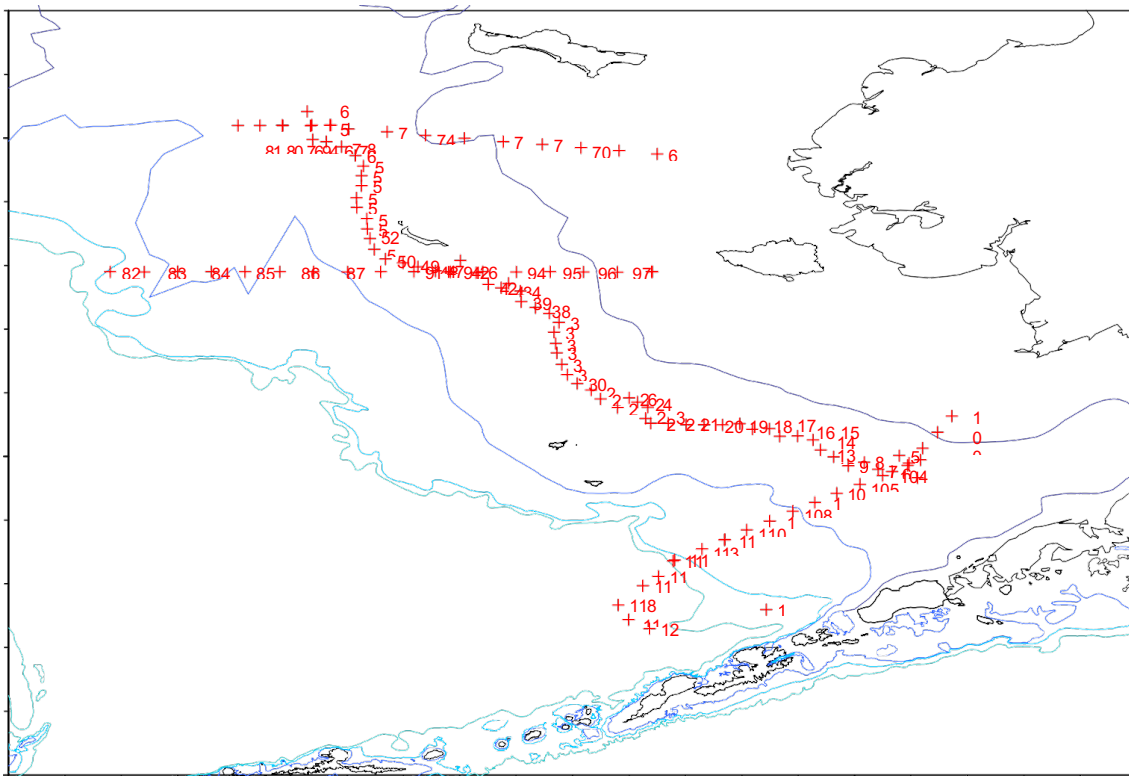


CRUISE REPORT:

(Updated APR 2022)



Highlights

Cruise Summary Information

Section Designation	MF-09-04 3	
Expedition designation (ExpoCodes)	31FN20090924	
Chief Scientists	William Floering NOAA/PMEL	
Dates	2009 SEP 24 - 2009-OCT-05	
Ship	RV <i>Miller Freeman</i>	
Ports of call	Dutch Harbor, AK	
Geographic Boundaries	-178.2	59.98 -163.28 55.36
Stations	120	
Floats and drifters deployed	0	
Moorings deployed or recovered	19	

Contact Information:

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CRUISE REPORT
MF-09-04 LEG II
NOAA Ship Miller Freeman
21 Sept. -13 Oct., 2009

Area of Operations: Bering Sea - Dutch Harbor to south of St. Lawrence Island

Itinerary: Sept. 19-21 Load and prep for cruise. Sept. 22nd Depart Dutch Harbor. 13 Oct. End Cruise in Dutch Harbor, AK.

Participating Organizations:

NOAA – Pacific Marine Environmental Laboratory
7600 Sand Point Way N.E., Seattle, WA, 98115

NOAA – National Marine Mammal Laboratory
7600 Sand Point Way N.E., Seattle, WA. 98115

NOAA – Alaska Fisheries Science Center (FOCI)
7600 Sand Point Way N.E. Seattle, WA. 98115

Univ. of Alaska Fairbanks (UAF)
200 O’Neill, Fairbanks, AK. 99775-1080

U.S. Fish and Wildlife Service Migratory Bird Mng.
1011 E. Tudor Rd., Anchorage AK. 99503

Penn. State University, Applied Research Laboratory
P.O. Box 30
State College, PA 16804

Pohang University of Science and Technology
School of Environmental Science and Technology
Pohang Korea, 790-784

Chief Scientist: William Floering
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Participating Scientists: Samuel Denes, Penn. State Univ.
Aaron Lang, U.S. Fish and Wildlife
Daniel Naber, Univ. of Alaska Fairbanks
Jessica Cross, Univ. of Alaska Fairbanks
Carol DeWitt, NOAA/PMEL
Jay Clark, NOAA/AFSC.RACE

Participating Scientists: Chrissy Jump, NOAA/AFSC/RACE
(cont.) Steve Porter, NOAA/AFSC/RACE
Lisa Deforest, NOAA/AFSC/RACE
Hyun-Cheol Kim, School of Envir. Science, Korea
Dr. Peter Proctor, NOAA/PMEL

Cruise Objectives: The continuation of a long term time series designed to describe the physical and biological characteristics of the Bering Sea shelf between Dutch Harbor and St. Lawrence Island. Methods include the recovery and deployment of several oceanographic instrumentation moorings, CTD casts, Bongo Tows, ADCP and shipboard metrological data collection.

Summary of Operations and Samples Collected:

20 cm bongo tows	67
60 cm bongo tows	67
CalVet vertical tows	12
Seabird SeaCat data files	80
Seabird CTD casts	132
Moorings deployed and recovered	19
Salinity samples	121
Dissolved Oxygen samples	
Dissolved Organic Carbon	333
Dissolved Inorganic Carbon	326
Nutrient Samples	898
Seawater ph samples	340
Seabird observations (hours on effort)	68

Cruise Summary:

We were fortunate to have the opportunity to load some of the mooring equipment aboard the Miller Freeman late August, prior to their departure from Seattle. The remainder of the equipment needed for this cruise was shipped to Dutch Harbor via Horizon lines in a 40 foot container. Prior to loading the ship in Dutch Harbor the fishing nets and trawl doors from the previous cruise were offloaded to clear deck space for the mooring equipment. The AFSC items along with other fisheries equipment in storage at OSI were loaded onto a flat and shipped to Seattle via Samson Lines shipping. I was able to include our BSM-4 surface mooring float and tower on this shipment south. For review, the surface mooring at site BS-4 was scheduled for recovery on this Freeman mooring cruise. Sometime after BSM-4A was deployed in the spring of 2009, the ice advanced and moved the mooring approximately 4 miles south east and into shallower water. The change in water depth allowed to the release to drag on the bottom. Eventually a portion of the release that holds the release link failed and the mooring

started to drift. The Oscar Dyson was in the area and agreed to recover the mooring and place it in storage at OSI in Dutch Harbor.

The instruments from this mooring were loaded aboard the Miller Freeman prior to the Sept. mooring cruise.

With several distinct sampling protocols scheduled for this cruise, laboratory space was tight. Set up time took a little longer than anticipated and there were some issues with U.S. vs European power requirements for some of the equipment. In addition I would like to thank the Command of the Miller Freeman for opening up an extra bunk allowing us to include the sea bird observer from the U.S. fish and wildlife Service.

Loading was completed and we were scheduled to depart Dutch Harbor the afternoon of Sept. 22nd. A member of the science party neglected to confirm the date of their last TB test. Their test expired a week prior to the cruise, a new TB test was given by the Dutch Harbor medical clinic. We were required to remain in Dutch Harbor an extra day to meet the 48 hour injection to read time required by NOAA. Unfortunately waiting that extra day allowed time for the first of many storms to catch us so an additional day was spent on anchor in Dutch Harbor. Around 6:30am on Sept. 24th we pulled anchor and headed for our first mooring recovery.

On the afternoon of Sept. 24th mooring 09-BSP-9A was recovered. This is an ADCP mooring deployed for AFSC FOCI division. The second ADCP mooring in this group of 2 was trawled up by the F/V Nordic Star and dropped off in Dutch Harbor earlier in the year.

Due to high winds and high seas the ship steamed slowly to mooring site BS-2 arriving at the morning of Sept. 25th. We completed CTD and bongo sampling around the mooring site before beginning mooring operations at daylight that afternoon. First out of the water was mooring 09-BSP-2A. Next mooring recovered was 09-BST-2A, the TAPS mooring. Moorings 09-BSP-2B and 09-BS-2C were deployed prior to recovery of the surface mooring. Once the seas calmed down a bit surface mooring 09-BSM-2A was recovered late on Sept. 25th. We completed the box of CTD/bongo stations around mooring site BS-2 then made our way up the 70 meter depth contour completing CTD and bongo casts at the designated stations. We arrive at the mooring site BS-4 at noon on Sept. 27th.

