

**GLOBEC CRUISE REPORT**  
**CRUISE HX239 – MARCH 2-13 2001**

**Funding Source:** NSF-NOAA (NA-67-RJ-0147)

**Chief Scientist:** Seth Danielson (Chief Sci. SR)  
Institute of Marine Science  
University of Alaska  
Fairbanks, AK 99775-1080  
Phone: 907-474-7830  
E-mail: seth@ims.uaf.edu

**Scientific Personnel:**

Chuck Adams	Zooplankton, Grad Student, IMS-UAF (M, upper 4-man)
Amber Beal	Zooplankton, Grad Student, IMS-UAF (F, forward 3-man)
Ken Coyle	Zooplankton, IMS-UAF (M, upper 2-man)
Amy Childress	Nutrients, IMS-UAF (F, galley SR), <a href="mailto:ruehs@ims.uaf.edu">ruehs@ims.uaf.edu</a>
Bob Day	Birds, ABR Inc., Fairbanks (M, upper 4-man); <a href="mailto:bday@abrinc.com">bday@abrinc.com</a>
Leandra DeSousa	Birds, IMS-UAF (F, forward 3-man)
Steve Hartz	Marine Technician, IMS-SMC (M, Mar. Tech. SR)
Susan Henrichs	Sediment Trap, IMS-UAF (F, cooks SR)
Russ Hopcroft	Zooplankton, IMS-UAF (M, upper 2-man)
David Leech	Mooring, IMS-UAF (M., forward 2-man), <a href="mailto:leech@ims.uaf.edu">leech@ims.uaf.edu</a>
Stephanie Moreland	Nutrients, IMS-SMC-UAF (F, galley SR)
Alexei Pinchuk	Zooplankton, IMS-UAF (M, upper 4-man)
Brian Rowe	Marine Technician, IMS-SMC (M, Mar. Tech. SR)
Sarah Thornton	Nutrients/Chlorophyll IMS-UAF (F, forward 3-man)
Hank Statscewich	Mooring/CTDs, IMS-UAF (M, upper 4-man)

**Scientific Purpose:**

The purpose of the NE Pacific GLOBEC program is to develop a mechanistic understanding of the response of this marine ecosystem to climate variability. Toward this end the GLOBEC cruises on the Gulf of Alaska shelf will determine the physical-chemical structure, primary production and the distribution and abundance of zooplankton, yoy salmon and other planktivorous fish. These interdisciplinary cruises will occur over a seven-year period and throughout the year so that seasonal and interannual depictions of the oceanography of this shelf will be available. Some of the data will be compared with historical data sets whereas other data sets will be a product of the first systematic sampling effort from this shelf.

The March 2001 cruise will focus on the distribution of physical properties, nutrients, and chlorophyll, zooplankton, and seabird populations over the shelf along the Seward Line, within western Prince William Sound, and on the shelf south of Hinchinbrook Entrance. The purpose is to characterize the along shore variability in the physical and chemical properties and the biological components of the northern Gulf of Alaska shelf.

## Cruise Objectives

1. Determine thermohaline, velocity, and nutrient structure of the Gulf of Alaska shelf, emphasizing Seward Line (Table 1), C. Fairfield Line (Table 2), Prince William Sound stations (Table 3), and offshore PWS stations (Table 4). Other lines as time permits
2. Determine primary production and phytoplankton biomass distribution.
3. Determine the distribution and abundance of zooplankton.
4. Determine the distribution and abundance of seabirds and marine mammals.
5. Determine copepod and euphausiid rates of growth and egg production.
6. Recover and re-deploy the GAK 4 moorings.

## SAMPLING

Two days are allotted for the mooring recoveries and deployments. Weather permitting the mooring work is to be completed during the first 2 days of the cruise so that D. Leech and S. Henrichs can be dropped off in Seward and the decks cleared of all mooring gear.

### GAK 4 mooring positions:

Bio-Physical mooring:	59° 24.58'N, 149° 01.96'W
Physical mooring:	59° 24.81'N, 149° 02.80'W

### DAYTIME ACTIVITIES

1. Occupy the various hydrographic transects and collect vertical CTD-chlorophyll-PAR profiles. Station Transect priorities are (in order): Seward (**Table 1**), C. Fairfield (**Table 2**), W. PWS (**Table 3**), Hinchinbrook Entrance (**Table 4**). AH Line (**Table 5**); no need to do any of the cross-Hinchinbrook Canyon Lines), Cape Clear Line (**Table 6**) and the PWSSW Line (**Table 1**). (These can be performed at night after zooplankton work is completed.)
2. collect ADCP, sea surface salinity (SSS), temperature (SST) and fluorescence (SSF) using seacrest sensors,
3. collect discrete bottle samples at these stations for nutrients and chlorophyll pigments. Chlorophyll Size Fractionation will be done at the whole numbered Seward Line stations and at every other C. Fairfield Line station.
4. Measure Primary Productivity at Stations GAK 1, 4, 9, and 13. These are to begin as close to daylight as possible.
5. Observe and document marine mammal and seabird distributions from the bridge.
6. 2 CalVet Net casts will be done (1 before and 1 after the CTD cast) along the Seward Line and at selected PWS stations. The first will be a large mesh net and the second will be with a fine mesh net. THERE WILL BE NO CALVET sampling at the "i" stations on this line. THERE ARE NO BAGNETS ANYMORE!
7. At 2 Seward Line stations (to be determined) and one PWS station Hopcroft will perform 5-7 casts with the 10-liter Niskins/Rosette to collect water (from ~ 20m) for zooplankton incubations and at least one ring net tow over upper 50m.
8. Time permitting, we will do one deep MOCNESS tow (to 350 or 500 m) near the end of the Seward Line and/or in PWS. This can be done day or night.

**NIGHTTIME ACTIVITIES**

1. Hydroacoustic samples and MOCNESS discrete samples along the Seward Line, and at the PWS (Table 3) and Hinchinbrook Entrance Stations (Table 4) indicated.
2. At GAK 1 there will be 1 bongo night tow (at night) preferably in conjunction with the MOCNESS/HTI sampling.

**Additional/Alternate Sampling**

Time and weather constraints will dictate what other lines will be sampled. Ragged Island Line and stations surrounding GAK 4 to describe quasi-permanent eddy are desirable. The Chief Scientist will decide these stations during the cruise.

**Table 1. CTD Station Locations along Seward Line.**

<b>Station Name</b>	<b>Latitude (° N)</b>	<b>Longitude (° )</b>	<b>Approximate Bottom Depth (m)</b>
<b>RES 2.5</b>	60 0.0	149 20.3	290
<b>GAK 1</b>	59 50.7	149 28.0	265
<b>GAK 1i*</b>	59 46.0	149 23.8	250
<b>GAK 2</b>	59 41.5	149 19.6	220
<b>GAK 2i*</b>	59 37.6	149 15.5	220
<b>GAK 3</b>	59 33.2	149 11.3	220
<b>GAK3i*</b>	59 28.9	149 7.1	210
<b>GAK 4</b>	59 24.5	149 2.9	200
<b>GAK 4i*</b>	59 20.1	148 58.7	200
<b>GAK 5</b>	59 15.7	148 54.5	175
<b>GAK 5i*</b>	59 11.4	148 50.3	150
<b>GAK 6</b>	59 7.0	148 46.2	145
<b>GAK 6i**</b>	59 2.7	148 42.0	190
<b>GAK 7**</b>	58 58.3	148 37.8	230
<b>GAK 7i**</b>	58 52.9	148 33.6	260
<b>GAK 8**</b>	58 47.5	148 29.4	290
<b>Gak 8i**</b>	58 44.6	148 25.2	280
<b>GAK 9</b>	58 40.8	148 21.0	275
<b>GAK9i**</b>	58 36.7	148 16.7	~700
<b>GAK 10</b>	58 32.5	148 12.7	1300
<b>GAK 11</b>	58 23.3	148 4.3	1400
<b>GAK 12</b>	58 14.6	147 56.0	1500
<b>GAK 13</b>	58 5.9	147 47.6	1525

\*useful in defining Alaska Coastal Current front

\*\*useful in defining the shelfbreak front

**Table 2. CTD Station Locations Along Cape Fairfield Line**

Station Name	Latitude (° N)	Longitude (° )	Approximate Bottom Depth (m)
CF 1	59 55.0	148 52.0	50
CF 2	59 53.0	148 52.0	120
CF 3	59 51.0	148 52.0	170
CF 4	59 49.0	148 52.0	180
CF-5	59 47.0	148 52.0	180
CF-6	59 45.0	148 52.0	185
CF-7	59 43.0	148 52.0	180
CF-8	59 41.0	148 52.0	180
CF-9	59 39.0	148 52.0	175
CF-9	59 39.0	148 52.0	175
CF-10	59 37.0	148 52.0	175
CF 11	59 35.0	148 52.0	160
CF-12	59 33.0	148 52.0	145
CF-13	59 31.0	148 52.0	145
CF-14	59 29.0	148 52.0	145
CF-15	59 27.0	148 52.0	145

**Table 3. CTD Station Locations In Western PWS (Northern PWS; Knight Island Passage; KIP; Hogan Bay; HB; and Montague Strait; MS). [ANC = weather station]**

Station Name	Latitude (° N)	Longitude (° W)	Approximate Bottom Depth (m)	
HB1	60.1929	147.7001	246	
HB2	60.1792	147.6410	173	zooplankton
HB3	60.1634	147.5756	84	
HB4	60.1482	147.5024	95	
MS1	59.9587	147.9138	179	
MS2	59.9442	147.8783	201	zooplankton
MS3	59.9332	147.8550	168	
MS4	59.9219	147.8268	118	
KIP2	60.2783	147.9866	588	zooplankton
KIP1	60.2811	148.0132	540	Anc.
PWS 10	60.385	146.925	293	Anc.
PWS 9	60.477	147.070	222	Anc.
PWS 8	60.557	147.126	228	Anc.
PWS 7	60.629	147.149	292	Anc.
PWS 6	60.722	147.145	390	Anc.
PWS 5	60.822	147.398	476	Anc.
PWS 4	60.737	147.658	657	Anc.
PWS 3	60.655	147.809	753	zooplankton
PWS 2	60.534	147.802	742	Anc.
PWS 1	60.379	147.936	333	zooplankton

**Table 4. CTD Stations Bracketing Hinchinbrook Entrance.**

Station Name	Latitude (° N)	Longitude (° )	Approximate Bottom Depth (m)
HE 1	60 13.8	146 36.5	zooplankton
HE 2	60 10.8	146 36.5	
HE 3	60 7.8	146 36.5	
HE 4	60 4.8	146 36.5	
HE-5	60 1.8	146 36.5	zooplankton
HE-6	60 3.0	146 44.8	
HE-7	60 4.3	146 51.3	
HE-8	60 5.6	146 57.7	zooplankton
HE-9	60 6.6	147 3.0	
HE-10	60 7.8	147 8.0	
HE-11	60 8.6	147 11.5	zooplankton

**Table 5. CTD Station Locations Along Ragged Island and Pye Island Lines**

Station Name	Latitude (° N)	Longitude (° )	Approximate Bottom Depth (m)
RI10	59.4091	148.8670	165
RI8	59.4081	149.2115	188
RI7	59.4076	149.3767	142
RI6	59.4077	149.5417	98
RI5	59.4093	149.7095	112
RI4	59.4077	149.8711	164
RI3	59.4091	150.0361	172
RI2	59.4093	150.1996	124
RI1	59.4063	150.2638	100
PI2	59.3262	150.1958	152
PI3	59.2429	150.1279	154

**Table 6. CTD Station Locations Along Hinchinbrook Canyon: Deep Inflow into PWS**

Station Name	Latitude (° N)	Longitude (° )	Approximate Bottom Depth (m)
AHC 1	59 18.0	147 4.5	200
AHC 2	59 24.0	147 4.5	200
AHC 3	59 30.0	147 4.5	200
AHC 4	59 36.0	147 4.5	200
AHC-5	59 42.0	147 4.5	200
AHC-6	59 48.0	147 4.5	200
AHC-7	59 54.0	147 4.5	200
AHC-8	60 00.0	147 4.5	200
AHC-9	60 06.0	147 4.5	200

## **SHIP AND SCIENTISTS EQUIPMENT NEEDED**

CTD w/ PAR, Fluorometer, WETLABS AC3

Rosette w/ 5 liter Niskin bottles, Rosette with 10 liter Niskin bottles, ADCP, Seacrest sensors, 3 cases of salinity bottles,

Autoanalyzer, filtration rigs, Nitrogen gas

CalVet nets, 60 cm bongo net (Hopcroft is bringing additional nets) two 4'x4' fish tub incubators.

