAETA: ERRANTIA						
Eulalia sp. A (juv.)	-	-	-	-	-	-
Phyllodoce cf *groenlandica* Oersted	-	0.44	-	-	-	-
Phyllodoce sp. A	-	-	-	-	-	0.67
Gyptis brevipalpa (Hartman-Schroder)	0.18	3.40	-	-	-	0.66
Gyptis cf *brunnea* (Hartman)	-	-	-	-	-	-
Gyptis dam.	-	-	-	-	-	-
Hesionid sp. B	-	0.05	-	-	-	-
Pilargis berkeleyae Monro	-	-	-	-	-	-
Sigambra tentaculata (Treadwell)	-	-	-	2.80	-	19.02
Sigambra (bassi(Hartman)?)	-	-	-	-	-	-
Nephtys ferruginea Hartman	-	-	-	-	-	-
Nephtys cornuta franciscana Clark and Jones	0.84	-	-	1.01	0.62	-
Nephtys juv.	-	-	-	-	-	-
Glycera capitata Oersted	0.18	22.63	0.17	5.86	-	4.95
Glycinde armigera Moore	-	-	-	2.29	-	3.92
Onuphis geophiliformis Moore	-	-	-	-	-	-
Onuphis iridescens (Johnson)	-	-	-	-	-	-
Onuphis juv.	-	0.02	-	-	-	-
Lumbrineris bicirrata Treadwell	-	-	-	-	-	-
Lumbrineris cf *cruzensis* Hartman	-	-	-	1.77	-	-
Schistomeringos japonica (Annenkova)	-	-	-	-	-	<.01
Schistomeringos longicornis (Ehlers)	0.99	0.45	-	0.16	-	2.71
Schistomeringos juv. (cf *caeca* (Webster and Benedict))	-	-	-	R	-	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	-	0.16	-	-	-	0.23
Protodorvillea gracilis (Hartman)	-	0.41	-	-	-	0.24
Protodorvillea sp. A (juv.)	-	-	-	-	-	-
Dorvilleidae genus nov.	-	-	-	-	-	1.36

TABLE 6. (Continued)

SAMPLE CODE	11-2-2 (C-2)	11-1-3 (D-3)	12-2-3 (C-3)	12-1-4 (D-4)	13-2-3 (C-3)	13-1-1 (D-1)
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone	-	-	-	0.13	-	0.68
Scoloplos dam.	-	-	-	-	-	-
Aricidea lopezi Berkeley and Berkeley	2.13	1.74	-	10.99	6.20	3.24
Paraonis gracilis (Tauber)	0.18	-	1.11	0.19	-	<.01
Laonice cirrata (Sars)	3.17	0.19	-	0.29	-	-
Laonice cirrata (Sars) juv.	-	-	-	-	0.42	-
Paraprionospio pinnata Ehlers	-	-	-	-	-	-
Polydora (B) *hamata* Webster	12.77	5.27	-	0.04	-	23.57
Prionospio dam.(cf *cirrifera* Wiren)	0.08	0.07	0.67	-	0.11	
Prionospio steenstrupi Malmgren	-	-	-	-	-	-
Scolelepis squamata (Müller)	-	-	-	-	-	-
Spiophanes kroyeri Grube	-	-	-	-	-	-
Trochochaeta multisetosa (Oersted)	-	0.10	-	1.73	55.72	-
Tharyx sp. A (dam.)	-	-	-	0.02	-	<.01
Cossura sp. A	-	-	-	-	-	-
Capitella capitata (Fabricius)	-	1.07	-	0.53	-	-
Capitella juv.	-	-	-	-	-	-
Heteromastus filiformis (Claparède)	-	-	-	-	-	-
Heteromastus juv.	-	-	-	-	-	-
Mediomastus sp. A (juv.)	-	-	-	0.09	-	-
Pectinaria californiensis Hartman	-	-	-	-	-	-
Ampharete dam.or juv. (cf *arctica* Malmgren)	-	-	-	-	-	0.04
Ampharetid sp. B	-	-	-	-	-	-
Polynoid fragments	1.17	-	-	-	-	-
Capitellid fragments	-	-	-	-	-	-
Maldanid fragments	-	-	-	-	-	-
Terebellid fragments	-	-	-	-	-	-
Other polychaete fragments	21.17	10.61	2.29	12.01	24.08	34.05
OLIGOCHAETA: TUBIFICIDAE						
Limnodriloides sp. A	-	-	-	-	-	-
CRUSTACEA: COPEPODA						
Metridia pacifica Brodsky	-	-	-	-	-	-
Aetidius sp. A	-	-	-	-	-	-
Harpactacoidea	-	-	-	-	-	-
CRUSTACEA: CIRRIPEDIA						
Balanus juv.	-	-	-	-	-	-

TABLE 6. (Continued)

SAMPLE CODE	11-2-2 (C-2)	11-1-3 (D-3)	12-2-3 (C-3)	12-1-4 (D-4)	13-2-3 (C-3)	13-1-1 (D-1)
CRUSTACEA: CUMACEA						
Diastylis sp. A (juv.)	-	-	-	-	-	-
Leptostylis sp. A	-	-	-	-	-	-
Eudorella pacifica Hart	1.43	-	-	0.02	0.08	0.15
CRUSTACEA: ISOPODA						
Limnoria lignorum (Rathke)	-	-	-	-	-	-
CRUSTACEA: AMPHIPODA						
Oradarea sp. A	-	-	-	-	-	-
Heterophoxus oculatus (Holmes)	0.53	-	0.26	-	1.41	-
Heterophoxus juv.	-	-	-	-	-	-
Eusirus sp. A	-	-	-	-	-	-
Pardaliscella sp. A	-	-	-	-	-	-
Corophium ach.-insid.	-	-	-	-	-	-
Melita desdichada Barnard	-	-	-	-	-	-
Dexaminid dam.	-	-	-	-	-	-
CRUSTACEA: EUCARIDEA						
Euphausia pacifica Hansen	-	-	-	-	-	-
Euphausid dam.	-	-	0.74	-	-	-
Axiopsis spinulicauda (Rathbun)	-	-	24.13	-	-	-
Crangon alaskensis Lockington	-	-	-	-	-	-
Crangon sp. A (juv.)	-	-	-	2.28	-	-
Decapod larva (megalops)	-	-	-	-	-	-
VARIA						
Corella dam or juv (tunicate)	20.74	38.40	-	-	-	-
Stylelid (near *Cnemidocarpa*; tunicate)	-	-	-	-	32.69	-
Eptatretus stouti (Lockington) (Pacific hagfish)	-	-	-	-	-	-
Fish larva	-	-	-	-	-	-
BIOMASS TOTAL (mg per 0.1 m^2)	91.49	85.05	41.79	59.35	149.26	122.91