Because the surface mooring originally at site BS-4 had drifted and was recovered earlier by the Oscar Dyson only mooring 09-BSP-4A was left to recover at site 4. Moorings 09-BSP-4B, 09-BS-4B and 09-BSIP-4B (the ice thickness mooring) were successfully deployed at this site.

We finished the CTD/bongo combination at the remaining 2 corner stations at BS-4 and proceeded north along the 70 meter contour with CTD casts and bongo tows.

At 1100 Sept. 29th we arrived at the BS-5 mooring site. Moorings 09-BS-5A and 09-BSP-5A were successfully recovered. Moorings 09-BS-5B and 09-BSP-5B were successfully deployed.

The CTD/Bongo corner stations were completed before working our way north again along the 70 meter contour to mooring site BS-8. Arriving on site at sunrise Oct. 1st moorings 09-BSV-8A, 08-BSP-8A and 08-BS-8A were recovered. The top break away temperature sensor was missing from mooring 09-BSV-8A. This mooring was deployed in Aug. and designed for shallow depth temperature data. Since the temperature sensor is at 15 feet depth or less it's not unexpected to have the top sensor missing due to an

interaction with a ship's propeller. Moorings 09-BSP-8A and 09-BS-8A were deployed without issue and will remain on site for one full year.

The work at mooring site BS-8 concludes the mooring activities scheduled for the Bering Sea segment of this cruise. In spite of having several days with less than acceptable working weather all scheduled mooring recoveries and deployments were complete. The cruise plan mapped out CTD/Bongo stations on lines running through each of the historic Bering Sea mooring locations (BS-2,BS-4,BS-5 and BS-8) and perpendicular to the 70 meter isobath. Due to time lost to weather we were able to complete 3 of the 4 scheduled station lines.

On 3 Oct. we started the SL line of stations running perpendicular to mooring site BS-8. This line of 14 stations was completed on the afternoon of Oct. 4th.

Following a few hour transit, late on Oct. 4th, we started the CTD/bongo sampling along the MN line running perpendicular to mooring site BS-5. This line of 18 stations on the MN line were complete on Oct. 6th around noon.

Due to time limitations and prioritizing the line through mooring site 4 was skipped and we steamed to the start of the CN line transecting mooring site BS-2. 23 CTD/Bongo stations were completed along the CN line. With a few hours left on the clock the CN line was extended past the shelf break picking up several 1500 meter CTD casts.

The final CTD cast for the Bering Sea segment of this cruise was completed the morning of Oct. 10th. The Freeman steamed to Dutch Harbor for an overnight in-port Oct. 10/11. All Science party members with the exception of Wm. Floering disembarked in Dutch Harbor and the vessel took on fuel. Oct. 11th the Freeman left Dutch Harbor steaming to a mooring recovery in Pavlof Bay.

Mooring 08-PA-1A was recovered and mooring 09-PA-1A was successfully deployed on Oct. 12th. Calibration CTD casts were taken prior to recovery and following deployment. From Pavlof Bay we set a course for Chiniak Bay near the town of Kodiak,AK. Early evening of Oct. 14th we arrived at the Chiniak Bay mooring site. Mooring 09-CB-1A was recovered and mooring 09-CB-2A was successfully deployed. Once again calibration CTD casts were completed prior to recovery and following the new mooring deployment. The Oscar Dyson was in Kodiak and offered to send their small boat out to Chiniak to pick me up, saving the Freeman from having to navigate into Kodiak and tie up. I was picked up and dropped at the pier around 10pm the night of Oct. 14th. On Oct. 15th I flew to Seattle.

For GMT times and positions for all moorings and other operations see the corrected MOA Excel file.

All mooring and scientific equipment remained on the Miller Freeman for transport to Seattle. The Freeman tied up at Federal Center South in Seattle. Equipment was off loaded and taken to NOAA Sand Point by OERD-2 personnel.

Issues and Observations:

As expected this time of year, we endured a number of pre-winter storms with winds in the 35-50 knot range. It's difficult to calculate the exact number of days or hours lost to weather because the weather impacts transit time and scheduling of operations as well as discontinuing operations when conditions dictate. Due to the failure of the centerboard acoustic release transducer the search for a missing mooring at site BS-2 was canceled.

Seems every cruise we experience the same difficulties with the computer generated SCS station record keeping. For what ever reason the correct buttons and/or annotations are not being entered by the bridge staff and the appropriate people are not notified when the system locks up. The SCS MOA is the primary record for location, time and conditions for each CTD, Bongo, mooring or any other important event. If the events are not documented correctly someone has to invest a number of hours to reconcile the mistakes and omissions. This year the Chief Survey Technician corrected the mistakes.

Overview of Ancillary and Cooperative Projects:

U.S. Fish and Wildlife Service, represented by Aaron Lang for Migratory Bird Management. The seabird and marine mammal observation data will be archived in the North Pacific Pelagic Seabird database.

Observations were from the bridge port side using 8x binoculars during daylight hours. Observation field was a 300 meter, 90 degree arc from the bow to mid ship.

Alaska Fisheries Science Center/RACE/FOCI represented by Jay Clark, Chrissy Jump, Steve Porter and Lisa DeForest. Continuation of the time series study of zooplankton and phytoplankton distribution and abundance in the eastern Bering Sea coupled with chlorophyll sampling from the underway seawater sampling system and from the CTD bottle casts. Vertical CalVet tows, 60cm and 20cm bongo tows were the primary sampling devices. 333 micron nets for the 60 cm bongo, 153 micron nets for the 20 cm bongo and 53 micron nets in the CalVet.

Pohang University of Science and Technology, Puhang South Korea, represented by Hyun Cheol Kim. From the CTD bottle casts Mr. Kim was sampling seawater pH (total alkalinity) dissolved organic carbon and dissolved inorganic carbon.

Pennsylvania State University, Miksis-Olds Acoustic Laboratory represented by Samuel Denes. Mr. Denes maintained passive and active acoustic sensors deployed at our mooring sites BS-2 and BS-5 to observe the cumulative and synergistic effects of biological, physical and acoustical signals on marine mammal habitat use. The passive acoustic devices (PALs) adaptively subsample the acoustic environment of the Eastern Bering Sea. The Acoustic Water Column Profilers (AWCP) arrays use active acoustics to characterize zooplankton concentrations at each of the selected mooring locations.

University of Alaska Fairbanks, represented by Jessica Cross and Daniel Naber. Jessica Cross collected dissolved organic and dissolved inorganic water samples from the CTD bottle casts. Daniel Naber set up and maintained the ISUS nutrient sampling instruments attached to a number of the Bering Sea mooring string.

Table of Operations (Times and Positions):

Station Name	Station/Haul	Activity	Depth (m)	Transit (hrs)
Depart Dutch Harbor		DEPART		
CN16		CTD/BON	456	10.3
CN14		CTD/BON	139	1.9
CN13		ctd	137	1.5
CN12		CTD/BON	133	1.5
CN11		ctd	125	1.5
CN10		CTD/BON	107	1.6
CN9		ctd	91	1.5
CN8		CTD/BON	80	1.5
CN7		ctd	80	1.5
CN6		CTD/BON	73	1.5
CN5/ M2		ctd	71	1.8
CN4		CTD/BON	60	1.5
CN3		ctd	47	1.7
CN2??		CTD/BON	46	1.6
CTD - M2E		CTD/BON	70	4.3
CTD -M2N		CTD/BON	73	1.3
CTD - M2W		CTD/BON	75	1.5
CTD -M2S		CTD/BON	73	1.6
70M2/M2		mooring site-in2008	74	1.3
70M2/M2		3 CalVETs	73	0.1
70M2/M2		CTD/BON	73	0.0
70M3		CTD/BON	73	1.7
70M4		ctd	72	1.0

70M5		CTD/BON	73	1.0
70M6		ctd	72	1.1
70M7		CTD/BON	70	1.0
70M8		ctd	70	1.0
70M9		CTD/BON	70	0.9
70M10		ctd	70	1.0
70M11		CTD/BON	70	0.9
70M12		ctd	70	0.9
70M13		CTD/BON	70	0.9
70M14		ctd	71	0.9
70M15		CTD/BON	72	1.0
70M16		ctd	71	1.0
70M17		CTD/BON	79	1.0
70M18		ctd	78	1.0
70m19-M4S		CTD/BON	75	0.5
CTD - M4E		CTD/BON	74	1.0
70M21/M4		3 CalVETs	73	0.8
70M21/M4		CTD/BON	73	0.0
70M21 M4-go1 mi away		Mooring	73	0.1
70m22 - M4W		CTD/BON	71	1.1
CTD - M4N		CTD/BON	71	1.1
70M23		ctd	70	1.5
70M24		CTD/BON	69	0.9
70M25		ctd	71	1.0
70M26		CTD/BON	72	0.9
70M27		ctd	73	1.0
70M28		CTD/BON	72	1.0