Primary Productivity incubator

MOCNESS

CHECK DISTILLED WATER CARTRIDGE TO INSURE HIGH QUALITY DISTILLED WATER.

HTI acoustic array, associated cables and computer

## **CRUISE ACTIVITY:**

The first two days of the cruise were dedicated to the recovery and redeployment of two NPMR moorings near station GAK4. See attached mooring deployment/recovery logs for additional information. The redeployment of the moorings were at nearly the same locations as the moorings recovered: CTDs at GAK4 were taken before the recovery and after redeployment of the moorings. The first CTD attempt failed and the cable had to be reterminated, so a complete CTD cast was not taken before the mooring recoveries. Vertical net tows were taken at GAK4 after mooring deployment. Missing from the biophysical mooring upon recovery were the top syntactic float and top SEACAT instrument. The shackle between the missing SEACAT and a 1/2m length of VLS line (still on the mooring) was missing. Aside from the missing parts of the biophysical mooring, the mooring recoveries went smoothly so we decided to try to work towards deployment of the biophysical mooring that evening. The sediment trap to be deployed had some problems so we put off deployment until the next morning while the sediment trap was worked on.

Biophysical moorings released on 3/3/01 at 17:13:56Z, 59° 24.973' N, 149° 2.14' W.

Physical mooring: released on 3/3/01 at 18:23:11Z, 59° 24.4962' N, 149° 1.7659' W.

We returned to Seward after the deployment of the two moorings and left Leech and Henrichs on shore, picked up Hopcroft and Pinchuk, and proceeded to our GLOBEC work.

## **Brief Summary of GLOBEC work:**

The March 2001 cruise was the fourth March cruise in the LTOP series. Storms during the cruise made the sampling efforts difficult but manageable (we twice had to relocate to Prince William Sound for low pressure systems to pass). We occupied the Seward Line, C. Fairfield Line, Montague Strait Line, Hogan Bay Line and Hinchinbrook Entrance Line, as well as our stations within PWS.

### **Physics:**

Physical features of note were a slight thermal front at the surface near the shelf break; little evidence of a surface salinity shelfbreak front, but a fairly strong thermal and salinity bottom-attached shelf break front. Waters were generally mixed down to 60 or 80m offshore. The ACC appeared as a well-developed jet near shore. An interesting shallow fresh lens was observed near GAK4/GAK5 – maybe a filament of the ACC, recirculating? Overall, the temperatures in the Gulf appeared to be slightly higher than normal for this time of year; more comparable to the El Nino year of 1998.

#### Zooplankton:

(Coyle) Zooplankton densities did not appear to be different from that observed during previous March cruises. Euphausiids were common along the Seward Line and were observed both in the nets and in the acoustic data. *Mertidia* were abundant in Prince William Sound. Late naupliar and early copepodid stages of *Neocalanus* were common both along the Seward Line and in Prince William Sound.

(Hopcroft) Primary mission was to perfect techniques and protocols for future cruises, overall experiments went very smoothly for a first cruise and much of the data should be usable. During the cruise, 3 experiments were set-up for estimating copepod growth from artificial cohorts (Gak1, Gak9, PWS2). Euphausiid molting rates were determined for GAK9 & PWS2 (absent from Gak1). *Neocalanus* molting rates determined for GAK6, Gak9 and PWS. Egg production experiments conducted in PWS for *Metridia*, *Gaetanus*, *Euchaeta*, at Gak1 for *Pseudocalanus* and *Metridia*, at Gak 10 *Oithona*.

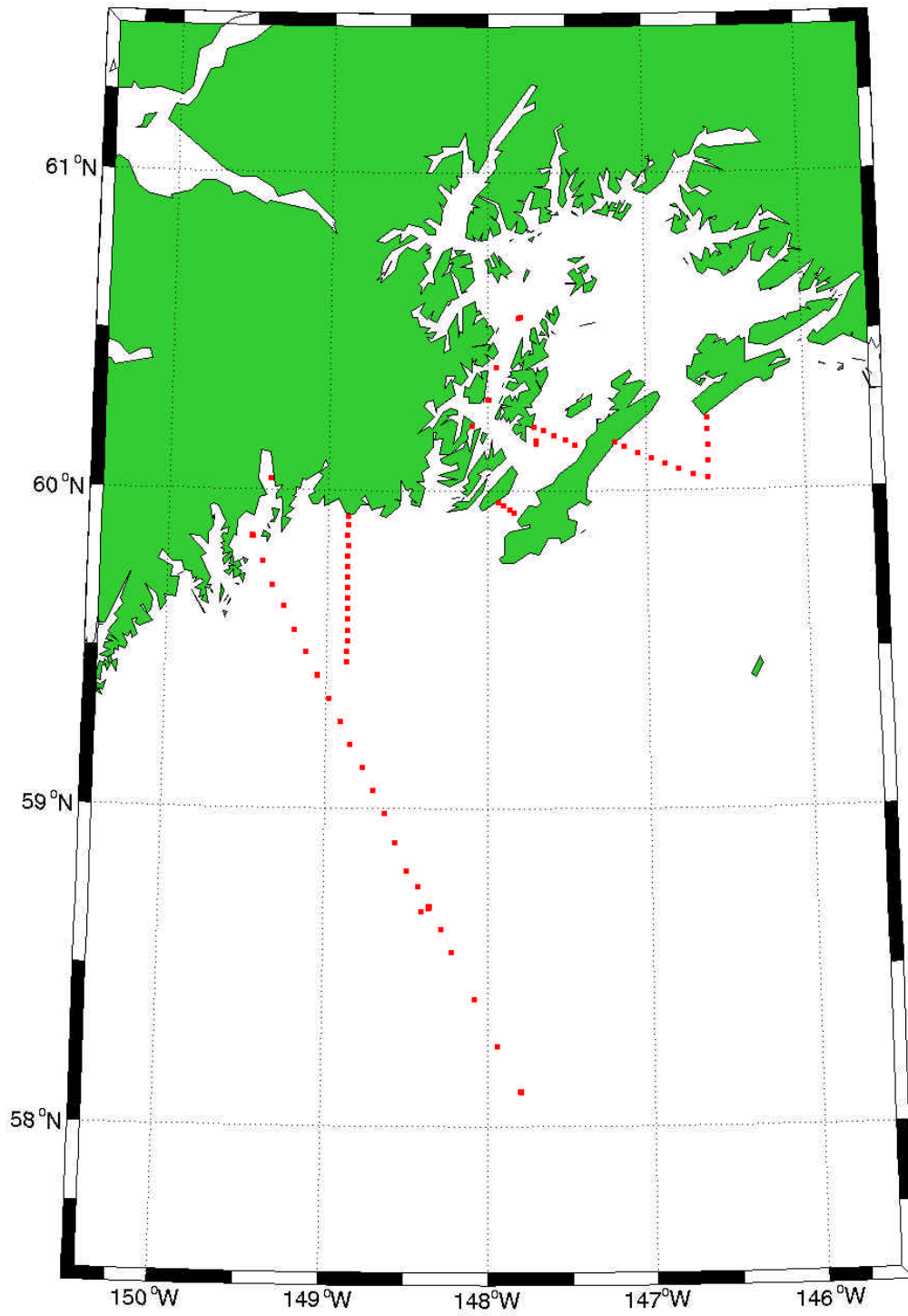
#### Seabird and Mammals:

We collected data as 5-minute transects of at-sea distribution and abundance of seabirds and marine mammals at 266 stations. We were able to occupy the entire Seward Line and parts of the Cape Fairfield and Hinchinbrook Entrance lines and collected data while the ship was running at various locations on the shelf and in Prince William Sound. Overall seabird abundance was moderate on this cruise and was highest primarily between Stations GAK 3 and GAK10. Species diversity appeared to be moderate, with 21 species of seabirds; one was a species new to the cruises (Black-headed Gull), although it was seen off-transect. The one truly odd record was that we saw no *Puffinus* shearwaters during this cruise—the first cruise (of the 16 cruises on which I have sampled) on which they have been absent. We recorded 5 species of marine mammals this cruise, although only 4 were seen while conducting standardized surveys: Northern Fur Seal, Killer Whale, Dall's Porpoise, and Pacific White-sided Dolphin. The white-sided dolphins were in a large pod of at least 50 animals and constituted only the second record of this species.

See the event log for sampling details.