TABLE 6. (Continued)

SAMPLE CODE	14-2-2 (C-2)	14-1-3 (D-3)	15-2-3 (C-3)	15-1-3 (D-3)	16-2-3 (C-3)	16-1-1 (D-1)
MOLLUSCA: BIVALVIA						
Solemya johnsoni Dall	-	-	-	-	-	-
Solemya juv.	-	-	-	1.59	-	-
Delectopecten vancouverensis (Whiteaves)	-	-	-	-	-	-
Parvilucina tenuisculpta (Carpenter)	23.92	-	29.00	-	-	-
Thyasira trisinuata Orbigny	-	-	-	-	-	-
Axinopsida serricata (Carpenter)	23.61	1.67	38.68	8.58	43.38	39.68
Axinopsida juv.	20.64	8.61	16.71	27.35	16.42	54.50
Clinocardium juv.	-	-	-	-	-	-
Macoma carlottensis (Whiteaves)	6.40	-	3.98	-	0.23	-
Macoma juv.	-	-	-	3.79	6.13	1.25
Xylophaga washingtona Bartsch	-	-	-	-	-	0.34
Bankia setacea Tryon	-	-	-	-	-	-
Bivalvia juv.	-	-	-	-	-	-
POLYCHAETA: ERRANTIA						
Eulalia sp. A (juv.)	-	-	-	-	-	-
Phyllodoce cf *groenlandica* Oersted	-	-	-	-	-	-
Phyllodoce sp. A	-	-	-	-	-	-
Gyptis brevipalpa (Hartman-Schroder)	-	-	-	-	-	-
Gyptis cf *brunnea* (Hartman)	-	-	-	-	-	-
Gyptis dam.	0.07	-	-	-	-	-
Hesionid sp. B	-	-	-	-	-	-
Pilargis berkeleyae Monro	-	-	-	-	-	-
Sigambra tentaculata (Treadwell)	5.33	-	2.73	2.06	3.11	11.51
Sigambra (bassi (Hartman)?)	-	-	-	-	-	-
Nephtys ferruginea Hartman	-	-	-	-	-	-
Nephtys cornuta franciscana Clark and Jones	-	-	0.62	-	1.99	0.57
Nephtys juv.	-	-	-	-	-	-
Glycera capitata Oersted	13.91	-	13.91	5.46	0.95	7.63
Glycinde armigera Moore	18.92	24.11	4.78	5.67	4.27	3.84
Onuphis geophiliformis Moore	-	-	-	-	-	-
Onuphis iridescens (Johnson)	-	-	-	-	-	-
Onuphis juv.	-	-	-	-	-	-
Lumbrineris bicirrata Treadwell	-	-	-	-	-	-
Lumbrineris cf *cruzensis* Hartman	-	-	-	-	-	7.79
Schistomeringos japonica (Annenkova)	-	-	-	-	-	-
Schistomeringos longicornis (Ehlers)	-	-	-	-	0.59	31.70
Schistomeringos juv. (cf *caeca* Webster and Benedict))	-	-	-	-	-	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	-	-	R	R	R	0.76
Protodorvillea gracilis (Hartman)	-	-	-	-	-	-
Protodorvillea sp. A (juv.)	-	-	-	-	-	-
Dorvilleidae genus nov.	-	-	-	-	-	-

R - retained for reference

Table 6. (Continued)

SAMPLE CODE	14-2-2 (C-2)	14-1-3 (D-3)	15-2-3 (C-3)	15-1-3 (D-3)	16-2-3 (C-3)	16-1-1 (D-1)
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone	2.81	-	3.61	3.29	13.07	4.90
Scoloplos dam.	-	-	-	-	-	-
Aricidea lopezi Berkeley and Berkeley	12.41	2.99	4.76	2.46	16.11	16.84
Paranois gracilis (Tauber)	1.39	-	-	-	2.86	0.56
Laonice cirrata (Sars)	-	-	-	-	-	-
Laonice cirrata (Sars) juv.	-	-	-	-	-	2.28
Paraprionospio pinnata Ehlers	-	-	-	-	-	-
Polydora (B) *hamata* Webster	-	0.97	-	11.69	-	-
Prionospio dam.(cf *cirrifera* Wiren)	0.45	-	0.37	-	0.45	0.14
Prionospio steenstrupi Malmgren	-	-	-	-	-	-
Scolelepis squamata (Muller)	-	-	-	-	-	-
Spiophanes kroyeri Grube	-	-	-	-	-	-
Trochochaeta multisetosa (Oersted)	12.64	-	-	-	-	1.20
Tharyx sp. A (dam.)	-	2.90	-	-	-	-
Cossura sp. A.	0.29	-	<.01	-	0.16	-
Capitella capitata (Fabricius)	-	-	-	-	-	-
Capitella juv.	-	-	-	-	-	-
Heteromastus filiformis (Claparede)	-	-	-	-	-	-
Heteromastus juv.	-	-	-	-	-	-
Mediomastus sp. A (juv)	-	-	-	-	-	0.66
Pectinaria californiensis Hartman	-	-	-	-	-	-
Ampharete dam.or juv.(cf *arctica* Malmgren)	0.13	-	-	R	0.04	0.11
Ampharetid sp. B	-	-	-	-	-	-
Polynoid fragments	-	-	-	-	-	-
Capitellid fragments	-	-	-	-	-	-
Maldanid fragments	-	-	-	-	-	-
Terebellid fragments	-	-	-	-	-	-
Other polychaete fragments	7.77	0.92	11.30	9.14	10.06	13.14
OLIGOCHAETA: TUBIFICIDAE						
Limnodriloides sp. A	-	-	-	-	-	-
CRUSTACEA: COPEPODA						
Metridia pacifica Brodsky	-	-	-	-	-	-
Aetidius sp. A	-	-	-	-	-	-
Harpactacoidea	-	-	-	-	-	-
CRUSTACEA: CIRRIPEDIA						
Balanus juv.	-	-	-	-	-	-

TABLE 6. (Continued)