70M29		ctd	71	0.9
70M30		CTD/BON	72	1.0
70M31		ctd	69	0.9
70M32		CTD/BON	68	0.9
70M33		ctd	70	0.9
70M34		CTD/BON	86	0.9
70M35		ctd	85	0.9
70M36		CTD/BON	84	0.9
70M37		ctd	83	1.0
M5E		CTD/BON	81	0.9
CTD - M5S		CTD/BON	80	1.3
70m38/ M5		3 CalVETs	79	1.3
70m38/ M5		CTD/BON	79	0.0
70m38M5		mooring site 2008	79	0.1
70M38 - M5N		CTD/BON	77	1.3
70M39 M5W		CTD/BON	76	1.1
70M40		ctd	74	0.8
70M41		CTD/BON	68	1.0
70M42		ctd	70	0.8
70M43		CTD/BON	70	1.0
70M44		ctd	70	1.0
70M45		CTD/BON	60	1.0
70M46		ctd	68	0.9
70M47		CTD/BON	72	1.0
70M48		ctd	83	1.1
70M49		CTD/BON	79	0.9
70M50		ctd	75	1.1
70M51		CTD/BON	75	0.9

70M52		ctd	72	0.9
70M53		CTD/BON	71	1.0
70M54		ctd	71	1.0
70M55		CTD/BON	73	0.9
m8-S		Mooring 2008	70	0.7
70M56		ctd	74	0.3
		moorings- 3 pickups & 2		1.0
M8		deployed	71	
SL1bb		CTD/BON	25	17.0
SL1aa		ctd	25	1.9
SL1		CTD/BON	30	1.9
SL2a		ctd	35	1.9
SL4a		CTD/BON	43	1.9
SL6a		ctd	45	1.9
SL8a		CTD/BON	50	1.9
SL9a		ctd	60	1.9
SL11a		CTD/BON	70	1.9
M8E/SL12a		CTD/BON	70	0.9
M8-N		CTD/BON	80	1.7
M8		CTD	70	1.3
M8		mooring site	71	0.1
SL14/M8W		ctd	80	1.1
SL12		CTD	70	1.4
SL15		CTD/BON	85	2.5
SL16		ctd	90	1.0
MN18		ctd	173	14.6
MN17		CTD/BON	135	1.7
MN16		ctd	100	1.7

MN15		CTD/BON	100	1.7
MN14		ctd	132	1.7
MN13		CTD/BON	100	1.7
MN12		ctd	90	1.7
MN11		CTD/BON	80	1.7
MN10		ctd	76	1.7
MN9		CTD/BON	70	1.7
MN8		ctd	66	1.7
70m20~site5		Mooring site-NOT a Station	67	1.4
MN7		CTD/BON	70	0.3
MN6		CTD/BON	66	1.7
MN5		ctd	64	1.7
MN4		CTD/BON	50	1.7
MN3		ctd	48	1.7
MN2		CTD/BON	42	1.7
MN1		ctd	38	1.7
NP01		CTD/BON	38	4.2
NP02		ctd	41	0.8
NP2a		CTD/BON	43	0.7
NP03		ctd	45	0.8
NP3a		CTD/BON	51	0.8
NP04		ctd	74	0.8
NP05		CTD/BON	72	1.6
NP06		ctd	70	1.5
NP07		ctd	68	1.6
NP08		CTD/BON	69	1.5
NP09		ctd	67	1.6
NP10		CTD/BON	75	0.8

NP11		ctd	74	2.3
NP12		CTD105	123	1.6
NP13		CTD/BON	123	1.5
NP14		ctd	136	1.5
NP15		CTD/BON	2752	1.5
Depart Dutch Harbor		DEPART		20.2

Cruise Summary:

Cruise Summary For FOCI Cruise 2MF09 (MF0904L2)

Date (GMT)	Time (GMT)	Statio	Hau	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
24-Sep-09	19:52	1	1		CTD001	398	54 35.67 N	166 34.16 W	CTD	CTD, Fluor, PAR	CTD before mooring recovery 09BSP-9A
24-Sep-09	20:18	1	2			396	54 35.64 N	166 33.22 W	Moor	Recovery	Mooring recovery 09BSP-9A
25-Sep-09	14:11	2	1	M2S	CTD002	76	56 39.90 N	163 53.04 W	CTDB	Chlor, CTD, Fluor, PAR	Mooring Site 2, south corner
25-Sep-09	14:47	2	2	M2S	BON001	75	56 39.75 N	163 53.01 W	20Bon	QTowF	Mooring 2, south corner
25-Sep-09	14:47	2	2	M2S	BON001	75	56 39.75 N	163 53.01 W	60Bon	QTowF	Mooring 2, south corner
25-Sep-09	14:47	2	2	M2S	BON001	75	56 39.75 N	163 53.01 W	CAT	CAT	Mooring 2, south corner
25-Sep-09	16:55	3	1	M2	CTD003	72	56 51.56 N	164 03.62 W	CTDB	Chlor, CTD, Fluor, PAR	
25-Sep-09	17:29	3	2	M2	CTD004	72	56 51.80 N	164 04.44 W	CTDB	Chlor, CTD, Fluor, PAR	
25-Sep-09	17:58	3	3	M2	CTD005	72	56 52.08 N	164 04.50 W	CTDB	Chlor, CTD, Fluor, PAR	
25-Sep-09	18:28	3	4	M2	CAL001	71	56 52.13 N	164 04.79 W	CalVET	QTowF	nets 1 and 2 combined
25-Sep-09	18:28	3	4	M2	CAL001	71	56 52.13 N	164 04.79 W	CAT	CAT	nets 1 and 2 combined
25-Sep-09	18:43	3	5	M2	CAL002	73	56 52.01 N	164 05.16 W	CalVET	QTowF	nets 1 and 2 combined
25-Sep-09	18:43	3	5	M2	CAL002	73	56 52.01 N	164 05.16 W	CAT	CAT	Nets 1 and 2 combined
25-Sep-09	18:58	3	6	M2	CAL003	73	56 51.92 N	164 05.43 W	CalVET	QTowF	nets 1 and 2 combined
25-Sep-09	18:58	3	6	M2	CAL003	73	56 51.92 N	164 05.43 W	CAT	CAT	nets 1 and 2 combined
25-Sep-09	19:19	3	7	M2	BON002	73	56 51.56 N	164 03.76 W	20Bon	QTowF	
25-Sep-09	19:19	3	7	M2	BON002	73	56 51.56 N	164 03.76 W	60Bon	QTowF	
25-Sep-09	19:19	3	7	M2	BON002	73	56 51.56 N	164 03.76 W	CAT	CAT	
25-Sep-09	20:12	3	8	M2		73	56 51.96 N	164 02.78 W	Moor	Recovery	Mooring 2, 09BSP-2A recovery
25-Sep-09	21:27	3	9	M2		73	56 51.91 N	164 03.26 W	Moor	Recovery	Mooring 2, 09BST-2A recovery
26-Sep-09	0:16	3	10	M2		73	56 51.57 N	164 03.80 W	Moor	Deploy	Mooring 2 deployment 09BSP-2B
26-Sep-09	2:33	3	11	M2		73	56 51.23 N	164 04.54 W	Moor	Deploy	MOORING 2 DEPLOYMENT 09BS-2C
26-Sep-09	5:12	3	12	M2		73	56 51.93 N	164 03.18 W	Moor	Recovery	MOORING 2 RECOVERY, 09BSM-2A
26-Sep-09	6:51	3	13	M2	CTD006	73	56 51.10 N	164 03.63 W	CTDB	Chlor, CTD, Fluor, PAR	
26-Sep-09	7:28	3	14	M2	CTD007	73	56 51.04 N	164 03.36 W	CTDB	Chlor, CTD, Fluor, PAR	
26-Sep-09	8:47	4	1	M2E	CTD008	71	56 56.76 N	163 50.15 W	CTDB	Chlor, CTD, Fluor, PAR	MOORING 2 EAST CORNER
26-Sep-09	9:13	4	2	M2E	BON003	71	56 56.60 N	163 49.94 W	20Bon	QTowF	2 JELLIES REMOVED FROM 60 BON NET 1.
26-Sep-09	9:13	4	2	M2E	BON003	71	56 56.60 N	163 49.94 W	60Bon	QTowF	MOORING 2 EAST CORNER
26-Sep-09	9:13	4	2	M2E	BON003	71	56 56.60 N	163 49.94 W	60Bon	QTowF	2 JELLIES REMOVED FROM 60 BON NET 1.
26-Sep-09	9:13	4	2	M2E	BON003	71	56 56.60 N	163 49.94 W	CAT	CAT	MOORING 2 EAST CORNER
26-Sep-09	9:13	4	2	M2E	BON003	71	56 56.60 N	163 49.94 W	CAT	CAT	2 JELLIES REMOVED FROM 60 BON NET 1.
26-Sep-09	10:55	5	1	M2N	CTD009	70	57 00.87 N	164 12.65 W	CTDB	Chlor, CTD, Fluor, PAR	MOORING 2 NORTH CORNER
26-Sep-09	11:16	5	2	M2N	BON004	70	57 01.11 N	164 12.67 W	20Bon	QTowF	MOORING 2 NORTH CORNER
26-Sep-09	11:16	5	2	M2N	BON004	70	57 01.11 N	164 12.67 W	60Bon	QTowF	MOORING 2 NORTH CORNER
26-Sep-09	11:16	5	2	M2N	BON004	70	57 01.11 N	164 12.67 W	CAT	CAT	MOORING 2 NORTH CORNER
26-Sep-09	10:55	6	1	M2W	CTD010	84	56 45.77 N	164 20.10 W	CTDB	Chlor, CTD, Fluor, PAR	MOORING 2 WEST CORNER
26-Sep-09	13:23	6	2	M2W	BON005	75	56 45.84 N	164 20.24 W	20Bon	QTowF	MOORING 2 WEST CORNER
26-Sep-09	13:23	6	2	M2W	BON005	75	56 45.84 N	164 20.24 W	60Bon	QTowF	MOORING 2 WEST CORNER
26-Sep-09	13:23	6	2	M2W	BON005	75	56 45.84 N	164 20.24 W	CAT	CAT	MOORING 2 WEST CORNER