**Station Locations:**

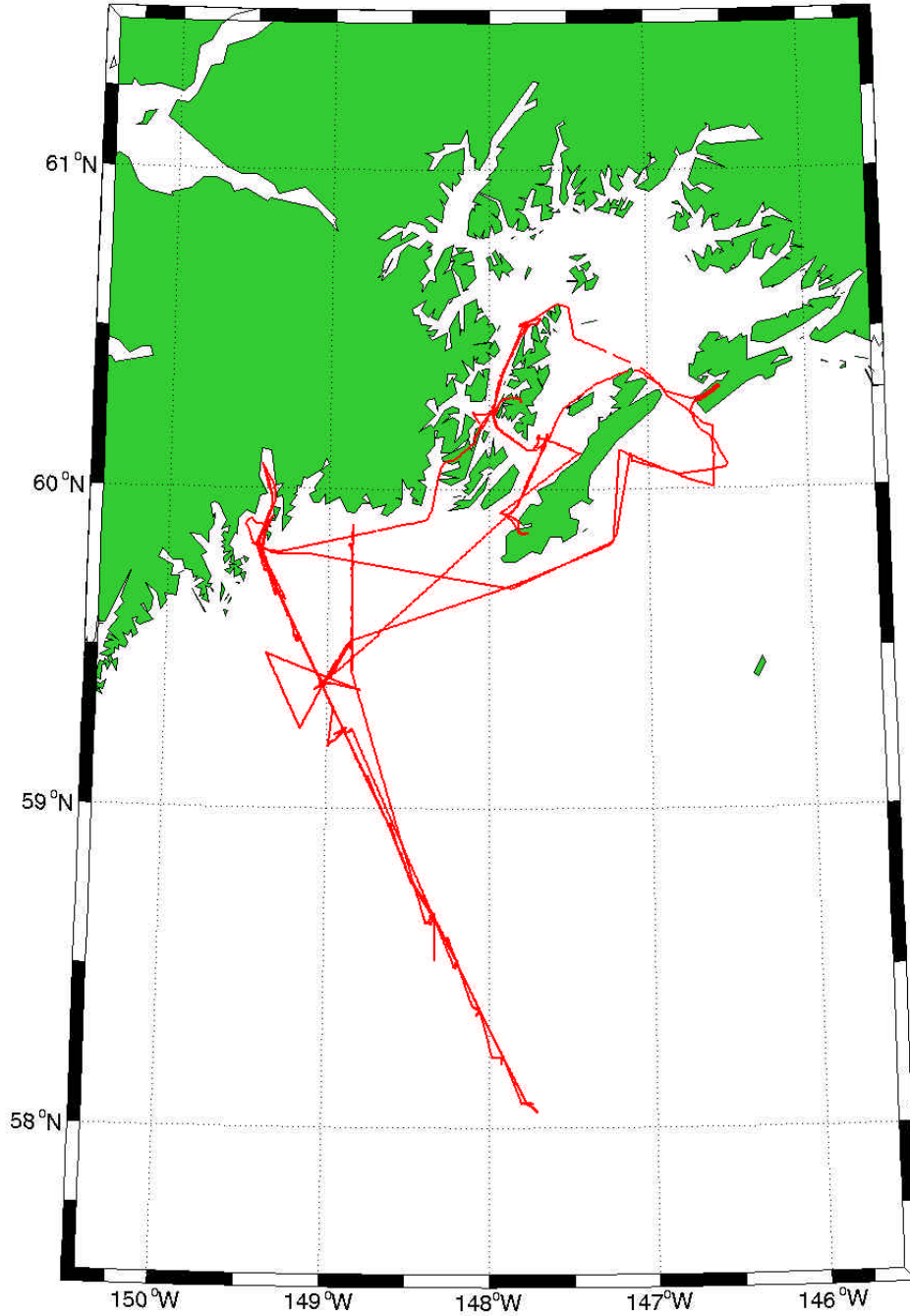
hx239





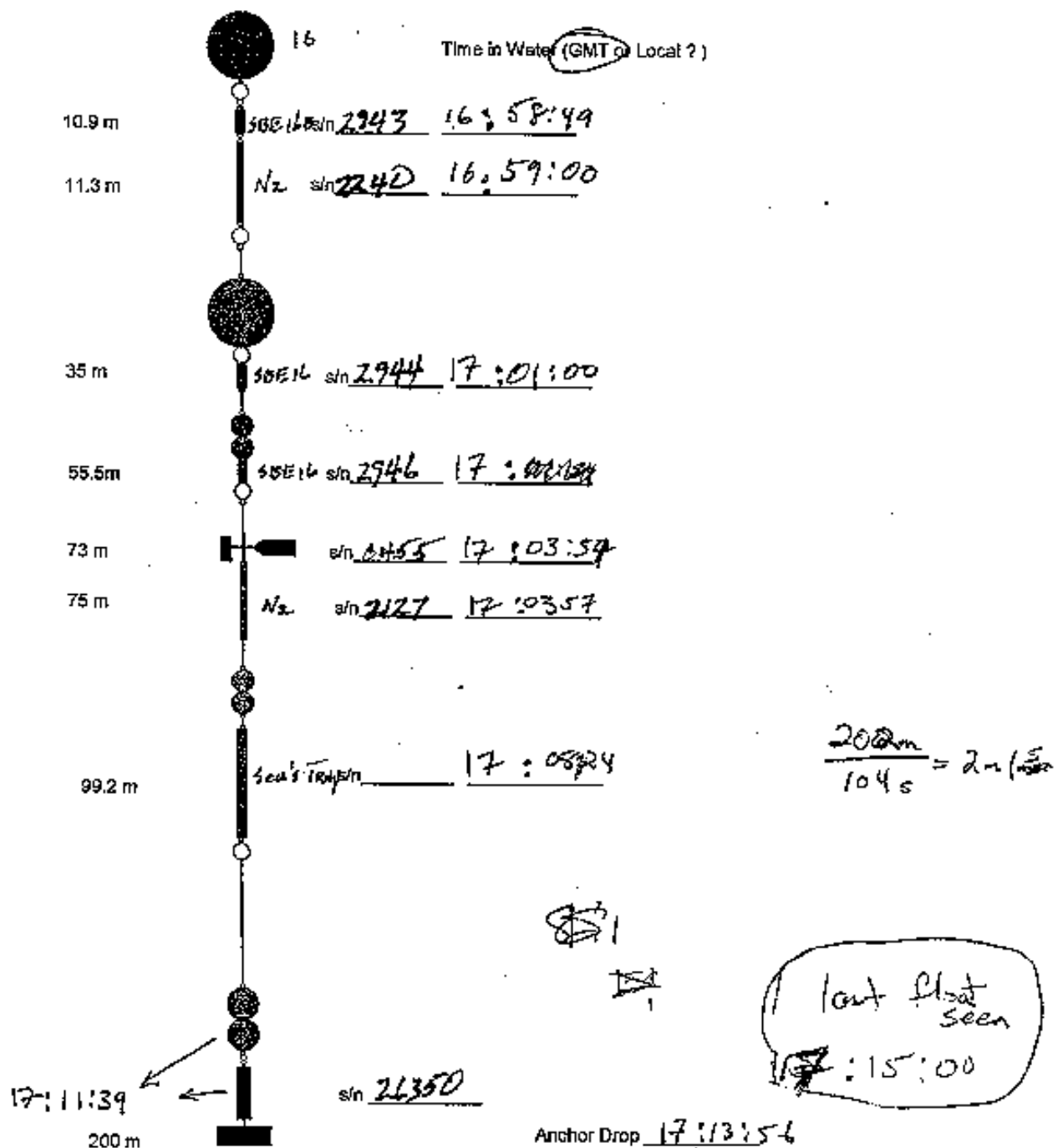
Cruise Track:

hx239



03/03/01

GAK4 Biological Mooring proposed for March 2001 Deployment



Time in Water (GMT or Local ?)