SAMPLE CODE	14-2-2	14-1-3	15-2-3	15-1-3	16-2-3	16-1-1
	C-2	D-3	C-3	D-3	C-3	D-1
CRUSTACEA: CUMACEA						
Diastylis sp. A (juv.)	-	-	-	-	-	-
Leptostylis sp. A	-	-	-	-	-	-
Eudorella pacifica Hart	0.32	-	0.81	-	0.59	-
CRUSTACEA: ISOPODA						
Limnoria lignorum (Rathke)	-	-	-	-	-	-
CRUSTACEA: AMPHIPODA						
Oradarea sp. A	-	-	0.18	-	-	-
Heterophoxus oculatus (Holmes)	-	-	-	-	-	-
Heterophoxus juv.	0.12	-	0.34	-	-	-
Eusirus sp. A	-	-	-	-	-	-
Pardaliscella sp. A	-	-	-	-	-	-
Corophium ach.-insid.	-	-	0.11	-	-	-
Melita desdichada Barnard	-	-	-	-	-	-
Dexaminid dam.	-	-	-	-	-	-
CRUSTACEA: EUCARIDEA						
Euphausia pacifica Hansen	-	-	2.23	-	-	-
Euphausid dam.	-	-	-	-	-	-
Axiopsis spinulicauda (Rathbun)	-	-	-	-	-	-
Crangon alaskensis Lockington	-	-	-	-	-	-
Crangon sp. A (juv.)	-	-	-	5.75	-	-
Decapod larva (megalops)	-	-	-	-	-	-
VARIA						
Corella dam. or juv. (tunicate)	-	-	-	-	-	-
Stylelid (near *Cnemidocarpa*; tunicate)	-	-	-	-	-	-
Eptatretus stouti (Lockington) (Pacific hagfish)	-	-	-	-	-	-
Fish larva	-	-	-	-	-	-
BIOMASS TOTAL (mg per 0.1 m^2)	151.13	42.17	133.73	86.83	120.41	199.40

Table 7. Numbers of organisms found in each 0.1m^2 grab sample, as determined from 250 mℓ subsamples of 0.5 mm seive fraction.

Sample Code	SERIES 11 1-2 (D-2)	1-3 (D-3)	1-4 (D-4)	2-1 (C-1)	2-2 (C-2)	2-3 (C-3)
Volume retained on 0.5 mm screen (*ml*)	695	3215	2360	710	265	360
Conversion Factor	2.78	12.86	9.44	2.84	1.06	1.44
	NUMBER OF INDIVIDUALS PER 0.1 m^2					
POLYCHAETA: ERRANTIA						
Phyllodocid juv. (near *Eulalia*)	5.6	-	-	-	-	-
Sigambra tentaculata (Treadwell) juv.	-	-	-	-	-	-
Nephtys conrnuta franciscana Clark and Jones juv.	-	-	-	-	-	-
Nephtys juv. or dam.	-	-	-	-	-	1.4
Glyceroidea juv. A (near *Glycera*)	-	-	-	-	2.1	1.4
Glyceroidea juv. B (near *Glycinde*)	-	-	-	-	-	-
Schistomeringos longicornis (Ehlers)	-	-	-	-	-	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	5.6	-	-	11.4	14.8	14.4
Schistomeringos juv. (cf caeca (Webster and Benedict))	-	12.9	-	22.7	1.1	4.3
Dorvilleidae genus nov. juv.	-	-	-	2.8	-	-
Protodorvillea gracilis (Hartman) juv.	2.8	-	-	-	2.1	-
Dorvilleid juv. or dam.	-	-	9.4	-	-	-
POLYCHAETA: SEDENTARIA						
Scoloplos pugettnesis Pettibone juv.	-	-	-	-	-	-
Scoloplos juv. or dam.	-	-	-	2.8	-	-
Aricidea lopezi Berkeley and Berkeley juv.	-	12.9	-	19.9	10.6	36.0
Paraonis gracilis (Tauber) juv.	-	-	-	14.2	-	8.6
Spionid juv. A (near *Laonice*)	2.8	-	-	2.8	1.1	-
Spionid juv. B (near *Spiophanes*)	-	-	9.4	-	-	-
Spionid juv. C (near *Prionospio*)	-	-	-	-	2.1	-
Spionid juv. D	-	-	-	-	-	1.4
Polydora hamata Webster juv.	5.6	-	-	-	6.4	18.7
Polydora juv. and dam.	-	-	-	5.7	-	-
Trochochaeta multisetosa (Oersted) juv.	2.8	-	-	-	-	-
Cirratulid juv. or dam.	-	-	-	-	5.3	-
Cossura sp. A juv.	-	-	-	-	-	-
Capitella capitata (Fabricius)	-	-	-	-	-	-
Capitella juv. or dam.	-	-	-	2.8	-	-
Ampharete juv. (cf *arctica* Malmgren)	-	-	-	-	-	-
Ampharetid juv.	-	-	-	2.8	-	-
Terebellid juv. or dam.	-	-	-	-	1.1	-
Other polychaete fragments	+	-	+	+	+	+
OLIGOCHAETA						
Naidid juv.	-	-	-	-	-	-
Tubificid juv. A (near *Limnodriloides*)	-	-	-	-	-	-
Tubificid juv. B	-	-	-	-	-	-

TABLE 7. (Continued)

Sample Code	SERIES 11 (cont'd) 1-2 (D-2)	1-3 (D-3)	1-4 (D-4)	2-1 (C-1)	2-2 (C-2)	2-3 (C-3)
CRUSTACEA: COPEPODA						
Paracalanus sp. A	-	-	-	5.7	-	1.4
Pseudocalanus sp. A	2.8	-	-	-	-	-
Metridia sp.A	-	-	-	-	-	-
Aetidius sp. A	-	-	-	-	-	-
Tortanus sp. A	-	-	-	-	-	-
Calanus (copepodites)	-	-	-	-	-	-
Harpacticoid forma 1	-	-	-	5.7	-	2.9
Harpacticoid forma 2	-	-	9.4	2.8	-	1.4
Harpacticoid forma 3	-	-	-	-	-	-
Harpacticoid forma 4	-	-	-	-	-	-
Harpacticoid forma 5	-	-	-	-	-	-
Harpacticoid forma 6	-	-	-	2.8	-	-
Harpacticoid forma 7	-	-	-	5.7	-	-
CRUSTACEA: PERACARIDA						
Mysid (dam.)	-	-	-	-	-	-
Eudorella pacifica Hart juv.	-	-	-	11.4	8.5	14.4
Leptostylis sp. A (juv.)	2.8	-	-	-	-	-
Hemilamprops? sp. A	-	-	-	-	-	-
Limnoria lignorum (Rathke)	-	-	-	-	8.5	1.4
Heterophoxus juv.	-	-	-	8.5	3.2	10.1
Gammarid juv. (near *Melita*)	-	-	-	-	-	1.4
CRUSTACEA: MISCELLANEOUS						
Ostracod sp. A (near *Pontocypris*)	-	-	-	17.0	-	4.3
Ostracod sp. B	-	-	-	-	-	-
Nebalia juv.	13.9	-	-	-	-	-
Decapod zoea	-	-	-	-	-	-
VARIA						
Trematoda	-	-	-	-	-	-
Nematoda	-	-	9.4	71.0	8.5	112.5
Bryozoa (lunulitiform)	-	-	-	-	-	1.4
Bivalvia juv. (viscera)	122.3	12.9	160.5	14.2	2.1	20.2
Solemya juv.	-	-	-	-	-	-
Hemichordata	-	-	-	-	-	-