Cruise Summary For FOCI Cruise 2MF09 (MF0904L2)

Date (GMT)	Time (GMT)	Statio	Hau	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
26-Sep-09	14:28	7	1	70M3	CTD011	74	56 48.15 N	164 35.04 W	CTDB	Chlor, CTD, Fluor, PAR	
26-Sep-09	14:46	7	2	70M3	BON006	74	56 48.26 N	164 35.24 W	20Bon	QTowF	1 JELLY REMOVED FROM 60 BON NET 1
26-Sep-09	14:46	7	2	70M3	BON006	74	56 48.26 N	164 35.24 W	60Bon	QTowF	1 JELLY REMOVED FROM 60 BON NET 1
26-Sep-09	14:46	7	2	70M3	BON006	74	56 48.26 N	164 35.24 W	CAT	CAT	1 JELLY REMOVED FROM 60 BON NET 1
26-Sep-09	16:15	8	1	70M4	CTD012	72	56 54.45 N	164 49.73 W	CTDB	Chlor, CTD, Fluor, PAR	
26-Sep-09	17:36	9	1	70M5	CTD013	74	56 51.27 N	165 06.79 W	CTDB	Chlor, CTD, Fluor, PAR	
26-Sep-09	17:58	9	2	70M5	BON007	74	56 51.36 N	165 07.23 W	20Bon	QTowF	
26-Sep-09	17:58	9	2	70M5	BON007	74	56 51.36 N	165 07.23 W	60Bon	QTowF	
26-Sep-09	17:58	9	2	70M5	BON007	74	56 51.36 N	165 07.23 W	CAT	CAT	
26-Sep-09	19:27	10	1	70M6	CTD014	72	56 59.69 N	165 22.40 W	CTDB	Chlor, CTD, Fluor, PAR	
26-Sep-09	20:39	11	1	70M7	CTD015	71	57 06.17 N	165 36.15 W	CTDB	Chlor, CTD, Fluor, PAR	
26-Sep-09	21:14	11	2	70M7	BON008	71	57 06.42 N	165 36.50 W	20Bon	QTowF	
26-Sep-09	21:14	11	2	70M7	BON008	71	57 06.42 N	165 36.50 W	60Bon	QTowF	
26-Sep-09	21:14	11	2	70M7	BON008	71	57 06.42 N	165 36.50 W	CAT	CAT	
26-Sep-09	22:31	12	1	70M8	CTD016	70	57 15.62 N	165 44.35 W	CTDB	Chlor, CTD, Fluor, PAR	Surface chlorophyll was taken using a bucket over the side - broken bottle.
26-Sep-09	23:58	13	1	70M9	CTD017	70	57 19.27 N	166 00.63 W	CTDB	Chlor, CTD, Fluor, PAR	
27-Sep-09	0:34	13	2	70M9	BON009	70	57 19.36 N	166 00.97 W	20Bon	QTowF	
27-Sep-09	0:34	13	2	70M9	BON009	70	57 19.36 N	166 00.97 W	60Bon	QTowF	
27-Sep-09	0:34	13	2	70M9	BON009	70	57 19.36 N	166 00.97 W	CAT	CAT	
27-Sep-09	1:58	14	1	70M10	CTD018	71	57 19.14 N	166 19.60 W	CTDB	Chlor, CTD, Fluor, PAR	
27-Sep-09	3:27	15	1	70M11	CTD019	70	57 26.12 N	166 30.84 W	CTDB	Chlor, CTD, Fluor, PAR	
27-Sep-09	3:55	15	2	70M11	BON010	69	57 25.95 N	166 30.66 W	20Bon	QTowF	
27-Sep-09	3:55	15	2	70M11	BON010	69	57 25.95 N	166 30.66 W	60Bon	QTowF	
27-Sep-09	3:55	15	2	70M11	BON010	69	57 25.95 N	166 30.66 W	CAT	CAT	
27-Sep-09	5:13	16	1	70M12	CTD020	70	57 25.71 N	166 48.85 W	CTDB	Chlor, CTD, Fluor, PAR	
27-Sep-09	7:04	17	1	70M13	CTD021	71	57 30.93 N	167 02.24 W	CTDB	Chlor, CTD, Fluor, PAR	
27-Sep-09	7:34	17	2	70M13	BON011	71	57 31.00 N	167 02.17 W	20Bon	QTowF	
27-Sep-09	7:34	17	2	70M13	BON011	71	57 31.00 N	167 02.17 W	60Bon	QTowF	
27-Sep-09	7:34	17	2	70M13	BON011	71	57 31.00 N	167 02.17 W	CAT	CAT	
27-Sep-09	8:59	18	1	70M14	CTD022	71	57 29.84 N	167 20.78 W	CTDB	Chlor, CTD, Fluor, PAR	
27-Sep-09	10:34	19	1	70M15	CTD023	73	57 30.03 N	167 40.18 W	CTDB	Chlor, CTD, Fluor, PAR	
27-Sep-09	11:00	19	2	70M15	BON012	72	57 30.04 N	167 40.21 W	20Bon	QTowF	2 jellies removed from 60 bon net 1
27-Sep-09	11:00	19	2	70M15	BON012	72	57 30.04 N	167 40.21 W	60Bon	QTowF	2 jellies removed from 60 bon net 1
27-Sep-09	11:00	19	2	70M15	BON012	72	57 30.04 N	167 40.21 W	CAT	CAT	2 jellies removed from 60 bon net 1
27-Sep-09	12:17	20	1	70M16	CTD024	72	57 29.98 N	167 59.09 W	CTDB	Chlor, CTD, Fluor, PAR	
27-Sep-09	13:38	21	1	70M17	CTD025	72	57 31.26 N	168 18.30 W	CTDB	Chlor, CTD, Fluor, PAR	
27-Sep-09	13:56	21	2	70M17	BON013	72	57 30.95 N	168 18.32 W	20Bon	QTowF	
27-Sep-09	13:56	21	2	70M17	BON013	72	57 30.95 N	168 18.32 W	60Bon	QTowF	

Cruise Summary For FOCI Cruise 2MF09 (MF0904L2)