10.9 m SBE 16 stn 2943 16:58:49

11.3 m N2 stn 2942 16:59:00

35 m SBE 16 stn 2944 17:01:00

55.5 m SBE 16 stn 2946 17:02:15

73 m SBE 16 stn 2955 17:03:59

75 m N2 stn 2127 17:03:57

99.2 m Sea's Trapper \_\_\_\_\_ 17:05:24

$\frac{200m}{104s} = 2m/s$

last float seen 17:15:00

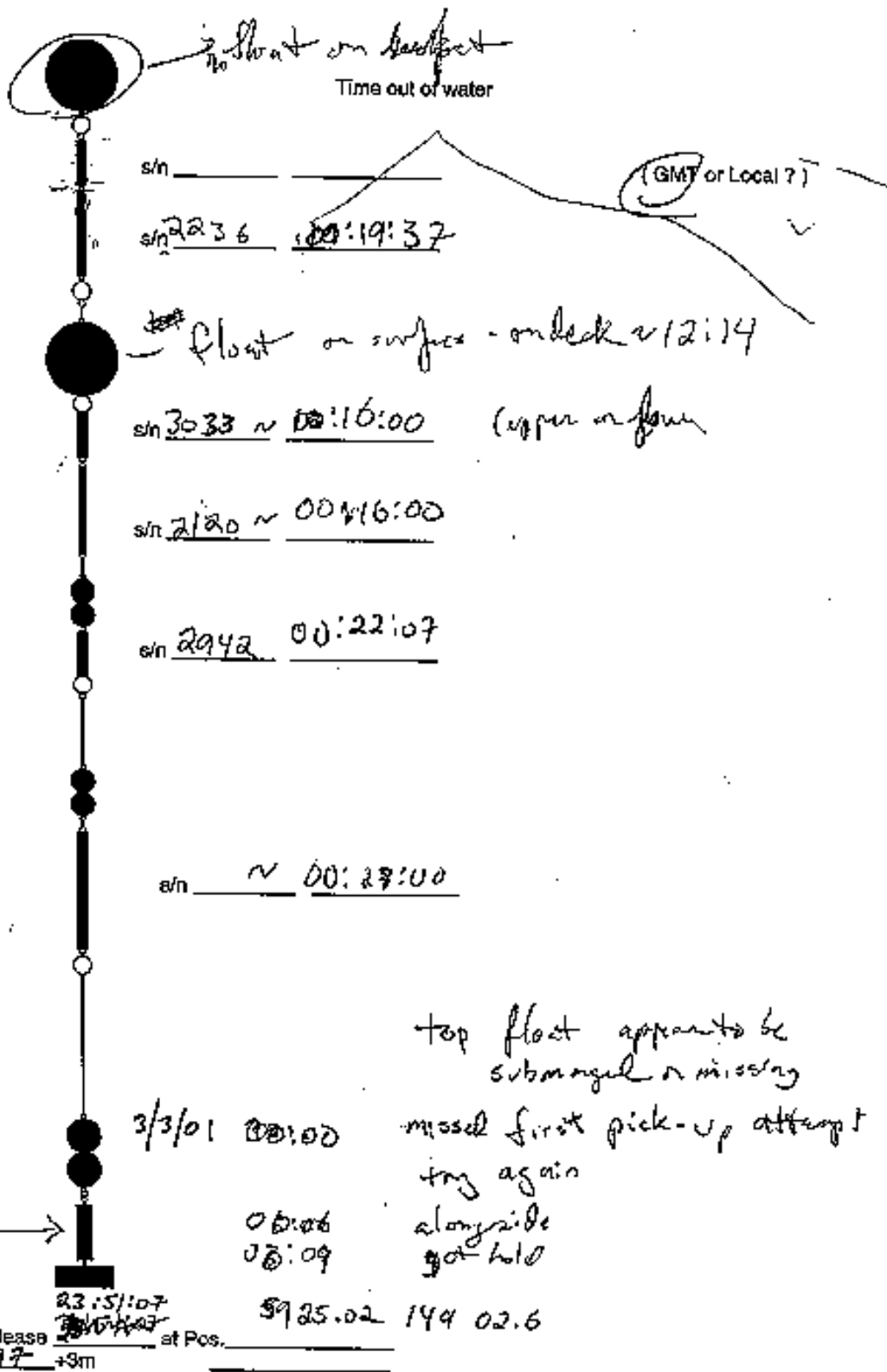
17:11:39

stn 21350

Anchor Drop 17:13:56

Depth 202 Position 59:24.9730 [149 02.140] Transceiver

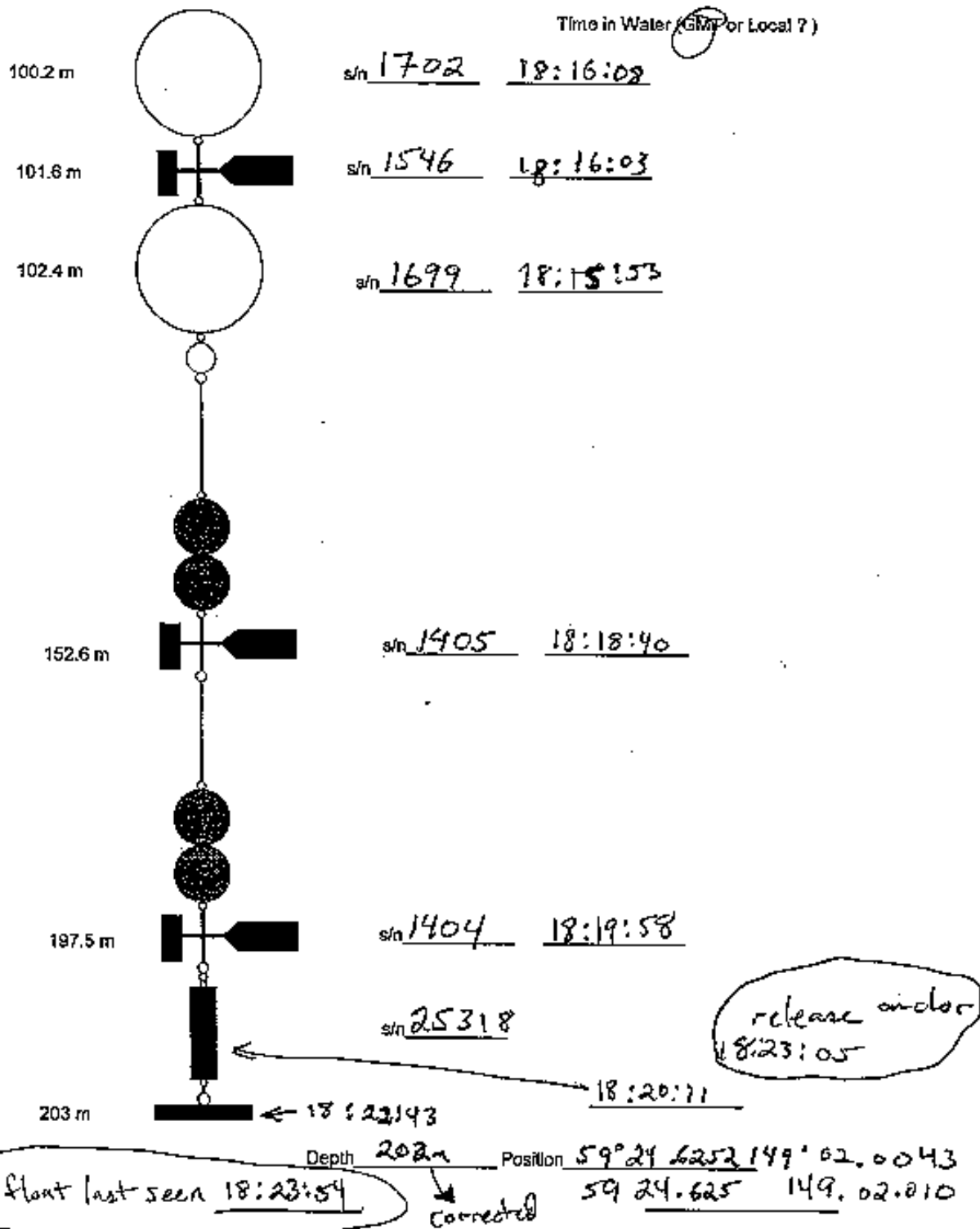
corrected  
59 24.976  
149 02.136



Date 03/03/04

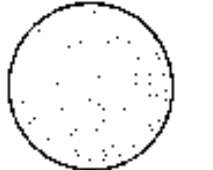
GAK4 Physical Oceanographic Mooring proposed for March 2001 Deployment

Time in Water (GMT or Local ?)



GAK4 Physical Oceanographic Mooring Recovery March 3 2001

Time out of Water (GMT or Local?)



s/n ~~1429~~ 00:52:45



s/n 1429 00:52:45



s/n 1705 00:55:40



s/n 1430 ~ 00:58:50



s/n 1431 ~ 00:02:00



-25319?

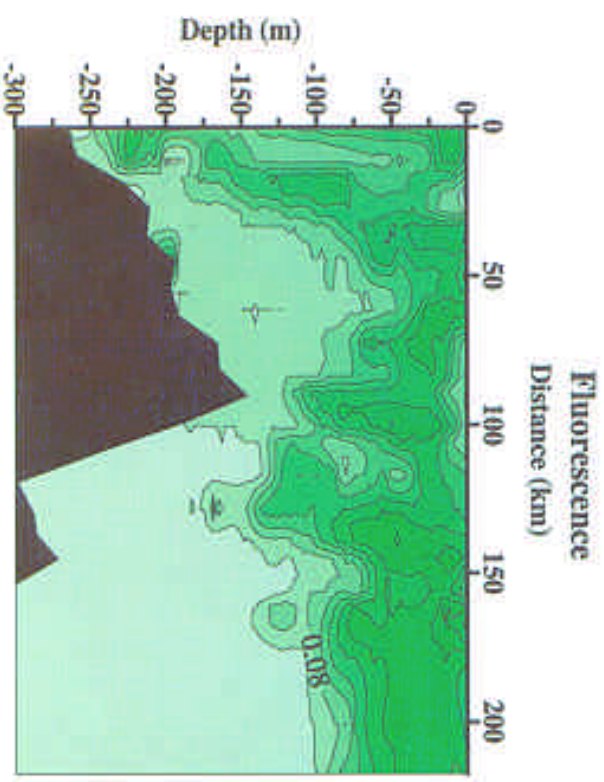
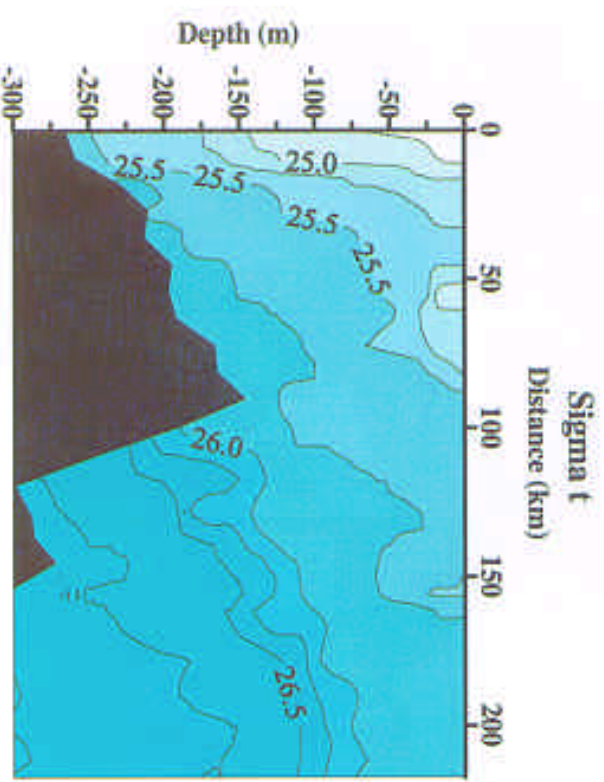
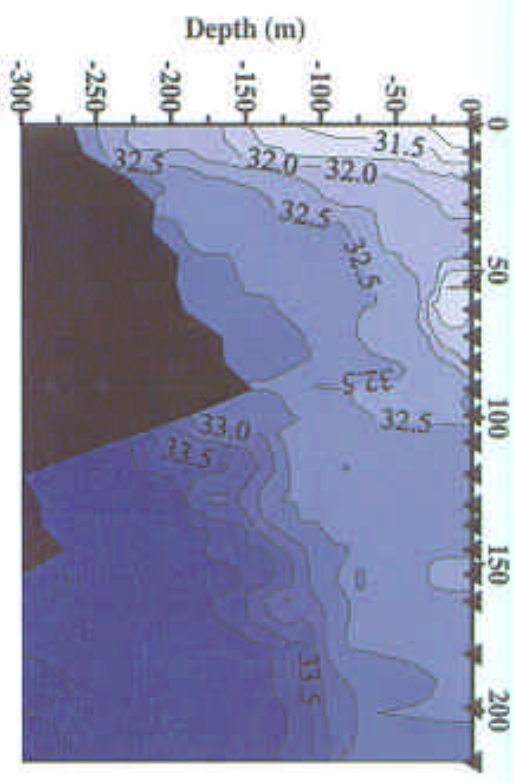
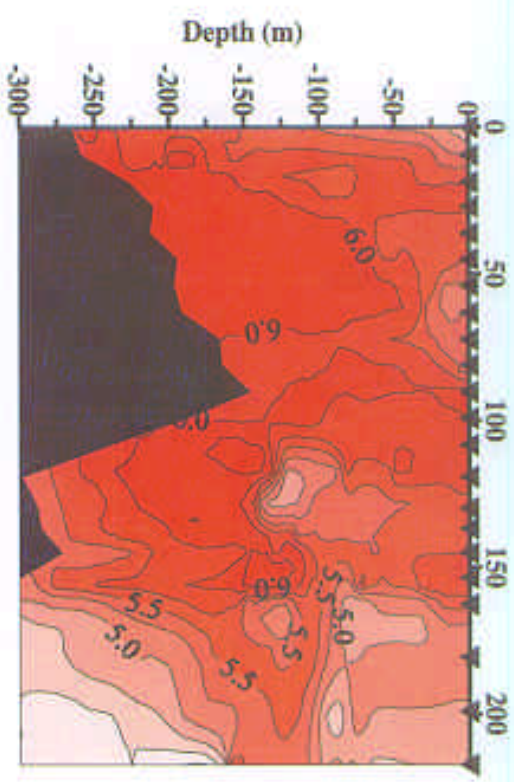
70m away

Time of Release 00:49:00 at Pos. 59 24.4962 149 017659  
 Depth 197 +3m

Secured @ 00:51 1st try.

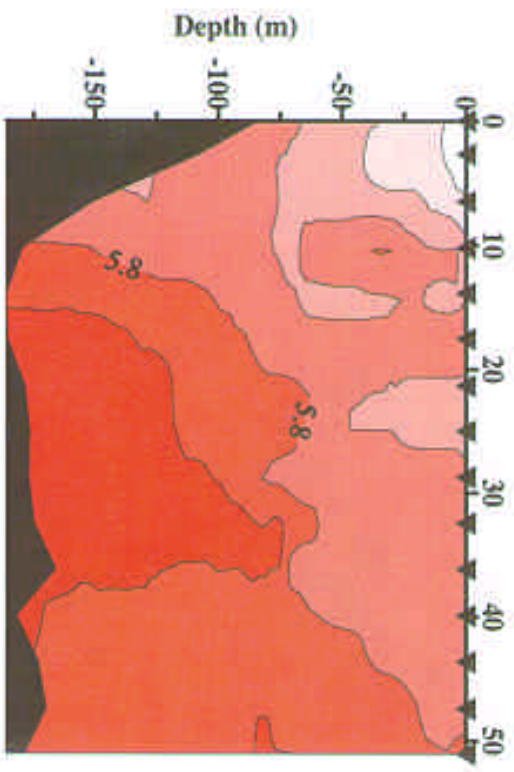
# 3/7 to 3/9 2001 Seward Line Transect

Temperature ( $^{\circ}\text{C}$ )  
Salinity (PSU)  
Sigma t  
Fluorescence

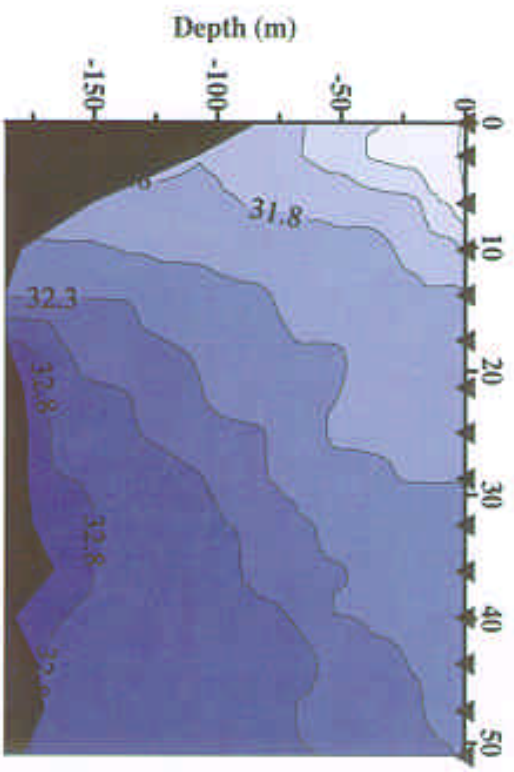


# 3/10/2001 Cape Fairfield Line Transect

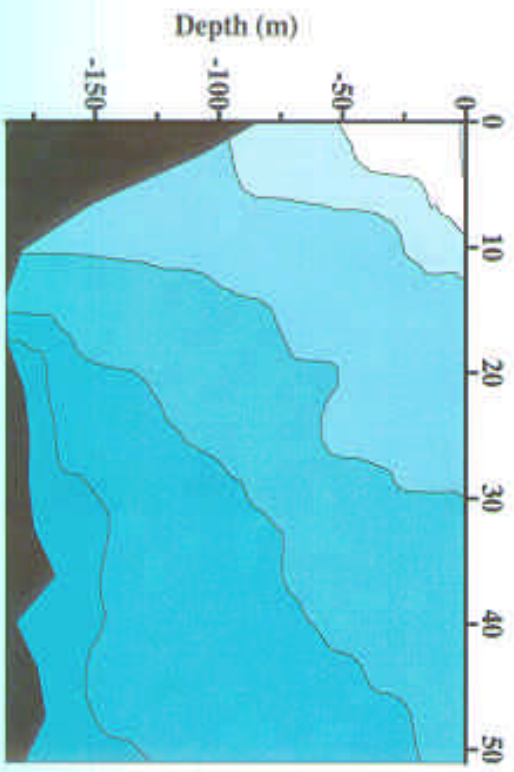
Temperature ( $^{\circ}\text{C}$ )