TABLE 7. (Continued)

Sample Code	SERIES 12					
	1-1 (D-1)	1-4 (D-4)	1-5 (D-5)	2-1 (C-1)	2-2* (C-2)	2-3 (C-3)
Volume retained on 0.5 mm screen (*ml*)	2295	2660	1960	750	-	740
Conversion Factor	9.18	10.64	7.84	3.00	-	2.96
	NUMBER OF INDIVIDUALS PER 0.1 m^2					
POLYCHAETA: ERRANTIA						
Phyllodicid juv. (near *Eulalia*)	-	-	31.4	-		-
Sigambra tentaculata (Treadwell) juv.	-	-	7.8	-	-	-
Nephtys cornuta franciscana Clark and Jones juv.	9.2	-	-	-	-	-
Nephtys juv. or dam.	-	-	-	-	-	-
Glyceroidea juv. A (near *Glycera*)	-	-	-	-	-	-
Glyceroidea juv. B (near *Glycinde*)	-	-	-	-	-	-
Schistomeringos longicornis (Ehlers)	-	-	-	-	-	-
Schistomeringos juv. (cf *longicornis* (Ehlers)	-	-	15.7	-	-	-
Schistomeringos juv. (cf *caeca* (Webster and Benedict))	9.2	95.8	31.4	9.0	-	-
Dorvilleidae genus nov. juv.	-	-	-	-	-	-
Protodorvillea gracilis (Hartman) juv.	-	-	-	-	-	-
Dorvilleid juv. or dam.	-	-	-	-	-	-
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone juv.	-	10.6	7.8	-	-	-
Scoloplos juv. or dam.	-	-	-	-	-	-
Aricidea lopezi Berkeley and Berkeley juv.	9.2	-	-	6.0	-	-
Paraonis gracilis (Tauber) juv.	-	-	-	-	-	14.8
Spionid juv. A (near *Laonice*)	-	-	-	-	-	-
Spionid juv. B (near *Spiophanes*)	-	-	-	-	-	-
Spionid juv. C (near *Prionospio*)	-	-	-	-	-	-
Spionid juv. D	-	-	-	-	-	-
Polydora hamata Webster juv.	-	-	7.8	-	-	-
Polydora juv. or dam.	-	-	-	-	-	
Trochochaeta multisetosa (Oersted) juv.	-	-	-	-	-	-
Cirratulid juv. or dam.	-	-	-	-	-	-
Cossura sp. A juv.	-	-	-	-	-	-
Capitella capitata (Fabricius)	-	-	7.8	-	-	-
Capitella juv. or dam.	-	-	-	-	-	-
Ampharete juv. (cf *arctica* Malmgren)	-	-	-	-	-	-
Ampharetid juv.	-	-	-	-	-	-
Terebellid juv. or dam.	-	-	-	-	-	-
Other polychaete fragments	+	+	+	+	-	+
OLIGOCHAETA						
Naidid juv.	-	-	-	-	-	-
Tubificid juv. A (near *Limnodriloides*)	-	-	-	-	-	-
Tubificid juv. B	-	-	-	1	-	1

* Fine fraction of sample 12-2-2 lost.

TABLE 7. (Continued)

Sample Code	SERIES 12 (cont'd) 1-1 (D-1)	1-4 (D-4)	1-5 (D-5)	2-1 (C-1)	2-2 (C-2)	2-3 (C-3)
CRUSTACEA: COPEPODA						
Paracalanus sp. A	-	-	-	-	-	-
Pseudocalanus sp. A	-	-	-	-	-	-
Metridia sp. A	-	-	-	-	-	-
Aetidius sp. A	-	-	-	-	-	-
Tortanus sp. A	-	-	-	-	-	-
Calanus (copepodites)	-	-	-	-	-	-
Harpacticoid forma 1	-	-	-	3.0	-	3.0
Harpacticoid forma 2	-	10.6	7.8	-	-	-
Harpacticoid forma 3	9.2	-	-	-	-	-
Harpacticoid forma 4	-	-	-	-	-	-
Harpacticoid forma 5	-	-	-	-	-	-
Harpacticoid forma 6	-	-	-	-	-	-
Harpacticoid forma 7	-	-	-	-	-	-
CRUSTACEA: PERACARIDA						
Mysid (dam.)	-	-	-	-	-	-
Eudorella pacifica Hart juv.	-	-	-	-	-	-
Leptostylis sp. A juv.	-	-	-	-	-	-
Hemilamprops? sp. A	-	-	-	-	-	-
Limnoria lignorum (Rathke)	-	-	-	-	-	-
Heterophoxus juv.	-	-	-	3.0	-	-
Gammarid juv. (near *Melita*)	-	-	-	-	-	-
CRUSTACEA: MISCELLANEOUS						
Ostracod sp. A (near *Pontocypris*)	-	-	-	-	-	-
Ostracod sp. B	-	-	-	-	-	-
Nebalia juv.	-	-	-	-	-	-
Decapod zoea	-	-	-	-	-	-
VARIA						
Trematoda	-	-	-	-	-	-
Nematoda	64.3	10.6	-	39.0	-	29.6
Bryozoa (lunulitiform)	-	-	-	-	-	-
Bivalvia juv. (viscera)	211.1	223.4	117.6	6.0	-	-
Solemya juv.	-	-	7.8	-	-	-
Hemichordata	-	-	-	-	-	-

TABLE 7. (Continued)