Date (GMT)	Time (GMT)	Statio	Hau	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
27-Sep-09	13:56	21	2	70M17	BON013	72	57 30.95 N	168 18.32 W	CAT	CAT	
27-Sep-09	15:09	22	1	70M18	CTD026	72	57 31.27 N	168 36.98 W	CTDB	Chlor, CTD, Fluor, PAR	
27-Sep-09	16:14	23	1	M4S	CTD027	72	57 35.89 N	168 42.45 W	CTDB	Chlor, CTD, Fluor, PAR	MOORING 4 SOUTH CORNER
27-Sep-09	16:39	23	2	M4S	BON014	71	57 36.28 N	168 41.82 W	20Bon	QTowF	MOORING 4 SOUTH CORNER
27-Sep-09	16:39	23	2	M4S	BON014	71	57 36.28 N	168 41.82 W	60Bon	QTowF	MOORING 4 SOUTH CORNER
27-Sep-09	16:39	23	2	M4S	BON014	71	57 36.28 N	168 41.82 W	CAT	CAT	MOORING 4 SOUTH CORNER
27-Sep-09	18:28	24	1	M4	CTD028B	72	57 51.16 N	168 51.25 W	CTDB	Chlor, CTD, Fluor, PAR	Mooring site 4
27-Sep-09	18:53	24	2	M4	CAL004	72	57 51.19 N	168 51.14 W	CalVET	QTowF	nets 1 and 2 combined
27-Sep-09	18:53	24	2	M4	CAL004	72	57 51.19 N	168 51.14 W	CAT	CAT	nets 1 and 2 combined
27-Sep-09	19:05	24	3	M4	CAL005	72	57 51.26 N	168 51.08 W	CalVET	QTowF	nets 1 and 2 combined
27-Sep-09	19:05	24	3	M4	CAL005	72	57 51.26 N	168 51.08 W	CAT	CAT	nets 1 and 2 combined
27-Sep-09	19:15	24	4	M4	CAL006	72	57 51.31 N	168 51.00 W	CalVET	QTowF	nets 1 and 2 combined
27-Sep-09	19:15	24	4	M4	CAL006	72	57 51.31 N	168 51.00 W	CAT	CAT	nets 1 and 2 combined
27-Sep-09	19:30	24	5	M4	BON015	72	57 51.07 N	168 50.82 W	20Bon	QTowF	mooring site 4
27-Sep-09	19:30	24	5	M4	BON015	72	57 51.07 N	168 50.82 W	60Bon	QTowF	mooring site 4
27-Sep-09	19:30	24	5	M4	BON015	72	57 51.07 N	168 50.82 W	CAT	CAT	mooring site 4
27-Sep-09	20:30	24	6	M4		72	57 50.97 N	168 51.97 W	Moor	Recovery	Mooring 09bsp-4a recovery
27-Sep-09	22:54	24	7	M4		72	57 50.78 N	168 51.65 W	Moor	Deploy	Mooring 09BS-4B DEPLOYMENT
28-Sep-09	0:30	24	8	M4		72	57 50.97 N	168 51.97 W	Moor	Deploy	Mooring 09BSP-4B
28-Sep-09	2:22	24	9	M4		72	57 50.70 N	168 52.11 W	Moor	Deploy	Mooring 09BSIP-4B
28-Sep-09	2:59	24	10	M4	CTD029	73	57 50.62 N	168 51.77 W	CTDB	Chlor, CTD, Fluor, PAR	
28-Sep-09	4:37	25	1	M4E	CTD030	71	57 46.49 N	168 40.06 W	CTDB	Chlor, CTD, Fluor, PAR	about 5mL spilled from 30m bottle
28-Sep-09	5:04	25	2	M4E	BON016	72	57 46.10 N	168 39.85 W	20Bon	QTowF	
28-Sep-09	5:04	25	2	M4E	BON016	72	57 46.10 N	168 39.85 W	60Bon	QTowF	
28-Sep-09	5:04	25	2	M4E	BON016	72	57 46.10 N	168 39.85 W	CAT	CAT	
28-Sep-09	7:03	26	1	M4N	CTD031	71	57 55.30 N	169 00.02 W	CTDB	Chlor, CTD, Fluor, PAR	mooring 4 north corner
28-Sep-09	7:24	26	2	M4N	BON017	71	57 54.83 N	169 00.07 W	20Bon	QTowF	
28-Sep-09	7:24	26	2	M4N	BON017	71	57 54.83 N	169 00.07 W	60Bon	QTowF	
28-Sep-09	7:24	26	2	M4N	BON017	71	57 54.83 N	169 00.07 W	60Bon	QTowF	mooring 4 north corner
28-Sep-09	7:24	26	2	M4N	BON017	71	57 54.83 N	169 00.07 W	CAT	CAT	
28-Sep-09	8:59	27	1	M4W	CTD032	64	57 46.14 N	169 12.10 W	CTDB	Chlor, CTD, Fluor, PAR	Mooring site 4 west side
28-Sep-09	9:21	27	2	M4W	BON018	63	57 45.95 N	169 12.23 W	20Bon	QTowF	Mooring site 4 west corner
28-Sep-09	9:21	27	2	M4W	BON018	63	57 45.95 N	169 12.23 W	60Bon	QTowF	Mooring site 4 west corner
28-Sep-09	9:21	27	2	M4W	BON018	63	57 45.95 N	169 12.23 W	CAT	CAT	Mooring site 4 west corner
28-Sep-09	10:58	28	1	70M23	CTD033	69	57 54.27 N	169 30.29 W	CTDB	Chlor, CTD, Fluor, PAR	
28-Sep-09	12:24	29	1	70M24	CTD034	71	58 02.72 N	169 40.19 W	CTDB	Chlor, CTD, Fluor, PAR	
28-Sep-09	12:44	29	2	70M24	BON019	71	58 02.58 N	169 40.58 W	20Bon	QTowF	
28-Sep-09	12:44	29	2	70M24	BON019	71	58 02.58 N	169 40.58 W	60Bon	QTowF	
28-Sep-09	12:44	29	2	70M24	BON019	71	58 02.58 N	169 40.58 W	CAT	CAT	

Cruise Summary For FOCI Cruise 2MF09 (MF0904L2)

Date (GMT)	Time (GMT)	Statio	Hau	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
28-Sep-09	14:08	30	1	70M25	CTD035	71	58 08.78 N	169 55.18 W	CTDB	Chlor, CTD, Fluor, PAR	
28-Sep-09	15:28	31	1	70M26	CTD036	72	58 17.13 N	170 05.72 W	CTDB	Chlor, CTD, Fluor, PAR	
28-Sep-09	15:46	31	2	70M26	BON020	73	58 16.96 N	170 05.73 W	20Bon	QTowF	
28-Sep-09	15:46	31	2	70M26	BON020	73	58 16.96 N	170 05.73 W	60Bon	QTowF	
28-Sep-09	15:46	31	2	70M26	BON020	73	58 16.96 N	170 05.73 W	CAT	CAT	
28-Sep-09	17:07	32	1	70M27	CTD037	73	58 26.77 N	170 11.42 W	CTDB	Chlor, CTD, Fluor, PAR	
28-Sep-09	18:34	33	1	70M28	CTD038	71	58 37.51 N	170 16.80 W	CTDB	Chlor, CTD, Fluor, PAR	
28-Sep-09	18:54	33	2	70M28	BON021	73	58 37.24 N	170 16.94 W	20Bon	QTowF	
28-Sep-09	18:54	33	2	70M28	BON021	73	58 37.24 N	170 16.94 W	60Bon	QTowF	
28-Sep-09	18:54	33	2	70M28	BON021	73	58 37.24 N	170 16.94 W	CAT	CAT	
28-Sep-09	20:03	34	1	70M29	CTD039	72	58 46.44 N	170 17.83 W	CTDB	Chlor, CTD, Fluor, PAR	
28-Sep-09	21:28	35	1	70M30	CTD040	71	58 57.11 N	170 19.69 W	CTDB	Chlor, CTD, Fluor, PAR	
28-Sep-09	21:47	35	2	70M30	BON022	71	58 57.00 N	170 19.59 W	20Bon	QTowF	
28-Sep-09	21:47	35	2	70M30	BON022	71	58 57.00 N	170 19.59 W	60Bon	QTowF	
28-Sep-09	21:47	35	2	70M30	BON022	71	58 57.00 N	170 19.59 W	CAT	CAT	
28-Sep-09	23:00	36	1	70M31	CTD041	68	59 06.19 N	170 14.44 W	CTDB	Chlor, CTD, Fluor, PAR	
29-Sep-09	0:17	37	1	70M32	CTD042	69	59 14.92 N	170 24.96 W	CTDB	Chlor, CTD, Fluor, PAR	
29-Sep-09	0:36	37	2	70M32	BON023	69	59 14.71 N	170 24.83 W	20Bon	QTowF	
29-Sep-09	0:36	37	2	70M32	BON023	69	59 14.71 N	170 24.83 W	60Bon	QTowF	
29-Sep-09	0:36	37	2	70M32	BON023	69	59 14.71 N	170 24.83 W	CAT	CAT	
29-Sep-09	1:46	38	1	70M33	CTD043	71	59 20.24 N	170 39.40 W	CTDB	Chlor, CTD, Fluor, PAR	
29-Sep-09	3:01	39	1	70M34	CTD044	73	59 25.85 N	170 54.65 W	CTDB	Chlor, CTD, Fluor, PAR	
29-Sep-09	3:30	39	2	70M34	BON024	73	59 26.05 N	170 54.12 W	20Bon	QTowF	
29-Sep-09	3:30	39	2	70M34	BON024	73	59 26.05 N	170 54.12 W	60Bon	QTowF	
29-Sep-09	3:30	39	2	70M34	BON024	73	59 26.05 N	170 54.12 W	CAT	CAT	
29-Sep-09	4:45	40	1	70M35	CTD045	72	59 35.68 N	170 55.41 W	CTDB	Chlor, CTD, Fluor, PAR	
29-Sep-09	6:07	41	1	70M36	CTD046	73	59 43.17 N	171 08.00 W	CTDB	Chlor, CTD, Fluor, PAR	
29-Sep-09	6:28	41	2	70M36	BON025	72	59 42.83 N	171 08.84 W	20Bon	QTowF	
29-Sep-09	6:28	41	2	70M36	BON025	72	59 42.83 N	171 08.84 W	60Bon	QTowF	
29-Sep-09	6:28	41	2	70M36	BON025	72	59 42.83 N	171 08.84 W	CAT	CAT	
29-Sep-09	7:48	42	1	M5S	CTD047	74	59 42.14 N	171 29.61 W	CTDB	Chlor, CTD, Fluor, PAR	MOORING 5 SOUTH CORNER
29-Sep-09	8:13	42	2	M5S	BON026	74	59 42.29 N	171 29.44 W	20Bon	QTowF	MOORING 5 SOUTH CORNER
29-Sep-09	8:13	42	2	M5S	BON026	74	59 42.29 N	171 29.44 W	60Bon	QTowF	MOORING 5 SOUTH CORNER
29-Sep-09	8:13	42	2	M5S	BON026	74	59 42.29 N	171 29.44 W	CAT	CAT	MOORING 5 SOUTH CORNER
29-Sep-09	9:55	43	1	M5E	CTD048	72	59 38.89 N	171 15.85 W	CTDB	Chlor, CTD, Fluor, PAR	Mooring 5 east corner
29-Sep-09	10:18	43	2	M5E	BON027	72	59 54.07 N	171 15.68 W	20Bon	QTowF	MOORING 5 EAST CORNER.
29-Sep-09	10:18	43	2	M5E	BON027	72	59 54.07 N	171 15.68 W	60Bon	QTowF	MOORING 5 EAST CORNER.
29-Sep-09	10:18	43	2	M5E	BON027	72	59 54.07 N	171 15.68 W	60Bon	QTowF	MOORING 5 EAST CORNER. 3 SMALL JELLIES REMOVED