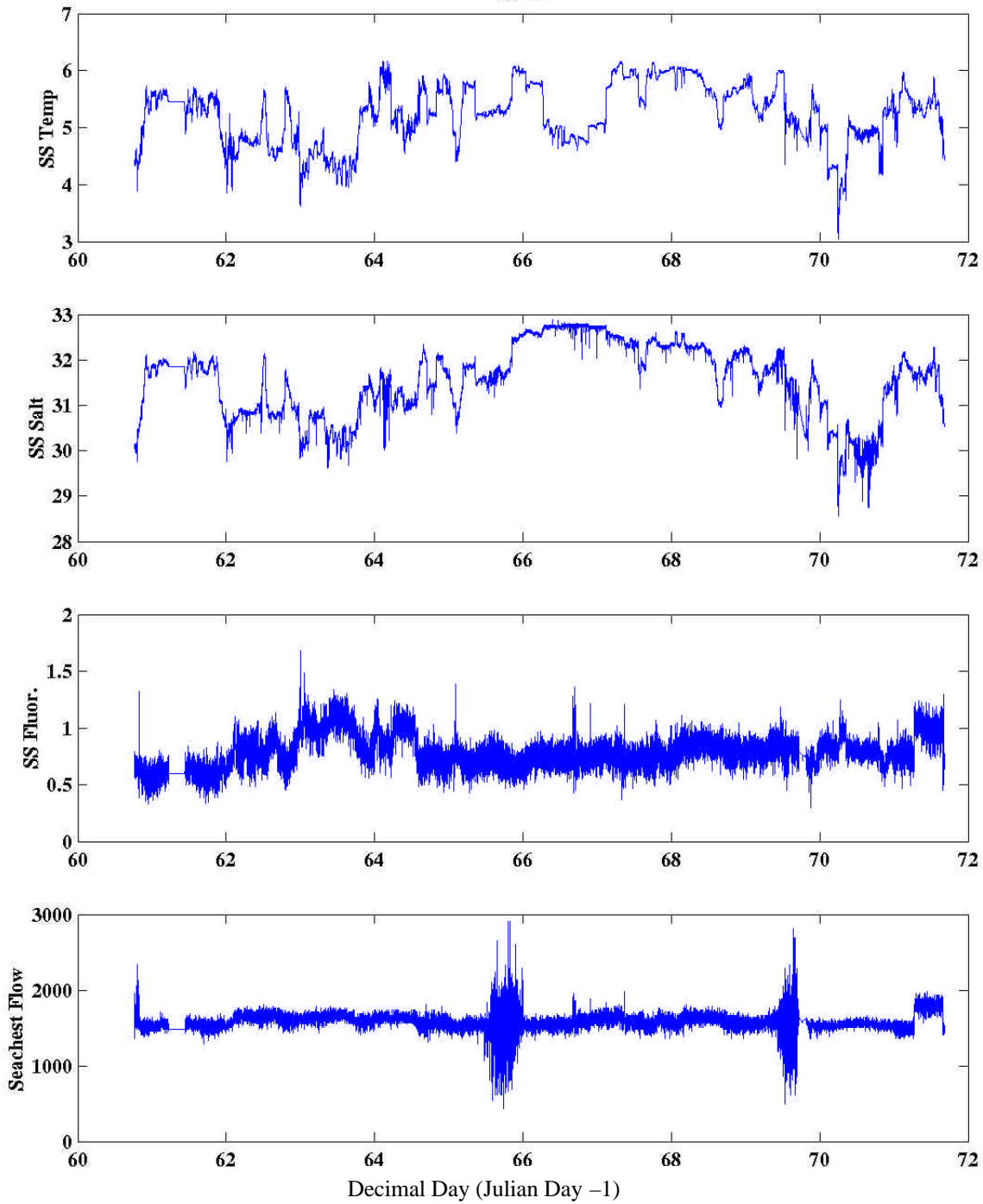
Salinity (PSU)



$\Sigma t$

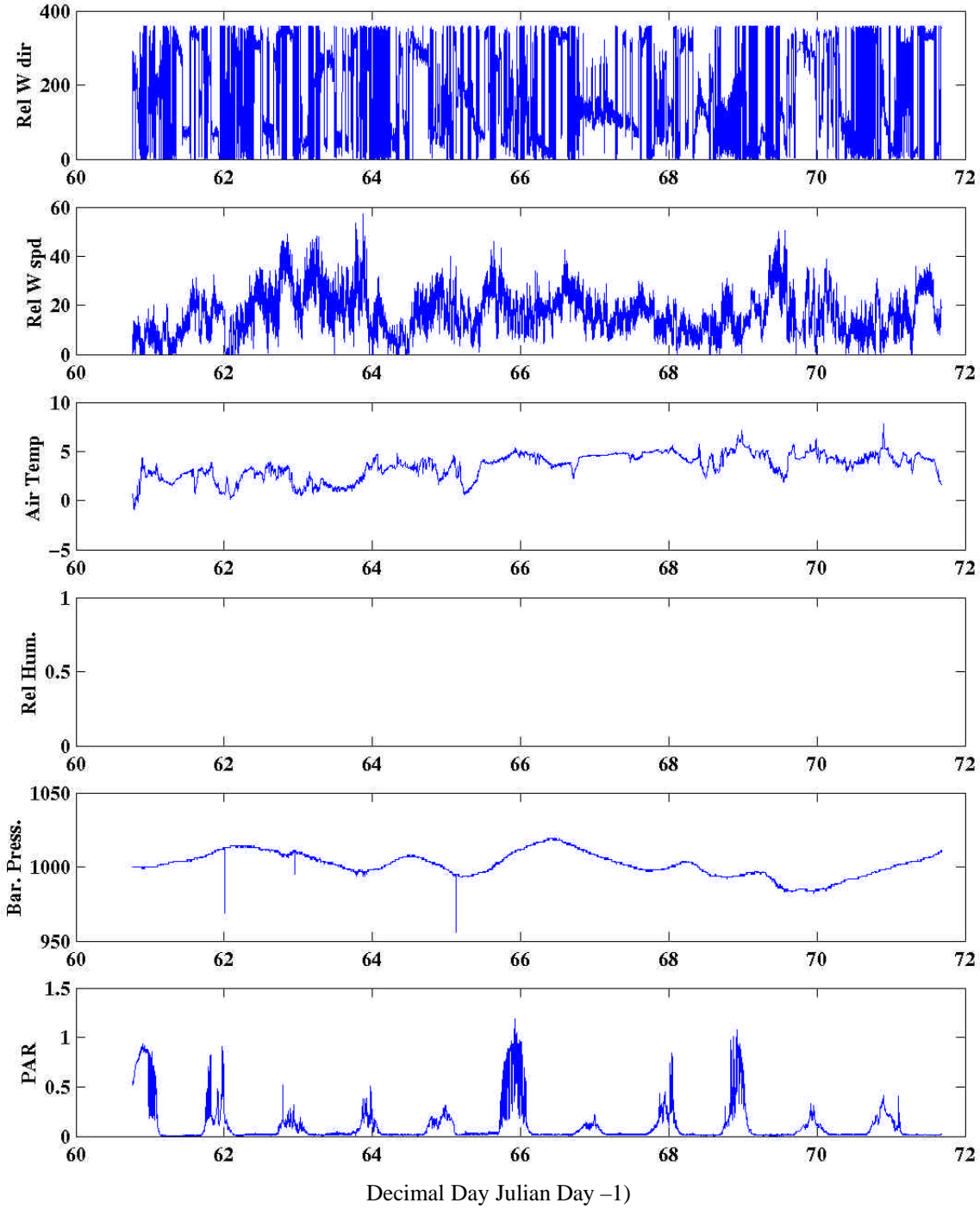


hx239





hx239



## EVENT LOG:

Unless otherwise noted, CTDs were taken for T. Weingartner by S. Danielson and H. Statscewich with water taken for T. Whitlege and D. Stockwell Nutrient and Chlorophyll samples by A. Childers, S. Moreland, and S. Thornton. CalVet samples were taken for K. Coyle and R. Hopcroft by K. Colye, R. Hopcroft, A. Pinchuk, C. Adams and A. Beal HTI and MOCNESS samples were taken for K. Coyle by K. Coyle and C. Adams. Ring Net samples were taken for R. Hopcroft by R. Hopcroft and A. Pinchuk and A. Beal

EVENT Number	Description	Station	Date (GMT)	latitude	longitude	Bottom depth	Comments
HX23906101.001	CTD1	GAK4	3/2/01 23:30	59.408	-149.0459	200	CTD for Henrichs
HX23906101.002	CTD Recovery	GAK4	3/2/2001 23:35	59.4077	-149.0457		
HX23906201.001	CTD2	GAK4	3/3/01 1:34	59.4081	-149.0494	201	CTD for Henrichs
HX23906201.002	CTD Recovery	GAK4	3/3/2001 1:41	59.4079	-149.0491		
HX23906201.003	CTD3	GAK4	3/3/01 18:36	59.4092	-149.0487	201	CTD for Musgrave
HX23906201.004	CTD Recovery	GAK4	3/3/2001 18:42	59.4093	-149.0503		
HX23906301.001	CTD4	RES2.5	3/4/01 2:24	60.025	-149.3576	295	
HX23906301.002	CTD Recovery	RES2.5	3/4/2001 2:34	60.0252	-149.3617		
HX23906301.003	HTI test		3/4/01 3:34	59.905667	-149.4165		
HX23906301.004	CTD5	GAK1	3/4/01 4:15	59.844	-149.4651	271	
HX23906301.005	CTD Recovery	GAK1	3/4/2001 4:24	59.8439	-149.4682		
HX23906301.006	CalVet Net Tow	GAK1	3/4/01 4:36	59.844	-149.4651		
HX23906301.007	CTD6	GAK1	3/4/01 4:51	59.8448	-149.468	271	CTD for Hopcroft
HX23906301.008	CTD Recovery	GAK1	3/4/2001 4:52	59.8447	-149.4683		
HX23906301.009	CalVet Net Tow	GAK1	3/4/01 5:06	59.844167	-149.47417		
HX23906301.010	CTD7	GAK1	3/4/01 5:22	59.8457	-149.4687	272	CTD for Hopcroft
HX23906301.011	CTD Recovery	GAK1	3/4/2001 5:22	59.8457	-149.4691		
HX23906301.012	CTD8	GAK1	3/4/01 5:37	59.8455	-149.4675	272	CTD for Hopcroft
HX23906301.013	CTD Recovery	GAK1	3/4/2001 5:38	59.8456	-149.4679		
HX23906301.014	CTD9	GAK1	3/4/01 5:49	59.8452	-149.4679	272	CTD for Hopcroft
HX23906301.015	CTD Recovery	GAK1	3/4/2001 5:50	59.8452	-149.4683		
HX23906301.016	CTD10	GAK1	3/4/01 5:59	59.8445	-149.4633	272	CTD for Hopcroft
HX23906301.017	CTD Recovery	GAK1	3/4/2001 6:00	59.8445	-149.4636		
HX23906301.018	CTD11	GAK1	3/4/01 6:10	59.8441	-149.468	272	CTD for Hopcroft
HX23906301.019	CTD Recovery	GAK1	3/4/2001 6:10	59.844	-149.4683		