Sample Code	SERIES 13 1-1 (D-1)	1-2 (D-2)	1-3 (D-3)	2-1 (C-1)	2-2 (C-2)	2-3 (C-3)
Volume retained on 0.5 mm screen (*ml*)	1510	1460	1730	455	460	445
Conversion Factor	6.04	5.84	6.92	1.82	1.84	1.78
	NUMBER OF INDIVIDUALS PER 0.1 m^2					
POLYCHAETA: ERRANTIA						
Phyllodocid juv. (near *Eulalia*)	12.1	-	6.9	-	-	-
Sigambra tentaculata (Treadwell) juv.	-	-	-	-	-	-
Nephtys cornuta franciscana Clark and Jones juv.	-	-	-	-	-	1.8
Nephtys juv. or dam.	-	-	-	-	-	-
Glyceroidea juv. A (near *Glycera*)	-	-	-	-	-	-
Glyceroidea juv. B (near *Glycinde*)	-	-	-	-	-	-
Schistomeringos longicornis (Ehlers)	-	-	-	-	-	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	12.1	-	13.8	-	1.8	7.1
Schistomeringos juv. (cf *caeca* Webster and Benedict))	18.1	-	76.1	-	-	-
Dorvilleidae genus nov. juv.	-	-	-	-	-	-
Protodorvillea gracilis (Hartman) juv.	-	-	-	-	-	-
Dorvilleid juv. or dam.	-	-	-	-	-	-
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone juv.	-	-	-	-	-	-
Scoloplos juv. or dam.	-	-	-	-	-	-
Aricidea lopezi Berkeley and Berkeley juv.	12.1	-	13.8	12.7	20.2	3.6
Paraonis gracilis (Tauber) juv.	-	-	-	3.6	7.4	7.1
Spionid juv. A (near *Laonice*)	-	-	-	-	-	-
Spionid juv. B (near *Spiophanes*)	-	-	-	-	-	-
Spionid juv. C (near *Prionospio*)	-	-	-	-	-	-
Spionid juv. D	-	-	-	-	1.8	-
Polydora hamata Webster juv.	-	-	-	-	-	-
Polydora juv. and dam.	-	-	-	-	-	-
Trochochaeta multisetosa (Oersted) juv.	-	-	-	-	-	-
Cirratulid juv. or dam.	-	-	-	-	-	-
Cossura sp. A juv.	-	-	-	-	-	1.8
Capitella capitata(Fabricius)	-	-	-	-	-	-
Capitella juv. or dam.	-	-	-	-	-	-
Ampharete juv. (cf *arctica* Malmgren)	-	-	-	-	-	-
Ampharetid juv.	-	-	-	-	-	-
Terebellid juv. or dam.	-	-	-	-	-	-
Other polychaete fragments	+	+	+	-	-	+
OLIGOCHAETA						
Naidid juv.	-	-	-	-	-	-
Tubificid juv. A (near *Limnodriloides*)	-	-	-	1.8	-	5.3
Tubificid juv. B	-	-	-	-	1.8	-

TABLE 7. (Continued)

Sample Code	SERIES 13 (cont'd) 1-1 (D-1)	1-2 (D-2)	1-3 (D-3)	2-1 (C-1)	2-2 (C-2)	2-3 (C-3)
CRUSTACEA: COPEPODA						
Paracalanus sp. A	6.0	-	-	7.3	-	-
Pseudocalanus sp. A	-	-	-	-	-	-
Metridia sp. A	-	-	-	1.8	-	-
Aetidius sp. A	-	-	-	3.6	-	-
Tortanus sp. A	-	-	-	1.8	-	-
Calanus (copepodites)	-	-	-	-	-	-
Harpacticoid forma 1	-	-	-	-	-	-
Harpacticoid forma 2	54.4	-	-	1.8	-	-
Harpacticoid forma 3	6.0	17.5	13.8	-	-	-
Harpacticoid forma 4	-	-	-	-	-	-
Harpacticoid forma 5	-	-	-	-	-	-
Harpacticoid forma 6	-	-	-	-	-	-
Harpacticoid forma 7	-	-	-	-	-	-
CRUSTACEA: PERACARIDA						
Mysid (dam.)	-	-	-	-	-	-
Eudorella pacifica Hart juv.	-	-	-	-	-	-
Leptostylis sp. A juv.	-	-	-	-	-	-
Hemilamprops? sp. A	-	-	6.9	-	-	-
Limnoria lignorum (Rathke)	-	-	-	-	-	-
Heterophoxus juv.	-	-	-	1.8	1.8	1.8
Gammarid juv. (near *Melita*)	-	-	-	-	-	1.8
CRUSTACEA: MISCELLANEOUS						
Ostracod sp. A (near *Pontocypris*)	-	23.4	-	1.8	-	-
Ostracod sp. B	6.0	-	-	-	-	-
Nebalia juv.	-	-	-	-	-	-
Decapod zoea	-	-	-	1.8	-	-
VARIA						
Trematoda	-	-	-	5.5	-	-
Nematoda	42.3	-	6.9	18.2	18.4	21.4
Bryozoa (lunulitiform)	-	-	-	1.8	-	-
Bivalvia juv. (viscera)	90.6	29.2	214.5	10.9	5.5	10.7
Solemya juv.	-	-	-	-	-	-
Hemichordata	-	-	6.9	-	-	-

TABLE 7. (Continued)

Sample Code	SERIES 14 1-1 (D-1)	1-2 (D-2)	1-3 (D-3)	2-1 (C-1)	2-2 (C-2)	2-3 (C-3)
Volume retained on 0.5 mm screen (*ml*)	1660	1305	1610	540	625	715
Conversion Factor	6.64	5.22	6.44	2.16	2.50	2.86
	NUMBER OF INDIVIDUALS PER 0.1m^2					
POLYCHAETA: ERRANTIA						
Phyllodocid juv. (near *Eulalia*)	-	15.7	-	-	-	-
Sigambra tentaculata (Treadwell) juv.	-	-	-	-	-	-
Nephtys cornuta franciscana Clark and Jones juv.	-	-	-	-	-	-
Nephtys juv. or dam.	-	-	-	-	-	-
Glyceroidea juv. A (near *Glycera*)	-	-	-	-	2.5	-
Glyceroidea juv. B (near *Glycinde*)	-	-	-	-	-	-
Schistomeringos longicornis (Ehlers)	-	-	-	-	-	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	-	-	-	2.2	-	2.9
Schistomeringos juv. (cf *caeca* (Webster and Benedict))	-	20.9	-	-	10.0	8.6
Dorvilleidae genus nov. juv.	-	-	-	-	-	-
Protodorvillea gracilis (Hartman) juv.	-	-	-	-	-	-
Dorvilleid juv. or dam.	-	-	-	-	-	-
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone juv.	-	-	-	2.2	-	-
Scoloplos juv. or dam.	-	-	-	-	-	-
Aricidea lopezi Berkeley and Berkeley juv.	-	10.4	12.9	41.0	12.5	14.3
Paraonis gracilis (Tauber) juv.	-	-	-	8.6	10.0	5.7
Spionid juv. A (near *Laonice*)	-	-	-	-	-	-
Spionid juv. B (near *Spiophanes*)	-	-	-	-	-	-
Spionid juv. C (near *Prionospio*)	-	-	-	-	-	-
Spionid juv. D	-	-	-	2.2	-	-
Polydora hamata Webster juv.	-	-	6.4	-	-	-
Polydora juv. and dam.	-	-	-	-	-	-
Trochochaeta multisetosa (Oersted) juv.	-	-	-	-	-	-
Cirratulid juv. or dam.	-	-	-	-	-	-
Cossura sp. A juv.	-	-	-	-	2.5	-
Capitella capitata (Fabricius)	-	-	-	-	-	-
Capitella juv. or dam.	-	-	-	-	-	-
Ampharete juv. (cf *arctica* Malmgren)	-	-	-	2.2	-	2.9
Ampharetid juv.	-	-	-	-	-	-
Terebellid juv. or dam.	-	-	-	-	-	-
Other polychaete fragments	+	+	+	+	+	+
OLIGOCHAETA						
Naidid juv.	-	-	-	-	-	2.9
Tubificid juv. A (near *Limnodriloides*)	-	-	-	2.2	2.5	-
Tubificid juv. B	-	-	-	-	-	-