Cruise Summary For FOCI Cruise 2MF09 (MF0904L2)

Date (GMT)	Time (GMT)	Statio	Hau	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
29-Sep-09	10:18	43	2	M5E	BON027	72	59 54.07 N	171 15.68 W	CAT	CAT	MOORING 5 EAST CORNER.
29-Sep-09	12:53	44	1	M5N	CTD049	58	60 04.51 N	171 59.48 W	CTDB	Chlor, CTD, Fluor, PAR	Mooring site 5 north corner
29-Sep-09	13:18	44	2	M5N	BON028	64	60 04.47 N	171 59.95 W	20Bon	QTowS	Mooring site 5 north corner
29-Sep-09	13:18	44	2	M5N	BON028	64	60 04.47 N	171 59.95 W	60Bon	QTowF	Mooring site 5 north corner
29-Sep-09	13:18	44	2	M5N	BON028	64	60 04.47 N	171 59.95 W	CAT	CAT	Mooring site 5 north corner
29-Sep-09	15:03	45	1	M5	CTD050	74	59 53.08 N	171 42.76 W	CTDB	Chlor, CTD, Fluor, PAR	Mooring 5 center station
29-Sep-09	15:36	45	2	M5	CTD050B	73	59 53.07 N	171 42.50 W	CTDB	Chlor, CTD, Fluor, PAR	mooring site 5 center station
29-Sep-09	15:52	45	3	M5	CAL007	71	57 53.07 N	171 42.45 W	CalVET	QTowF	mooring site 5 center station
29-Sep-09	16:06	45	4	M5	CAL008	72	59 53.17 N	171 42.50 W	CalVET	QTowF	Mooring 5 site center station
29-Sep-09	16:06	45	4	M5	CAL008	72	59 53.17 N	171 42.50 W	CalVET	QTowF	Mooring 5 site center station/nets 1 and 2 combined
29-Sep-09	16:06	45	4	M5	CAL008	72	59 53.17 N	171 42.50 W	CAT	CAT	
29-Sep-09	16:18	45	5	M5	CAL009	72	59 53.21 N	171 42.64 W	CalVET	QTowF	Mooring site 5 center station/nets 1 and 2 combined
29-Sep-09	16:18	45	5	M5	CAL009	72	59 53.21 N	171 42.64 W	CAT	CAT	Mooring site 5 center station/nets 1 and 2 combined
29-Sep-09	16:37	45	6	M5	BON029	72	59 53.51 N	171 41.45 W	20Bon	QTowF	mooring site 5 center station
29-Sep-09	16:37	45	6	M5	BON029	72	59 53.51 N	171 41.45 W	60Bon	QTowF	mooring site 5 center station
29-Sep-09	16:37	45	6	M5	BON029	72	59 53.51 N	171 41.45 W	CAT	CAT	mooring site 5 center station
29-Sep-09	17:45	45	7	M5		70	59 54.37 N	171 42.43 W	Moor	Recovery	Mooring 5 recovery. 09-BS-5A
29-Sep-09	19:15	45	8	M5		70	59 54.31 N	171 43.05 W	Moor	Recovery	Mooring recovery 09-BSP-5A
29-Sep-09	22:02	45	9	M5		70	59 55.00 N	171 42.24 W	Moor	Deploy	Mooring deployment 09-BS-5B
30-Sep-09	23:06	45	10	M5		70	59 55.00 N	171 42.50 W	Moor	Deploy	mooring deployment 09-BSP-5B
29-Sep-09	23:28	45	11	M5	CTD051	70	59 55.21 N	171 42.41 W	CTDB	Chlor, CTD, Fluor, PAR	70m38
30-Sep-09	1:15	46	1	70M39	CTD052	74	59 54.00 N	172 10.04 W	CTDB	Chlor, CTD, Fluor, PAR	M5W
30-Sep-09	2:00	46	2	70M39	BON030	73	59 53.86 N	172 09.61 W	20Bon	QTowF	M5W
30-Sep-09	2:00	46	2	70M39	BON030	73	59 53.86 N	172 09.61 W	60Bon	QTowF	M5W
30-Sep-09	2:00	46	2	70M39	BON030	73	59 53.86 N	172 09.61 W	CAT	CAT	M5W
30-Sep-09	3:17	47	1	70M40	CTD053	75	59 54.69 N	172 25.72 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	4:53	48	1	70M41	CTD054	68	59 58.72 N	172 44.63 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	5:21	48	2	70M41	BON031	69	59 58.29 N	172 44.88 W	20Bon	QTowF	
30-Sep-09	5:21	48	2	70M41	BON031	69	59 58.29 N	172 44.88 W	60Bon	QTowF	
30-Sep-09	5:21	48	2	70M41	BON031	69	59 58.29 N	172 44.88 W	CAT	CAT	
30-Sep-09	6:28	49	1	70M42	CTD055	68	60 02.25 N	173 00.47 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	7:49	50	1	70M43	CTD056	72	60 06.05 N	173 19.04 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	8:14	50	2	70M43	BON032	71	60 06.17 N	173 19.02 W	20Bon	QTowF	
30-Sep-09	8:14	50	2	70M43	BON032	71	60 06.17 N	173 19.02 W	60Bon	QTowF	
30-Sep-09	8:14	50	2	70M43	BON032	71	60 06.17 N	173 19.02 W	CAT	CAT	
30-Sep-09	9:40	51	1	70M44	CTD057	70	60 15.11 N	173 30.87 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	11:07	52	1	70M45	CTD058	65	60 25.40 N	173 35.47 W	CTDB	Chlor, CTD, Fluor, PAR	

Cruise Summary For FOCI Cruise 2MF09 (MF0904L2)