HX23906301.020	CTD12	GAK1	3/4/01 6:22	59.846	-149.4686	272	CTD for Hopcroft
HX23906301.021	CTD Recovery	GAK1	3/4/2001 6:23	59.846	-149.4689		
HX23906301.022	CTD13	GAK1	3/4/01 6:34	59.845	-149.467	272	CTD for Hopcroft
HX23906301.023	CTD Recovery	GAK1	3/4/2001 6:35	59.845	-149.4673		
HX23906301.024	Ring Net Tow	GAK1	3/4/01 6:48	59.8445	-149.31717	272	
HX23906301.025	Ring Net Tow	GAK1	3/4/01 7:03	59.844333	-149.468	272	
HX23906301.026	Ring Net Tow	GAK1	3/4/01 7:21	59.843833	-149.46633	272	
HX23906301.027	HTI	GAK1	3/4/01 7:54	59.845833	-149.49067	272	
HX23906301.028	Deploy MOCNESS	GAK1	3/4/01 8:00	59.846167	-149.48567	272	
HX23906301.029	Recover MOCNESS	GAK1	3/4/01 8:21	59.846	-149.4705	272	
HX23906301.030	Recover HTI	GAK1	3/4/01 8:39	59.845	-149.45517	272	
HX23906301.031	Deploy HTI	GAK1	3/4/01 8:54	59.845167	-149.4675	272	
HX23906301.032	Deploy MOCNESS	GAK1	3/4/01 8:58	59.845	-149.46383	272	
HX23906301.033	Recover MOCNESS	GAK1	3/4/01 9:26	59.841833	-149.44	272	
HX23906301.034	HTI GAK1-GAK2		3/4/01 9:47	0.8421667	-149.46633	272	
HX23906301.035	Recover HTI	GAK2	3/4/01 11:52	59.686167	-149.31717		
HX23906301.036	CTD14	GAK1	3/4/01 17:03	59.8452	-149.4668	272	
HX23906301.037	CTD Recovery	GAK1	3/4/2001 17:07	59.8451	-149.4689		
HX23906301.038	Calvet Net	GAK1	3/4/01 17:16	59.844333	-149.4685	272	CTD for Prim. Prod. Experiment
HX23906301.039	CTD15	GAK1	3/4/01 17:32	59.8445	-149.4713	272	
HX23906301.040	CTD Recovery	GAK1	3/4/2001 17:34	59.8444	-149.4723		
HX23906301.041	Calvet Net	GAK1	3/4/01 17:47	59.8445	-149.46783	272	CTD for Prim. Prod. Experiment
HX23906401.001	CTD16	KIP2	3/5/01 0:49	60.278	-147.9884	568	
HX23906401.002	CTD Recovery	KIP2	3/5/2001 1:06	60.2737	-147.9898		
HX23906401.003	Deploy MOCNESS	PWS2	3/5/01 3:16	60.536	-147.80383	700	
HX23906401.004	Recover MOCNESS	PWS2	3/5/01 4:37	60.538333	-147.722	700	
HX23906401.005	Deploy HTI	PWS2	3/5/01 4:44	60.533667	-147.82033	730	
HX23906401.006	Deploy MOCNESS	PWS2	3/5/01 5:47	60.533833	-147.81733	733	
HX23906401.007	Recover MOCNESS	PWS2	3/5/01 6:24	60.535333	-147.7795	716	
HX23906401.008	Recover HTI	PWS2	3/5/01 6:43	60.535833	-147.76567	700	
HX23906401.009	Deploy HTI	PWS1	3/5/01 8:28	60.374167	-147.9355	319	
HX23906401.010	Deploy MOCNESS	PWS1	3/5/01 8:34	60.377167	-147.93567	319	
HX23906401.011	Recover MOCNESS	PWS1	3/5/01 8:59	60.388833	-147.9295	314	
HX23906401.012	Recover HTI	PWS1	3/5/01 9:16	60.397667	-147.9235	314	
HX23906401.013	Deploy HTI	KIP2	3/5/01 11:45	60.278833	-147.99883	495	
HX23906401.014	Deploy MOCNESS	KIP2	3/5/01 11:48	60.279833	-147.997	495	
HX23906401.015	Recover MOCNESS	KIP2	3/5/01 12:14	60.29	-147.98	591	
HX23906401.016	Recover HTI	KIP2	3/5/01 12:30	60.299	-147.977	540	
HX23906401.017	CTD17	KIP2	3/5/01 17:03	60.2778	-147.987	588	
HX23906401.018	CTD Recovery	KIP2	3/5/2001 17:07	60.2772	-147.9879		
HX23906401.019	CTD18	KIP2	3/5/01 17:17	60.2762	-147.993	550	

HX23906401.020	CTD Recovery	KIP2	3/5/2001 17:20	60.2759	-147.993		
HX23906401.021	CTD19	HB1	3/5/01 19:39	60.1912	-147.7019	245	
HX23906401.022	CTD Recovery	HB1	3/5/2001 19:48	60.188	-147.7075		
HX23906401.023	CTD20	HB2	3/5/01 20:26	60.1796	-147.6418	176	
HX23906401.024	CTD Recovery	HB2	3/5/2001 20:32	60.1782	-147.6451		
HX23906401.025	CTD21	HB3	3/5/01 21:08	60.1651	-147.5777	87	
HX23906401.026	CTD Recovery	HB3	3/5/2001 21:12	60.1648	-147.5811		
HX23906401.027	CTD22	HB4	3/5/01 21:45	60.1492	-147.5049	104	
HX23906401.028	CTD Recovery	HB4	3/5/2001 21:48	60.1487	-147.5066		
HX23906401.029	CTD23	HB5	3/5/01 22:11	60.1336	-147.4479	39	
HX23906401.030	CTD Recovery	HB5	3/5/2001 22:13	60.1336	-147.4489		
HX23906501.001	CTD24	MS1	3/6/01 0:00	59.9532	-147.9303	164	
HX23906501.002	CTD Recovery	MS1	3/6/2001 0:05	59.952	-147.932		
HX23906501.003	CTD25	MS2	3/6/01 0:32	59.9434	-147.8974	190	
HX23906501.004	CTD Recovery	MS2	3/6/2001 0:37	59.9417	-147.8984		
HX23906501.005	CTD26	MS3	3/6/01 1:00	59.9312	-147.8577	165	
HX23906501.006	CTD Recovery	MS3	3/6/2001 1:06	59.9304	-147.8599		
HX23906501.007	CTD27	MS4	3/6/01 1:26	59.9198	-147.8293	108	
HX23906501.008	CTD Recovery	MS4	3/6/2001 1:29	59.9192	-147.8307		
HX23906501.009	Deploy HTI	MS2	3/6/2001 5:29	59.93933	-147.907	179	
HX23906501.010	Deploy MOCNESS	MS2	3/6/01 5:37	60.170833	-147.669	243	
HX23906501.011	Recover MOCNESS	MS2	3/6/01 6:02	60.157833	-147.678	235	
HX23906501.012	Recover HTI	MS2	3/6/01 6:17	59.95433	-147.867		
HX23906501.013	Deploy HTI	HB2	3/6/01 7:51	60.1756	-147.6607		
HX23906501.014	Deploy MOCNESS	HB2	3/6/01 7:54	60.170833	-147.669	243	
HX23906501.015	Recover MOCNESS	HB2	3/6/01 8:21	60.157833	-147.678	235	
HX23906501.016	Recover HTI	HB2	3/6/01 8:36	60.193	-147.65517		
HX23906501.017	Deploy MOCNESS	HB1	3/6/01 9:11	60.170833	-147.669	243	
HX23906501.018	Recover MOCNESS	HB1	3/6/01 9:35	60.157833	-147.678	235	
HX23906501.019	CTD28	RUSS1	3/6/01 10:03	60.1486	-147.687	236	CTD for Hopcroft
HX23906501.020	CTD Recovery	RUSS1	3/6/2001 10:04	60.1485	-147.6871		
HX23906501.021	CTD29	RUSS2	3/6/01 10:13	60.1473	-147.6884	236	CTD for Hopcroft
HX23906501.022	CTD Recovery	RUSS2	3/6/2001 10:14	60.1472	-147.6885		
HX23906501.023	CTD30	RUSS3	3/6/01 10:27	60.1456	-147.6896	236	CTD for Hopcroft
HX23906501.024	CTD Recovery	RUSS3	3/6/2001 10:28	60.1455	-147.6896		
HX23906501.025	CTD31	RUSS4	3/6/01 10:41	60.1438	-147.6906	236	CTD for Hopcroft
HX23906501.026	CTD Recovery	RUSS4	3/6/2001 10:42	60.1437	-147.6907		
HX23906501.027	CTD32	RUSS5	3/6/01 10:52	60.1422	-147.6906	222	CTD for Hopcroft
HX23906501.028	CTD Recovery	RUSS5	3/6/2001 10:53	60.142	-147.6906		
HX23906501.029	Ring Net Tow	HB1	3/6/01 11:02	60.140667	147.690833	221	