TABLE 7. (Continued)

Sample Code	SERIES 14 (cont'd) 1-1 (D-1)	1-2 (D-2)	1-3 (D-3)	2-1 (C-1)	2-2 (C-2)	2-3 (C-3)
CRUSTACEA: COPEPODA						
Paracalanus sp. A	-	-	-	-	-	-
Pseudocalanus sp. A	-	-	-	-	-	-
Metridia sp. A	-	-	-	-	7.5	2.9
Aetidius sp. A	-	-	-	2.2	-	-
Tortanus sp. A	-	-	-	-	-	-
Calanus (copepodites)	-	-	-	-	-	-
Harpacticoid forma 1	-	-	-	-	-	-
Harpacticoid forma 2	6.6	-	-	-	-	-
Harpacticoid forma 3	13.3	-	-	-	-	-
Harpacticoid forma 4	-	47.0	-	-	-	-
Harpacticoid forma 5	-	5.2	-	-	-	-
Harpacticoid forma 6	-	-	-	-	-	-
Harpacticoid forma 7	-	-	-	-	-	-
CRUSTACEA: PERACARIDA						
Mysid (dam.)	-	-	-	2.2	-	-
Eudorella pacifica Hart juv.	6.6	-	-	4.3	15.0	8.6
Leptostylis sp. A juv.	-	5.2	-	-	-	-
Hemilamprops? sp. A	-	-	-	-	-	-
Limnoria lignorum (Rathke)	-	-	-	-	-	-
Heterophoxus juv.	-	-	-	-	-	-
Gammarid juv. (near *Melita*)	-	-	-	-	-	-
CRUSTACEA: MISCELLANEOUS						
Ostracod sp. A (near *Pontocypris*)	-	-	-	-	-	-
Ostracod sp. B	-	-	-	-	-	-
Nebalia juv.	-	-	-	-	-	-
Decapod zoea	-	-	-	-	-	-
VARIA						
Trematoda	-	-	-	-	-	-
Nematoda	-	31.3	-	17.3	42.5	17.2
Bryozoa (lunulitiform)	-	-	-	4.3	-	-
Bivalvia juv. (viscera)	33.2	41.8	12.9	17.3	7.5	2.9
Solemya juv.	-	-	-	-	-	-
Hemichordata	-	-	-	-	-	-

TABLE 7. (Continued)

Sample Code	SERIES 15 1-1 (D-1)	1-2 (D-2)	1-3 (D-3)	2-1 (C-1)	2-2 (C-2)	2-3 (C-3)
Volume retained on 0.5 mm screen (*ml*)	1120	2190	1230	860	690	640
Conversion Factor	4.48	8.76	4.92	3.44	2.76	2.56
	NUMBER OF INDIVIDUALS PER 0.1 m^2					
POLYCHAETA: ERRANTIA						
Phyllodocid juv. (near *Eulalia*)	4.5	-	9.8	-	-	-
Sigambra tentaculata (Treadwell) juv.	-	-	-	-	-	-
Nephtys cornuta franciscana Clark and Jones juv.	-	-	-	-	5.5	-
Nephtys juv. or dam.	-	-	-	-	-	-
Glyceroidea juv. A (near *Glycera*)	-	-	-	-	-	-
Glyceroidea juv. B (near *Glycinde*)	-	-	-	-	2.8	-
Schistomeringos longicornis (Ehlers)	-	-	-	-	-	-
Schistomeringos juv. (cf *longicornis* (Ehlers))	9.0	-	4.9	-	2.8	-
Schistomeringos juv. (cf *caeca* (Webster and Benedict))	-	-	14.8	-	2.8	2.8
Dorvilleidae genus nov. juv.	13.4	8.8	-	-	-	-
Protodorvillea gracilis (Hartman) juv.	-	-	-	-	-	-
Dorvilleid juv. or dam.	-	-	-	-	-	-
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone juv.	-	-	-	-	-	-
Scoloplos juv. or dam.	-	-	-	-	-	-
Aricidea lopezi Berkeley and Berkeley	13.4	8.8	4.9	10.3	11.0	7.7
Paraonis gracilis (Tauber) juv.	-	-	-	6.9	2.8	2.6
Spionid juv. A (near *Laonice*)	-	-	-	-	-	-
Spionid juv. B (near *Spiophanes*)	-	-	-	-	-	-
Spionid juv. C (near *Prionospio*)	-	-	-	-	-	-
Spionid juv. D	-	-	-	-	-	-
Polydora hamata Webster juv.	-	-	-	-	-	-
Polydora juv. and dam.	-	-	-	-	-	-
Trochochaeta multisetosa (Oersted) juv.	-	-	-	-	-	-
Cirratulid juv. or dam.	-	-	-	-	-	-
Cossura sp. A juv.	-	-	-	-	-	-
Capitella capitata (Fabricius)	-	-	-	-	-	-
Capitella juv. or dam.	9.0	-	-	-	-	-
Ampharete juv. (cf *arctica* Malmgren)	-	-	-	-	-	-
Ampharetid juv.	-	-	-	-	-	-
Terebellid juv. or dam.	-	-	-	-	-	-
Other polychaete fragments	+	+	-	+	+	+
OLIGOCHAETA						
Naidid juv.	-	-	-	-	-	-
Tubificid juv. A (near *Limnodriloides*)	-	-	-	-	-	-
Tubificid juv. B	-	-	-	-	-	-

TABLE 7. (Continued)