Date (GMT)	Time (GMT)	Statio	Hau	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
30-Sep-09	11:24	52	2	70M45	BON033	65	60 25.70 N	173 35.61 W	20Bon	QTowF	
30-Sep-09	11:24	52	2	70M45	BON033	65	60 25.70 N	173 35.61 W	60Bon	QTowF	
30-Sep-09	11:24	52	2	70M45	BON033	65	60 25.70 N	173 35.61 W	CAT	CAT	
30-Sep-09	12:33	53	1	70M46	CTD059	69	60 34.48 N	173 38.47 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	13:51	54	1	70M47	CTD060	73	60 44.03 N	173 38.91 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	14:09	54	2	70M47	BON034	73	60 44.27 N	173 39.29 W	20Bon	QTowF	
30-Sep-09	14:09	54	2	70M47	BON034	73	60 44.27 N	173 39.29 W	60Bon	QTowF	
30-Sep-09	14:09	54	2	70M47	BON034	73	60 44.27 N	173 39.29 W	CAT	CAT	
30-Sep-09	15:32	55	1	70M48	CTD061	81	60 54.53 N	173 49.52 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	16:50	56	1	70M49	CTD062	78	61 03.65 N	173 50.03 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	17:06	56	2	70M49	BON035	79	61 03.83 N	173 49.86 W	20Bon	QTowF	
30-Sep-09	17:06	56	2	70M49	BON035	79	61 03.83 N	173 49.86 W	60Bon	QTowF	
30-Sep-09	17:06	56	2	70M49	BON035	79	61 03.83 N	173 49.86 W	CAT	CAT	
30-Sep-09	18:31	57	1	70M50	CTD063	75	61 15.02 N	173 44.52 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	19:58	58	1	70M51	CTD064	76	61 24.60 N	173 44.42 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	20:31	58	2	70M51	BON036	76	61 24.56 N	173 44.40 W	20Bon	QTowF	
30-Sep-09	20:31	58	2	70M51	BON036	76	61 24.56 N	173 44.40 W	60Bon	QTowF	
30-Sep-09	20:31	58	2	70M51	BON036	76	61 24.56 N	173 44.40 W	CAT	CAT	
30-Sep-09	21:43	59	1	70M52	CTD065	73	61 33.61 N	173 42.69 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	23:01	60	1	70M53	CTD066	72	61 43.62 N	173 50.97 W	CTDB	Chlor, CTD, Fluor, PAR	
30-Sep-09	23:21	60	2	70M53	BON037	72	61 43.81 N	173 51.63 W	20Bon	QTowF	
30-Sep-09	23:21	60	2	70M53	BON037	72	61 43.81 N	173 51.63 W	60Bon	QTowF	
30-Sep-09	23:21	60	2	70M53	BON037	72	61 43.81 N	173 51.63 W	CAT	CAT	
01-Oct-09	0:35	61	1	70M54	CTD067	73	61 51.82 N	174 05.75 W	CTDB	Chlor, CTD, Fluor, PAR	
01-Oct-09	1:43	62	1	70M55	CTD068	74	61 56.62 N	174 21.82 W	CTDB	Chlor, CTD, Fluor, PAR	
01-Oct-09	2:05	62	2	70M55	BON038	74	61 56.80 N	174 22.31 W	20Bon	QTowF	
01-Oct-09	2:05	62	2	70M55	BON038	74	61 56.80 N	174 22.31 W	60Bon	QTowF	
01-Oct-09	2:05	62	2	70M55	BON038	74	61 56.80 N	174 22.31 W	CAT	CAT	
01-Oct-09	3:30	63	1	M8S	CTD069	76	61 58.58 N	174 36.57 W	CTDB	Chlor, CTD, Fluor, PAR	
01-Oct-09	3:50	63	2	M8S	BON039	76	61 58.46 N	174 36.69 W	20Bon	QTowF	
01-Oct-09	3:50	63	2	M8S	BON039	76	61 58.46 N	174 36.69 W	60Bon	QTowF	
01-Oct-09	3:50	63	2	M8S	BON039	76	61 58.46 N	174 36.69 W	CAT	CAT	
01-Oct-09	5:58	64	1	M8W	CTD070	79	62 11.84 N	175 08.39 W	CTDB	Chlor, CTD, Fluor, PAR	About 15ml spilled from the 10m chloro sample
01-Oct-09	6:17	64	2	M8W	BON040	80	62 11.96 N	175 08.78 W	20Bon	QTowF	
01-Oct-09	6:17	64	2	M8W	BON040	80	62 11.96 N	175 08.78 W	60Bon	QTowF	
01-Oct-09	6:17	64	2	M8W	BON040	80	62 11.96 N	175 08.78 W	CAT	CAT	
01-Oct-09	8:17	65	1	M8N	CTD071	73	62 25.02 N	174 42.44 W	CTDB	Chlor, CTD, Fluor, PAR	mooring site 8 north corner
01-Oct-09	8:41	65	2	M8N	BON041	73	62 25.25 N	174 42.61 W	20Bon	QTowF	mooring site 8 North corner

Cruise Summary For FOCI Cruise 2MF09 (MF0904L2)

Date (GMT)	Time (GMT)	Statio	Hau	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
01-Oct-09	8:41	65	2	M8N	BON041	73	62 25.25 N	174 42.61 W	60Bon	QTowF	mooring site 8 North corner
01-Oct-09	8:41	65	2	M8N	BON041	73	62 25.25 N	174 42.61 W	CAT	CAT	mooring site 8 North corner
01-Oct-09	11:56	66	1	M8E	CTD072	69	62 12.14 N	174 18.26 W	CTDB	Chlor, CTD, Fluor, PAR	Mooring site 8 east corner
01-Oct-09	12:17	66	2	M8E	BON042	69	62 12.14 N	174 18.19 W	20Bon	QTowF	mooring site 8 east corner
01-Oct-09	12:17	66	2	M8E	BON042	69	62 12.14 N	174 18.19 W	60Bon	QTowF	mooring site 8 east corner
01-Oct-09	12:17	66	2	M8E	BON042	69	62 12.14 N	174 18.19 W	CAT	CAT	mooring site 8 east corner
01-Oct-09	13:34	67	1	M8	CTD073	74	62 11.65 N	174 38.72 W	CTDB	Chlor, CTD, Fluor, PAR	mooring site 8 center
01-Oct-09	13:58	67	2	M8	CAL010	74	62 11.92 N	174 38.79 W	CalVET	QTowF	mooring site 8 center nets1&2 combined
01-Oct-09	13:58	67	2	M8	CAL010	74	62 11.92 N	174 38.79 W	CAT	CAT	
01-Oct-09	14:14	67	3	M8	CAL011	73	62 12.09 N	174 39.14 W	CalVET	QTowF	mooring sit 8 center / nets 1 and 2 combined / net 1 flowmeter low revs
01-Oct-09	14:14	67	3	M8	CAL011	73	62 12.09 N	174 39.14 W	CAT	CAT	mooring sit 8 center / nets 1 and 2 combined / net 1 flowmeter low revs
01-Oct-09	14:32	67	4	M8	CAL012	74	62 12.18 N	174 39.62 W	CalVET	QTowF	mooring site 8 center / nets 1 and 2 combined
01-Oct-09	14:32	67	4	M8	CAL012	74	62 12.18 N	174 39.62 W	CAT	CAT	mooring site 8 center / nets 1 and 2 combined
01-Oct-09	15:05	67	5	M8	BON043	74	62 12.13 N	174 40.66 W	20Bon	QTowF	mooring site 8 center
01-Oct-09	15:05	67	5	M8	BON043	74	62 12.13 N	174 40.66 W	60Bon	QTowF	mooring site 8 center
01-Oct-09	15:05	67	5	M8	BON043	74	62 12.13 N	174 40.66 W	CAT	CAT	mooring site 8 center
01-Oct-09	18:08	67	6	M8		74	62 11.86 N	174 41.06 W	Moor	Recovery	Mooring site 8. Recover 09BSV-8A
01-Oct-09	20:01	67	7	M8		74	62 11.57 N	174 40.95 W	Moor	Recovery	Mooring site 8 - recover 08BS-8A
01-Oct-09	21:44	67	8	M8		74	62 11.70 N	174 39.79 W	Moor	Recovery	Mooring recovery 08BSP-8A
01-Oct-09	23:51	67	9	M8		74	62 11.61 N	174 40.05 W	Moor	Deploy	Mooring deployed 09BS-8a
02-Oct-09	0:52	67	10	M8		74	62 11.75 N	174 39.54 W	Moor	Deploy	Mooring deployed 09BSP-8A
02-Oct-09	1:12	67	11	M8	CTD074	74	62 11.67 N	174 39.38 W	CTDB	Chlor, CTD, Fluor, PAR	
02-Oct-09	18:29	68	1	SL1BB	CTD075	34	61 44.96 N	168 30.00 W	CTDB	Chlor, CTD, Fluor, PAR	
02-Oct-09	18:47	68	2	SL1BB	BON044	34	61 44.98 N	168 29.36 W	20Bon	QTowF	
02-Oct-09	18:47	68	2	SL1BB	BON044	34	61 44.98 N	168 29.36 W	60Bon	QTowF	
02-Oct-09	18:47	68	2	SL1BB	BON044	34	61 44.98 N	168 29.36 W	CAT	CAT	
02-Oct-09	21:17	69	1	SL1AA	CTD076	40	61 48.07 N	169 10.50 W	CTDB	Chlor, CTD, Fluor, PAR	
03-Oct-09	17:34	70	1	SL1	CTD077	45	61 50.93 N	169 51.08 W	CTDB	Chlor, CTD, Fluor, PAR	
03-Oct-09	17:51	70	2	SL1	BON045	45	61 50.86 N	169 51.52 W	20Bon	QTowF	
03-Oct-09	17:51	70	2	SL1	BON045	45	61 50.86 N	169 51.52 W	60Bon	QTowF	
03-Oct-09	17:51	70	2	SL1	BON045	45	61 50.86 N	169 51.52 W	CAT	CAT	
03-Oct-09	19:53	71	1	SL2A	CTD078	48	61 53.98 N	170 32.38 W	CTDB	Chlor, CTD, Fluor, PAR	
03-Oct-09	21:59	72	1	SL4A	CTD079	51	61 56.67 N	171 13.88 W	CTDB	Chlor, CTD, Fluor, PAR	
03-Oct-09	22:15	72	2	SL4A	BON046	52	61 56.78 N	171 13.92 W	20Bon	QTowF	20bon net 1 revs are low
03-Oct-09	22:15	72	2	SL4A	BON046	52	61 56.78 N	171 13.92 W	60Bon	QTowF	20bon net 1 revs are low
03-Oct-09	22:15	72	2	SL4A	BON046	52	61 56.78 N	171 13.92 W	CAT	CAT	20bon net 1 revs are low
04-Oct-09	0:20	73	1	SL6A	CTD080	53	61 59.86 N	171 55.08 W	CTDB	Chlor, CTD, Fluor, PAR	