HX23906501.030	CTD33	RUSS6	3/6/01 11:17	60.1383	-147.6918	218	CTD for Hopcroft
HX23906501.031	CTD Recovery	RUSS6	3/6/2001 11:18	60.1382	-147.6918		
HX23906501.032	CTD34	RUSS7	3/6/01 11:29	60.1367	-147.6924	220	CTD for Hopcroft
HX23906501.033	CTD Recovery	RUSS7	3/6/2001 11:30	60.1366	-147.6925		
HX23906501.034	Ring Net Tow	HB1	3/6/01 11:39	60.135667	147.693	207	
HX23906501.035	CTD35	GAK4	3/6/01 18:13	59.4088	-149.0493	201	
HX23906501.036	CTD Recovery	GAK4	3/6/2001 18:21	59.4099	-149.0518		
HX23906501.037	Calvet Net Tow	GAK4	3/6/01 18:32	59.4115	149.057	202	
HX23906501.038	CTD36	GAK4	3/6/01 18:49	59.409	-149.0484	202	
HX23906501.039	CTD Recovery	GAK4	3/6/2001 18:51	59.4092	-149.0491		
HX23906501.040	Calvet Net Tow	GAK4	3/6/01 18:56	59.41	149.0495	202	
HX23906501.041	CTD37	GAK4	3/6/01 19:08	59.4104	-149.0513	202	
HX23906501.042	CTD Recovery	GAK4	3/6/2001 19:10	59.4105	-149.0519		
HX23906501.043	CTD38	GAK3I	3/6/01 20:09	59.4819	-149.1193	207	
HX23906501.044	CTD Recovery	GAK3I	3/6/2001 20:15	59.4807	-149.1211		
HX23906501.045	Calvet Net Tow	GAK3	3/6/01 21:09	59.552667	149.190667	217	
HX23906501.046	CTD39	GAK3	3/6/01 21:19	59.5505	-149.198	216	
HX23906501.047	CTD Recovery	GAK3	3/6/2001 21:26	59.5484	-149.2007		
HX23906501.048	Calvet Net Tow	GAK3	3/6/01 21:38	59.544667	149.203667	217	
HX23906501.049	CTD40	GAK2I	3/6/01 22:26	59.6254	-149.2634	215	
HX23906501.050	CTD Recovery	GAK2I	3/6/2001 22:34	59.6237	-149.2664		
HX23906501.051	Calvet Net Tow	GAK2	3/6/01 23:19	59.690833	149.329333	217	
HX23906501.052	CTD41	GAK2	3/6/01 23:32	59.6902	-149.3361	232	
HX23906501.053	CTD Recovery	GAK2	3/6/2001 23:38	59.6895	-149.3387		
HX23906501.054	Calvet Net Tow	GAK2	3/6/01 23:48	59.688667	149.341167	215	
HX23906601.001	CTD42	GAK1I	3/7/01 0:36	59.7659	-149.4008	260	
HX23906601.002	CTD Recovery	GAK1I	3/7/2001 0:44	59.7641	-149.4063		
HX23906601.003	CTD43	GAK1	3/7/01 1:33	59.8444	-149.4694	268	
HX23906601.004	CTD Recovery	GAK1	3/7/2001 1:42	59.8435	-149.473		
HX23906601.005	Deploy HTI	GAK2	3/7/01 4:43	59.693	-149.32833	229	
HX23906601.006	Deploy MOCNESS	GAK2	3/7/01 4:48	59.693167	-149.33233	22	
HX23906601.007	Recover MOCNESS	GAK2	3/7/01 5:16	59.700333	-149.35633	242	
HX23906601.008	Deploy MOCNESS	GAK3	3/7/01 7:11	59.554	-149.19233	217	
HX23906601.009	Recover MOCNESS	GAK3	3/7/01 7:43	59.560667	-149.223	221	
HX23906601.010	Deploy MOCNESS	GAK4	3/7/01 9:42	59.406667	-149.052	202	
HX23906601.011	Recover MOCNESS	GAK4	3/7/01 10:15	59.396333	-149.08483	207	
HX23906601.012	Deploy MOCNESS	GAK5	3/7/01 12:22	59.261667	-148.90883	168	
HX23906601.013	Recover MOCNESS	GAK5	3/7/01 12:57	59.2585	-148.93617	177	
HX23906601.014	Recover HTI	GAK5	3/7/01 13:06	59.2575	-148.94483	180	
HX23906601.015	CTD44	GAK4I	3/7/01 16:51	59.3353	-148.9756	197	
HX23906601.016	CTD Recovery	GAK4I	3/7/2001 16:57	59.3366	-148.9745		
HX23906601.017	CalVet	GAK5	3/7/01 18:47	59.260667	-148.906	170	
HX23906601.018	CTD45	GAK5	3/7/01 18:58	59.2616	-148.9039	170	
HX23906601.019	CTD Recovery	GAK5	3/7/2001 19:04	59.2627	-148.9036		

HX23906601.020	CalVet	GAK5	3/7/01 19:13	59.263	-148.901	170
HX23906601.021	CTD46	GAK5I	3/7/01 19:58	59.1907	-148.8389	169
HX23906601.022	CTD Recovery	GAK5I	3/7/2001 20:03	59.191	-148.838	
HX23906601.023	CalVet	GAK6	3/7/01 20:51	59.117333	-148.76817	152
HX23906601.024	CTD47	GAK6	3/7/01 21:03	59.1187	-148.7655	151
HX23906601.025	CTD Recovery	GAK6	3/7/2001 21:08	59.1195	-148.7655	
HX23906601.026	CalVet	GAK6	3/7/01 21:18	59.120667	-148.764	151
HX23906601.027	Ring Net	GAK6	3/7/01 21:27	59.120833	-148.76133	150
HX23906601.028	CTD48	GAK6I	3/7/01 22:09	59.0458	-148.698	193
HX23906601.029	CTD Recovery	GAK6I	3/7/2001 22:16	59.0466	-148.6972	
HX23906601.030	CalVet	GAK7	3/7/01 23:02	58.972833	-148.62817	241
HX23906601.031	CTD49	GAK7	3/7/01 23:12	58.9733	-148.6239	242
HX23906601.032	CTD Recovery	GAK7	3/7/2001 23:19	58.9739	-148.6226	
HX23906601.033	CalVet	GAK7	3/7/01 23:31	58.974	-148.62067	280
HX23906701.001	CTD50	GAK7I	3/8/01 0:17	58.8817	-148.5574	300
HX23906701.002	CTD Recovery	GAK7I	3/8/2001 0:27	58.8815	-148.5553	
HX23906701.003	CalVet	GAK8	3/8/01 1:18	58.791667	-148.49083	289
HX23906701.004	CTD51	GAK8	3/8/01 1:27	58.7926	-148.4904	292
HX23906701.005	CTD Recovery	GAK8	3/8/2001 1:37	58.7935	-148.4902	
HX23906701.006	CalVet	GAK8	3/8/01 1:49	58.793833	-148.4905	290
HX23906701.007	CTD52	GAK8I	3/8/01 2:27	58.7436	-148.4189	288
HX23906701.008	CTD Recovery	GAK8I	3/8/2001 2:36	58.7433	-148.4192	
HX23906701.009	CalVet	GAK9	3/8/01 3:14	58.678833	-148.3515	275
HX23906701.010	CTD53	GAK9	3/8/01 3:27	58.677	-148.355	275
HX23906701.011	CTD Recovery	GAK9	3/8/2001 3:35	58.6759	-148.3561	
HX23906701.012	CalVet	GAK9	3/8/01 3:45	58.6735	-148.358	275
HX23906701.013	Deploy HTI	GAK9	3/8/01 4:27	58.685333	-148.35117	278
HX23906701.014	Deploy MOCNESS	GAK9	3/8/01 4:31	58.682833	-148.35217	278
HX23906701.015	Recover MOCNESS	GAK9	3/8/01 4:58	58.662	-148.37133	264
HX23906701.016	Deploy MOCNESS	GAK10	3/8/01 7:02	58.540167	-148.214	
HX23906701.017	Recover MOCNESS	GAK10	3/8/01 7:25	58.5265	-148.23333	
HX23906701.018	Deploy MOCNESS	GAK11	3/8/01 9:41	58.3865	-148.0735	1433
HX23906701.019	Recover MOCNESS	GAK11	3/8/01 10:03	58.377333	-148.0905	1428
HX23906701.020	Deploy MOCNESS	GAK12	3/8/01 12:25	58.241	-147.93483	
HX23906701.021	Recover MOCNESS	GAK12	3/8/01 13:00	58.224167	-147.94517	
HX23906701.022	Deploy MOCNESS	GAK13	3/8/01 15:23	58.100833	-147.7885	
HX23906701.023	Recover MOCNESS	GAK13	3/8/01 15:52	58.097667	-147.76117	
HX23906701.024	Recover HTI	GAK13	3/8/01 16:09	58.165	-147.77833	
HX23906701.025	Deploy MOCNESS	GAK13	3/8/01 16:20	58.096833	-147.79133	
HX23906701.026	Recover MOCNESS	GAK13	3/8/01 17:35	58.073	-147.73317	
HX23906701.027	CTD54	GAK13	3/8/01 18:03	58.0987	-147.7926	2094
HX23906701.028	CTD Recovery	GAK13	3/8/2001 18:06	58.0986	-147.7937	
HX23906701.029	Calvet	GAK13	3/8/01 18:15	58.099167	-147.81133	
HX23906701.030	CTD55	GAK13	3/8/01 18:37	58.0998	-147.802	2094

CTD for Prim.  
Prod.  
Experiment

HX23906701.031	CTD Recovery	GAK13	3/8/2001 18:37	58.0998	-147.802		
HX23906701.032	Calvet	GAK13	3/8/01 18:44	58.100667	-147.80233		
HX23906701.033	CTD56	GAK13	3/8/01 19:00	58.0988	-147.7939	2094	
HX23906701.034	CTD Recovery	GAK13	3/8/2001 19:36	58.0993	-147.8102		
HX23906701.035	CalVet	GAK12	3/8/01 21:27	58.243333	-147.93483		
HX23906701.036	CTD57	GAK12	3/8/01 21:37	58.2435	-147.9405	2173	
HX23906701.037	CTD Recovery	GAK12	3/8/2001 22:18	58.242	-147.9662		
HX23906701.038	CalVet	GAK12	3/8/01 23:00	58.242667	-147.994		
HX23906801.001	CalVet	GAK11	3/9/01 0:09	58.389167	-148.0745	1430	
HX23906801.002	CTD58	GAK11	3/9/01 0:18	58.3914	-148.0778	1429	
HX23906801.003	CTD Recovery	GAK11	3/9/2001 0:57	58.3957	-148.0972		
HX23906801.004	CalVet	GAK11	3/9/01 1:40	58.399833	-148.1145	1390	
HX23906801.005	CalVet	GAK10	3/9/01 2:55	58.540167	-148.2125		
HX23906801.006	CTD59	GAK10	3/9/01 3:06	58.5369	-148.2126	1487	
HX23906801.007	CTD Recovery	GAK10	3/9/2001 3:31	58.5288	-148.2168		
HX23906801.008	CalVet	GAK10	3/9/01 3:56	58.523833	-148.22317		
HX23906801.009	Deploy HTI	GAK9	3/9/01 5:10	58.671833	-148.344		
HX23906801.010	Deploy MOCNESS	GAK8	3/9/01 6:46	58.789167	-148.4895		
HX23906801.011	Recover MOCNESS	GAK8	3/9/01 7:18	58.7825	-148.47117		
HX23906801.012	Deploy MOCNESS	GAK7	3/9/01 9:13	58.9715	-148.633	243	
HX23906801.013	Recover MOCNESS	GAK7	3/9/01 9:42	58.969	-148.628	247	
HX23906801.014	Deploy MOCNESS	GAK6	3/9/01 11:36	58.115333	-148.771	163	
HX23906801.015	Recover MOCNESS	GAK6	3/9/01 12:09	58.099167	-148.75133	163	
HX23906801.016	Deploy MOCNESS	GAK5	3/9/01 14:23	58.260667	-148.9085	167	
HX23906801.017	Recover MOCNESS	GAK5	3/9/01 14:52	58.260833	-148.87667	158	
HX23906801.018	Recover HTI	GAK5	3/9/01 15:09	58.267333	-148.86267	155	
HX23906801.019	Ring Net	GAK9	3/9/01 19:16	58.6795	-148.353	283	
HX23906801.020	CTD60	GAK9	3/9/01 19:39	58.6816	-148.3567	280	
HX23906801.021	CTD Recovery	GAK9	3/9/2001 19:52	58.6846	-148.3687		
HX23906801.022	CTD61	GAK9	3/9/01 20:15	58.6805	-148.3523	280	
HX23906801.023	CTD Recovery	GAK9	3/9/2001 20:19	58.6815	-148.355		
HX23906801.024	CTD62	GAK9	3/9/01 20:58	58.6805	-148.3522	280	CTD for Hopcroft
HX23906801.025	CTD Recovery	GAK9	3/9/2001 21:00	58.681	-148.3531		
HX23906801.026	CTD63	GAK9	3/9/01 21:20	58.6807	-148.3516	280	CTD for Hopcroft
HX23906801.027	CTD Recovery	GAK9	3/9/2001 21:21	58.6814	-148.3522		
HX23906801.028	CTD64	GAK9	3/9/01 21:37	58.6813	-148.3506	282	CTD for Hopcroft
HX23906801.029	CTD Recovery	GAK9	3/9/2001 21:37	58.6815	-148.3508		
HX23906801.030	CTD65	GAK9	3/9/01 21:52	58.6813	-148.3509	280	CTD for Hopcroft
HX23906801.031	CTD Recovery	GAK9	3/9/2001 21:53	58.6816	-148.351		
HX23906801.032	CTD66	GAK9	3/9/01 22:08	58.681	-148.3498	280	CTD for Hopcroft
HX23906801.033	CTD Recovery	GAK9	3/9/2001 22:09	58.6814	-148.3499		