Sample Code	SERIES 15 (cont'd) 1-1 (D-1)	1-2 (D-2)	1-3 (D-3)	2-1 (C-1)	2-2 (C-2)	2-3 (C-3)
CRUSTACEA: COPEPODA						
Paracalanus sp. A	–	–	–	–	2.8	–
Pseudocalanus sp. A	–	–	–	–	–	–
Metridia sp. A	–	–	–	–	–	–
Aetidius sp. A	–	–	–	–	–	–
Tortanus sp. A	–	–	–	–	–	–
Calanus (copedpodites)	–	–	–	–	5.5	–
Harpacticoid forma 1	–	–	–	–	11.0	2.6
Harpacticoid forma 2	4.5	8.8	19.7	–	–	–
Harpacticoid forma 3	31.4	8.8	–	–	–	–
Harpacticoid forma 4	–	–	–	–	–	–
Harpacticoid forma 5	–	–	–	–	–	–
Harpacticoid forma 6	–	–	–	–	–	–
Harpacticoid forma 7	–	–	–	–	–	–
CRUSTACEA: PERACARIDA						
Mysid (dam.)	–	–	–	–	–	–
Eudorella pacifica Hart	–	–	–	–	2.8	10.2
Leptostylis sp. A juv.	–	–	–	–	–	–
Hemilamprops? sp. A	–	–	–	–	–	–
Limnoria lignorum (Rathke)	–	–	–	–	–	–
Heterophoxus juv.	–	–	–	–	–	–
Gammarid juv. (near *Melita*)	–	–	–	–	–	–
CRUSTACEA: MISCELLANEOUS						
Ostracod sp. A (near *Pontocypris*)	–	–	–	–	–	–
Ostracod sp. B	–	–	–	–	–	–
Nebalia juv.	–	–	–	–	–	–
Decapod zoea	–	–	–	–	–	–
VARIA						
Trematoda	–	–	–	–	–	–
Nematoda	–	–	4.9	13.8	11.0	7.7
Bryozoa (lunulitiform)	–	–	–	–	–	–
Bivalvia juv. (viscera)	–	8.8	14.8	–	2.8	2.6
Solemya juv.	–	–	–	–	–	–
Hemichordata	–	–	–	–	–	–

TABLE 7. (Continued)

Sample Code	SERIES 16 1-1 (D-1)	1-2 (D-2)	1-3 (D-3)	2-1 (C-1)	2-2 (C-2)	2-3 (C-3)
Volume retained on 0.5 mm screen (*ml*)	1635	1570	1790	660	770	990
Conversion Factor	6.54	6.28	7.16	2.64	3.08	3.96
	NUMBER OF INDIVIDUALS PER 0.1 m^2					
POLYCHAETA: ERRANTIA						
Phyllodocid juv. (near *Eulalia*)	–	–	–	–	–	–
Sigambra tentaculata (Treadwell) juv.	–	–	–	–	3.1	–
Nephtys cornuta franciscana Clark and Jones juv.	6.5	–	–	–	–	4.0
Nephtys juv. or dam.	–	–	–	–	–	–
Glyceroidea juv. A (near *Glycera*)	–	–	–	–	–	–
Glyceroidea juv. B (near *Glycinde*)	–	6.3	7.2	–	–	–
Schistomeringos longicornis (Ehlers)	6.5	–	–	–	–	4.0
Schistomeringos juv. (cf *longicornis* (Ehlers))	–	–	21.5	–	–	–
Schistomeringos juv. (cf *caeca* (Webster and Benedict))	–	–	7.2	–	–	–
Dorvilleidae genus nov. juv.	–	–	–	–	–	–
Protodorvillea gracilis (Hartman) juv.	–	–	–	–	–	–
Dorvilleid juv. or dam.	–	–	–	–	–	–
POLYCHAETA: SEDENTARIA						
Scoloplos pugettensis Pettibone juv.	–	–	–	–	–	–
Scoloplos juv. or dam.	–	–	–	–	–	–
Aricidea lopezi Berkeley and Berkeley juv.	39.2	18.8	–	7.9	24.6	11.9
Paraonis gracilis (Tauber) juv.	–	–	–	2.6	6.2	4.0
Spionid juv. A (near *Laonice*)	–	–	–	–	–	–
Spionid juv. B (near *Spiophanes*)	–	–	–	–	–	–
Spionid juv. C (near *Prionospio*)	–	–	–	–	–	–
Spionid juv. D	–	–	–	–	–	–
Polydora hamata Webster juv.	–	–	–	–	–	–
Polydora juv. and dam.	–	–	–	–	–	–
Trochochaeta multisetosa (Oersted) juv.	–	–	–	–	–	–
Cirratulid juv. or dam.	–	–	–	–	–	–
Cossura sp. A juv.	–	–	–	–	6.2	–
Capitella capitata((Fabricius)	–	–	–	–	–	–
Capitella juv. or dam.	–	–	–	–	–	–
Ampharete juv. (cf *arctica* Malmgren)	–	–	–	–	–	–
Ampharetid juv.	–	–	–	–	–	–
Terebellid juv. or dam.	–	–	–	–	–	–
Other polychaete fragments	+	+	+	+	+	+
OLIGOCHAETA						
Naidid juv.	–	–	–	–	–	–
Tubificid juv. A (near *Limnodriloides*)	–	–	–	–	–	–
Tubificid juv. B	–	–	–	–	–	–

TABLE 7. (Continued)

Sample Code	SERIES 16 (cont'd) 1-1 (D-1)	1-2 (D-2)	1-3 (D-3)	2-1 (C-1)	2-2 (C-2)	2-3 (C-3)
CRUSTACEA: COPEPODA						
Paracalanus sp. A	6.5	–	–	–	3.1	11.9
Pseudocalanus sp. A	–	–	–	–	3.1	–
Metridia sp. A	–	–	–	–	–	4.0
Aetidius sp. A	–	–	–	–	–	–
Tortanus sp. A	–	–	–	–	–	–
Calanus (copepodites)	–	–	–	–	–	–
Harpacticoid forma 1	45.8	–	–	–	–	–
Harpacticoid forma 2	–	12.6	14.3	–	–	–
Harpacticoid forma 3	–	–	–	–	–	–
Harpacticoid forma 4	–	–	–	–	–	–
Harpacticoid forma 5	–	–	–	–	–	–
Harpacticoid forma 6	–	–	–	–	–	–
Harpacticoid forma 7	–	–	–	–	–	–
CRUSTACEA: PERACARIDA						
Mysid (dam.)	–	–	–	–	–	–
Eudorella pacifica Hart juv.	–	–	–	–	–	–
Leptostylis sp. A juv.	–	–	–	–	–	–
Hemilamprops? sp. A	–	–	–	–	–	–
Limnoria lignorum (Rathke)	–	–	–	–	–	–
Heterophoxus juv.	–	–	–	2.6	–	–
Gammarid juv. (near *Melita*)	–	–	–	–	–	–
CRUSTACEA: MISCELLANEOUS						
Ostracod sp. A (near *Pontocypris*)	–	–	–	–	–	–
Ostracod sp. B	–	–	–	–	–	–
Nebalia juv.	–	–	–	–	–	–
Decapod zoea	–	–	–	–	–	–
VARIA						
Trematoda	–	–	–	–	–	–
Nematoda	–	–	7.2	15.8	9.2	19.8
Bryozoa (lunulitiform)	–	–	–	–	–	–
Bivalvia juv. (viscera)	6.5	6.2	14.3	–	–	4.0
Solemya juv.	–	–	–	–	–	–
Hemichordata	–	–	–	–	–	–

TABLE 8. Temperature, salinity and dissolved oxygen content of near-bottom water, June-November 1978.