HX23906801.034	Ring Net	GAK9	3/9/01 22:30	58.6805	-148.34933	282	
HX23906801.035	Ring Net	GAK9	3/9/01 22:49	58.683	-148.351	283	
HX23906801.036	Ring Net	GAK9	3/9/01 22:59	58.6845	-148.352	283	
HX23906801.037	CTD68	GAK9I	3/9/01 23:48	58.6121	-148.2785	682	
HX23906901.001	CTD Recovery	GAK9I	3/10/2001 0:13	58.616	-148.2773		
HX23906901.002	Deploy HTI	GAK9	3/10/01 5:23	58.689167	-148.36	278	
HX23906901.003	Deploy MOCNESS	GAK9	3/10/01 5:34	58.687	-148.36767	278	
HX23906901.004	Recover MOCNESS	GAK9	3/10/01 6:01	58.6695	-148.381	268	
HX23906901.005	Recover HTI	GAK9	3/10/01 6:10	58.6635	-148.386	262	
HX23906901.006	CTD69	ALX1	3/10/01 6:20	58.665	-148.4	268	CTD for Pinchuk
HX23906901.007	CTD Recovery	ALX1	3/10/2001 6:21	58.6649	-148.4007		
HX23906901.008	ADCP Transect CF line	CF15-CF1	3/10/01 11:00	59.450667	-148.8675		
HX23906901.009	CTD70	CF1	3/10/01 15:39	59.9076	-148.866	86	
HX23906901.010	CTD Recovery	CF1	3/10/2001 15:42	59.9075	-148.8663		
HX23906901.011	CTD71	CF2	3/10/01 16:00	59.8837	-148.867	115	No Niskens tripped
HX23906901.012	CTD Recovery	CF2	3/10/2001 16:05	59.8846	-148.8705		
HX23906901.013	CTD72	CF3	3/10/01 16:26	59.8497	-148.8688	159	
HX23906901.014	CTD Recovery	CF3	3/10/2001 16:32	59.8491	-148.8766		
HX23906901.015	CTD73	CF4	3/10/01 16:56	59.8162	-148.8667	182	No Niskens tripped
HX23906901.016	CTD Recovery	CF4	3/10/2001 17:02	59.8161	-148.8675		
HX23906901.017	CTD74	CF5	3/10/01 17:22	59.7833	-148.8673	191	
HX23906901.018	CTD Recovery	CF5	3/10/2001 17:29	59.784	-148.8692		
HX23906901.019	CTD75	CF6	3/10/01 17:56	59.7506	-148.8678	191	No Niskens tripped
HX23906901.020	CTD Recovery	CF6	3/10/2001 18:03	59.751	-148.8708		
HX23906901.021	CTD76	CF7	3/10/01 18:25	59.7167	-148.8666	183	
HX23906901.022	CTD Recovery	CF7	3/10/2001 18:31	59.7176	-148.8677		
HX23906901.023	CTD77	CF8	3/10/01 18:56	59.6843	-148.8672	181	No Niskens tripped
HX23906901.024	CTD Recovery	CF8	3/10/2001 19:03	59.6855	-148.8681		
HX23906901.025	CTD78	CF9	3/10/01 19:29	59.6507	-148.8679	180	
HX23906901.026	CTD Recovery	CF9	3/10/2001 19:35	59.6514	-148.8699		
HX23906901.027	CTD79	CF10	3/10/01 20:07	59.6177	-148.8686	180	No Niskens tripped
HX23906901.028	CTD Recovery	CF10	3/10/2001 20:13	59.6186	-148.8694		
HX23906901.029	CTD80	CF11	3/10/01 20:45	59.5844	-148.8681	180	
HX23906901.030	CTD Recovery	CF11	3/10/2001 20:46	59.5844	-148.8682		
HX23906901.031	CTD81	CF11	3/10/01 20:46	59.5844	-148.8681	180	Re-plumb, test CTD C2
HX23906901.032	CTD Recovery	CF11	3/10/2001 20:46	59.5844	-148.8682		
HX23906901.033	CTD82	CF12	3/10/01 21:20	59.551	-148.8655	185	No Niskens tripped
HX23906901.034	CTD Recovery	CF12	3/10/2001 21:26	59.5515	-148.8664		



HX23906901.035	CTD83	CF13	3/10/01 22:09	59.5177	-148.866	175
HX23906901.036	CTD Recovery	CF13	3/10/2001 22:15	59.519	-148.8664	
HX23906901.037	CTD84	CF14	3/10/01 22:53	59.4838	-148.8657	172
HX23906901.038	CTD Recovery	CF14	3/10/2001 22:58	59.4842	-148.8665	
HX23906901.039	CTD85	CF15	3/10/01 23:24	59.4512	-148.8649	184
HX23906901.040	CTD Recovery	CF15	3/10/2001 23:30	59.453	-148.8644	
HX23907001.001	Deploy HTI	HE11	3/11/01 7:22	178.03333	-147.13083	220
HX23907001.002	Deploy MOCNESS	HE11	3/11/01 7:26	60.131	-147.13	220
HX23907001.003	Recover MOCNESS	HE11	3/11/01 7:52	60.123333	-147.1215	220
HX23907001.004	Recover HTI	HE11	3/11/01 8:08	60.112833	-147.12333	214
HX23907001.005	Deploy HTI	HE8	3/11/01 8:59	60.075	-146.8735	
HX23907001.006	Deploy MOCNESS	HE8	3/11/01 9:05	60.075	-146.87133	110
HX23907001.007	Recover MOCNESS	HE8	3/11/01 9:31	60.0705	-146.8495	110
HX23907001.008	Recover HTI	HE8	3/11/01 9:49	60.068167	-146.83633	110
HX23907101.001	CTD86	PWS2	3/12/2001 0:51	60.5339	-147.8007	747
HX23907101.002	CTD Recovery	PWS2	3/12/2001 1:08	60.5341	-147.7941	
HX23907101.003	Ring Net	PWS2	3/12/01 1:30	60.536333	-147.7885	726
HX23907101.004	CTD87	PWS2	3/12/2001 1:45	60.537	-147.7834	732
HX23907101.005	CTD Recovery	PWS2	3/12/2001 1:46	60.5371	-147.7832	
HX23907101.006	Calvet	PWS2	3/12/01 1:52	60.537833	-147.78267	723
HX23907101.007	Calvet	PWS2	3/12/01 2:05	60.538167	-147.77833	723
HX23907101.008	Calvet	PWS1	3/12/01 2:40	60.3785	-147.93817	352
HX23907101.009	CTD88	PWS1	3/12/2001 3:26	60.3787	-147.9383	356
HX23907101.010	CTD Recovery	PWS1	3/12/2001 3:35	60.3788	-147.9415	
HX23907101.011	Calvet	PWS1	3/12/01 3:48	60.378833	-147.93617	342
HX23907101.012	Calvet	KIP2	3/12/01 4:34	60.277833	-147.98783	571
HX23907101.013	CTD89	KIP2	3/12/2001 4:44	60.2772	-147.9873	588
HX23907101.014	CTD Recovery	KIP2	3/12/2001 4:58	60.276	-147.9885	
HX23907101.015	Calvet	KIP2	3/12/01 5:10	60.274333	-147.0865	587
HX23907101.016	Deploy HTI		3/12/01 5:33	60.257167	-148.047	478
HX23907101.017	Recover HTI		3/12/01 6:03	60.261167	-148.11967	320
HX23907101.018	Deploy HTI		3/12/01 6:25	60.218333	-148.07017	431
HX23907101.019	Recover HTI		3/12/01 6:56	60.183333	-148.10917	222
HX23907101.020	Ring Net		3/12/01 7:01	60.1825	-148.10767	211
HX23907101.021	Ring Net		3/12/01 7:09	60.185167	-148.107	222
HX23907101.022	Ring Net		3/12/01 7:19	60.1865	-148.1085	227
HX23907101.023	Ring Net		3/12/01 7:27	60.1885	-148.10317	238
HX23907101.024	Ring Net		3/12/01 7:36	60.190833	-148.09883	260
HX23907101.025	CTD90	ALX2	3/12/2001 7:47	60.1948	-148.0948	265
HX23907101.026	CTD Recovery	ALX2	3/12/2001 7:48	60.1949	-148.095	
HX23907101.027	CTD91	HB2	3/12/2001 20:58	60.1821	-147.6401	178
HX23907101.028	CTD Recovery	HB2	3/12/2001 21:05	60.1832	-147.639	
HX23907201.001	CTD92	HE1	3/13/2001 1:06	60.2171	-146.609	82
HX23907201.002	CTD Recovery	HE1	3/13/2001 1:09	60.2171	-146.6097	
HX23907201.003	CTD93	HE2	3/13/2001 1:32	60.1793	-146.6086	196

No Niskens  
tripped

HX23907201.004	CTD Recovery	HE2	3/13/2001 1:38	60.1789	-146.6124	
HX23907201.005	CTD94	HE3	3/13/2001 2:08	60.1307	-146.6053	116
HX23907201.006	CTD Recovery	HE3	3/13/2001 2:11	60.131	-146.6041	
HX23907201.007	CTD95	HE4	3/13/2001 2:39	60.0804	-146.6059	115
HX23907201.008	CTD Recovery	HE4	3/13/2001 2:43	60.0807	-146.6052	
HX23907201.009	CTD96	HE5	3/13/2001 3:10	60.029	-146.6068	88
HX23907201.010	CTD Recovery	HE5	3/13/2001 3:12	60.0284	-146.6076	
HX23907201.011	CTD97	HE6	3/13/2001 3:38	60.0403	-146.7001	119
HX23907201.012	CTD Recovery	HE6	3/13/2001 3:41	60.0397	-146.7001	
HX23907201.013	CTD98	HX7	3/13/2001 4:07	60.0557	-146.7935	119
HX23907201.014	CTD Recovery	HX7	3/13/2001 4:12	60.0558	-146.7931	
HX23907201.015	CTD99	HE8	3/13/2001 4:37	60.0739	-146.8771	106
HX23907201.016	CTD Recovery	HE8	3/13/2001 4:41	60.0739	-146.877	
HX23907201.017	CTD100	HE9	3/13/2001 5:06	60.0922	-146.9621	128
HX23907201.018	CTD Recovery	HE9	3/13/2001 5:11	60.0922	-146.9606	
HX23907201.019	CTD101	HE10	3/13/2001 5:38	60.109	-147.0508	277
HX23907201.020	CTD Recovery	HE10	3/13/2001 5:44	60.1093	-147.0506	
HX23907201.021	CTD102	HE11	3/13/2001 6:13	60.1288	-147.1358	216
HX23907201.022	CTD Recovery	HE11	3/13/2001 6:18	60.1288	-147.1361	
HX23907201.023	CTD103	HE12	3/13/2001 6:41	60.1417	-147.1954	176
HX23907201.024	CTD Recovery	HE12	3/13/2001 6:45	60.1408	-147.1979	
HX23907201.025	CTD104	GAK1	3/13/2001 15:43	59.845	-149.4681	272
HX23907201.026	CTD Recovery	GAK1	3/13/2001 15:53	59.8443	-149.4688	