SAMPLE	TIME, PDT	DEPTH, m	S, °/oo	T, C°	O_2, mg/ℓ
Dump Site	5 July 1978				
11-1-2	1910	55	32.00	9.35	4.20
	6 July 1978				
11-1-3	1717	58	32.02	9.32	3.86
11-1-4	1735	58	32.01	9.31	3.69
Dump Site Average		57.0	32.01	9.33	3.92
Control Site	6 July 1978				
11-2-1	1030	66	32.05	9.29	5.26
11-2-2	1048	66	32.03	9.31	4.74
11-2-3	1105	66	32.06	9.30	5.19
Control Site Average		66.0	32.05	9.30	5.06
Dump Site	1 August 1978				
12-1-1	1555	57	32.16	9.11	3.62
12-1-4	1630	55	32.15	9.11	2.99
12-1-5	1725	55	32.15	9.11	3.01
Dump Site Average		55.7	32.15	9.11	3.21
Control Site	1 August 1978				
12-2-1	1040	65	32.16	9.07	4.16
12-2-2	1115	66	32.17	9.05	3.98
12-2-3	1200	65	32.16	9.07	3.85
Control Site Average		65.0	32.16	9.06	4.00

TABLE 8. (Continued)

SAMPLE	TIME, PDT	DEPTH, m	S, °/oo	T, C°	O_2, mg/ℓ
Dump Site	29 August 1978				
13-1-1	1035	56	32.19	9.05	2.17
13-1-2	1105	58	32.18	9.04	2.27
13-1-3	1125	57	32.19	9.05	2.06
Dump Site Average		57.0	32.19	9.05	2.17
Control Site	28 August 1978				
13-2-1	1550	67	32.16	9.02	2.26
13-2-2	1620	67	32.21	9.07	2.18
13-2-3	1640	67	32.20	9.05	2.21
Control Site Average		67.0	32.19	9.05	2.22
Dump Site	21 September 1978				
14-1-1	1035	57	31.81	9.91	2.91
14-1-2	1100	55	31.73	9.95	2.96
14-1-3	1125	55	31.80	10.00	2.98
Dump Site Average		55.7	31.78	9.95	2.95
Control Site	20 September 1978				
14-2-1	1510	67	31.95	9.63	1.79
14-2-2	1550	67	31.96	9.62	1.49
14-2-3	1655	67	31.93	9.68	1.83
Control Site Average		67.0	31.95	9.64	1.70

TABLE 8. (Continued)

SAMPLE	TIME, PDT	DEPTH, m	S, °/oo	T, C°	O_2, mg/ℓ
Dump Site	19 October 1978				
15-1-1	1040	56	31.82	9.92	1.42
15-1-2	1110	56	31.81	9.93	1.50
15-1-3	1150	57	31.81	9.94	1.75
Dump Site Average		56.3	31.81	9.93	1.56
Control Site	18 October 1978				
15-2-1	1355	67	31.89	9.84	2.32
15-2-2	1440	67	31.88	9.85	2.73
15-2-3	1525	67	31.87	9.83	2.09
Control Site Average		67.0	31.88	9.84	2.38
	TIME, PST				
Dump Site	16 November 1978				
16-1-1	0915	58	32.06	9.45	2.11
16-1-2	0950	60	32.08	9.45	2.15
16-1-3	1020	61	32.04	9.44	2.11
Dump Site Average		59.7	32.06	9.45	2.12
Control Site	15 November 1978				
16-2-1	1140	68	32.11	9.46	2.56
16-2-2	1210	68	32.11	9.46	2.60
16-2-3	1225	68	32.11	9.46	2.58
Control Site Average		68.0	32.11	9.46	2.58

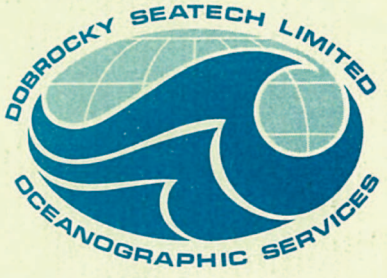
TABLE 9. Summary of benthic oxygen demand measurements, June - November 1978.

Run	Night of	Intercept, mgO_2/ℓ	Slope $mgO_2/\ell/min$	Slope, $mgO_2/m^2/min$	Reliability of slope estimate*
11-2-1	5-6 July	4.13	-0.00167	-0.083	G
11-2-2	5-6 July				U
11-2-3	6-7 July				U
11-2-4	6-7 July				U
12-2-1	31 July-Aug				U
12-2-2	31 July-Aug				U
12-2-3	1-2 Aug				U
12-2-4	1-2 Aug	2.51	-0.00209	-0.104	G
12-2-5	1-2 Aug	2.66	-0.00195	-0.097	G
13-1-1	29-30 Aug	1.44	-0.00273	-0.136	G
13-1-2	29-30 Aug				U
13-1-3	29-30 Aug	0.970	-0.00138	-0.068	F
13-2-1	28-29 Aug				U
13-2-2	28-29 Aug	1.385	-0.00231	-0.115	G
13-2-3	28-29 Aug				U
14-1-1	20-21 Sept	2.80	-0.00215	-0.107	F
14-1-2	20-21 Sept	2.18	-0.00092	-0.046	G
14-2-1	21-22 Sept	2.28	-0.00550	-0.273	F
14-2-2	21-22 Sept	1.62	-0.00181	-0.0896	G
14-2-3	21-22 Sept	1.45	-0.00424	-0.210	F

TABLE 9. (Continued)

15-1-1	18-19 Oct				U
15-1-2	18-19 Oct	1.90	-0.00165	-0.0817	F
15-1-3	18-19 Oct	1.64	-0.00171	-0.0849	G
15-2-1	19-20 Oct	1.08	-0.00182	-0.0903	G
15-2-2	19-20 Oct	0.90	-0.00180	-0.0895	F
15-2-3	19-20 Oct				U
16-2-1	15-16 Nov				U
16-2-2	15-16 Nov	1.97	-0.00340	-0.169	F
16-2-3	16-17 Nov	2.49	-0.00289	-0.143	G
16-2-4	16-17 Nov				U
16-2-5	16-17 Nov				U
16-2-6	16-17 Nov	2.33	-0.00272	0.135	G

* Key to symbols G - Good
F - Fair
U - Unsuccessful


DOBROCKY SEATECH LIMITED
OCEANOGRAPHIC SERVICES