Cruise Summary For FOCI Cruise 2MF09 (MF0904L2)

Date (GMT)	Time (GMT)	Statio	Hau	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
04-Oct-09	2:28	74	1	SL8A	CTD081	55	62 02.50 N	172 36.53 W	CTDB	Chlor, CTD, Fluor, PAR	
04-Oct-09	2:46	74	2	SL8A	BON047	55	62 02.69 N	172 36.63 W	20Bon	QTowF	
04-Oct-09	2:46	74	2	SL8A	BON047	55	62 02.69 N	172 36.63 W	60Bon	QTowF	
04-Oct-09	2:46	74	2	SL8A	BON047	55	62 02.69 N	172 36.63 W	CAT	CAT	
04-Oct-09	5:05	75	1	SL9A	CTD082A	60	62 05.81 N	173 17.37 W	CTDB	Chlor, CTD, Fluor, PAR	
04-Oct-09	7:32	76	1	SL11A	CTD083A	65	62 08.38 N	173 58.38 W	CTDB	Chlor, CTD, Fluor, PAR	
04-Oct-09	7:51	76	2	SL11A	BON048	64	62 08.66 N	173 58.50 W	20Bon	Discard	Tow was stopped at surface, bongo net 2 came off frame
04-Oct-09	7:51	76	2	SL11A	BON048	64	62 08.66 N	173 58.50 W	60Bon	Discard	Tow was stopped at surface, bongo net 2 came off frame
04-Oct-09	7:51	76	2	SL11A	BON048	64	62 08.66 N	173 58.50 W	CAT	CAT	Tow was stopped at surface, bongo net 2 came off frame
04-Oct-09	8:07	76	3	SL11A	BON048A	65	62 08.99 N	173 59.08 W	20Bon	QTowF	
04-Oct-09	8:07	76	3	SL11A	BON048A	65	62 08.99 N	173 59.08 W	60Bon	QTowF	
04-Oct-09	8:07	76	3	SL11A	BON048A	65	62 08.99 N	173 59.08 W	CAT	CAT	
04-Oct-09	9:33	77	1	SL12A	CTD084	68	62 12.10 N	174 17.09 W	CTDB	Chlor, CTD, Fluor, PAR	
04-Oct-09	10:56	78	1	SL12	CTD085	73	62 12.12 N	174 37.31 W	CTDB	Chlor, CTD, Fluor, PAR	
04-Oct-09	12:43	79	1	SL14	CTD086	79	62 11.97 N	175 09.01 W	CTDB	Chlor, CTD, Fluor, PAR	
04-Oct-09	14:11	80	1	SL15	CTD087	84	62 11.72 N	175 32.60 W	CTDB	Chlor, CTD, Fluor, PAR	
04-Oct-09	14:33	80	2	SL15	BON049	85	62 11.89 N	175 32.75 W	20Bon	QTowF	
04-Oct-09	14:33	80	2	SL15	BON049	85	62 11.89 N	175 32.75 W	60Bon	QTowF	
04-Oct-09	14:33	80	2	SL15	BON049	85	62 11.89 N	175 32.75 W	CAT	CAT	
04-Oct-09	15:54	81	1	SL16	CTD088	92	62 11.78 N	175 55.85 W	CTDB	Chlor, CTD, Fluor, PAR	
05-Oct-09	5:05	82	1	MN18	CTD089	144	59 54.06 N	178 11.93 W	CTDB	Chlor, CTD, Fluor, PAR	
05-Oct-09	7:12	83	1	MN17	CTD090	138	59 53.84 N	177 35.72 W	CTDB	Chlor, CTD, Fluor, PAR	
05-Oct-09	7:33	83	2	MN17	BON050	138	59 53.85 N	177 36.10 W	20Bon	QTowF	
05-Oct-09	7:33	83	2	MN17	BON050	138	59 53.85 N	177 36.10 W	60Bon	QTowF	
05-Oct-09	7:33	83	2	MN17	BON050	138	59 53.85 N	177 36.10 W	CAT	CAT	
05-Oct-09	9:45	84	1	MN16	CTD091	136	59 54.25 N	177 00.35 W	CTDB	Chlor, CTD, Fluor, PAR	
05-Oct-09	11:59	85	1	MN15	CTD092	140	59 54.14 N	176 24.22 W	CTDB	Chlor, CTD, Fluor, PAR	
05-Oct-09	12:23	85	2	MN15	BON051	140	59 53.82 N	176 24.23 W	20Bon	QTowF	4 jellies removed form 60Bon net 1
05-Oct-09	12:23	85	2	MN15	BON051	140	59 53.82 N	176 24.23 W	60Bon	QTowF	4 jellies removed form 60Bon net 1
05-Oct-09	12:23	85	2	MN15	BON051	140	59 53.82 N	176 24.23 W	CAT	CAT	4 jellies removed form 60Bon net 1
05-Oct-09	14:26	86	1	MN14	CTD093	130	59 54.09 N	175 48.33 W	CTDB	Chlor, CTD, Fluor, PAR	
05-Oct-09	16:27	87	1	MN13	CTD094	120	59 54.10 N	175 11.39 W	CTDB	Chlor, CTD, Fluor, PAR	
05-Oct-09	16:47	87	2	MN13	BON052	120	59 54.09 N	175 11.54 W	20Bon	QTowF	3 jellies removed from 60Bon net 1. 1 jelly removed from 20Bon net 1.
05-Oct-09	16:47	87	2	MN13	BON052	120	59 54.09 N	175 11.54 W	60Bon	QTowF	3 jellies removed from 60Bon net 1. 1 jelly removed from 20Bon net 1.
05-Oct-09	16:47	87	2	MN13	BON052	120	59 54.09 N	175 11.54 W	CAT	CAT	3 jellies removed from 60Bon net 1. 1 jelly removed from 20Bon net 1.

Cruise Summary For FOCI Cruise 2MF09 (MF0904L2)

Date (GMT)	Time (GMT)	Statio	Hau	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
05-Oct-09	18:40	88	1	MN12	CTD095	112	59 54.04 N	174 35.75 W	CTDB	Chlor, CTD, Fluor, PAR	
05-Oct-09	20:35	89	1	MN11	CTD096	102	59 53.87 N	173 59.42 W	CTDB	Chlor, CTD, Fluor, PAR	
05-Oct-09	21:00	89	2	MN11	BON053	102	59 54.12 N	173 59.57 W	20Bon	QTowF	
05-Oct-09	21:00	89	2	MN11	BON053	102	59 54.12 N	173 59.57 W	60Bon	QTowF	
05-Oct-09	21:00	89	2	MN11	BON053	102	59 54.12 N	173 59.57 W	CAT	CAT	
05-Oct-09	22:53	90	1	MN10	CTD097	86	59 54.06 N	173 24.03 W	CTDB	Chlor, CTD, Fluor, PAR	
06-Oct-09	0:52	91	1	MN9	CTD098	74	59 54.15 N	172 48.82 W	CTDB	Chlor, CTD, Fluor, PAR	Preserved jar from 0 meter bottle for Coccolithophores
06-Oct-09	1:10	91	2	MN9	BON054	74	59 54.17 N	172 48.84 W	20Bon	QTowF	
06-Oct-09	1:10	91	2	MN9	BON054	74	59 54.17 N	172 48.84 W	60Bon	QTowF	
06-Oct-09	1:10	91	2	MN9	BON054	74	59 54.17 N	172 48.84 W	CAT	CAT	
06-Oct-09	3:06	92	1	MN8	CTD099	73	59 53.92 N	172 11.89 W	CTDB	Chlor, CTD, Fluor, PAR	Preserved jar from 0 meter bottle for Coccolithophores
06-Oct-09	4:58	93	1	MN7	CTD100	71	59 54.02 N	171 35.66 W	CTDB	Chlor, CTD, Fluor, PAR	
06-Oct-09	5:13	93	2	MN7	BON055	71	59 54.00 N	171 35.92 W	20Bon	QTowF	
06-Oct-09	5:13	93	2	MN7	BON055	71	59 54.00 N	171 35.92 W	60Bon	QTowF	
06-Oct-09	5:13	93	2	MN7	BON055	71	59 54.00 N	171 35.92 W	CAT	CAT	
06-Oct-09	7:07	94	1	MN6	CTD101	70	59 53.90 N	170 59.79 W	CTDB	Chlor, CTD, Fluor, PAR	
06-Oct-09	9:02	95	1	MN5	CTD102	63	59 53.98 N	170 23.84 W	CTDB	Chlor, CTD, Fluor, PAR	
06-Oct-09	9:19	95	2	MN5	BON056	63	59 53.95 N	170 23.97 W	20Bon	QTowF	
06-Oct-09	9:19	95	2	MN5	BON056	63	59 53.95 N	170 23.97 W	60Bon	QTowF	
06-Oct-09	9:19	95	2	MN5	BON056	63	59 53.95 N	170 23.97 W	CAT	CAT	
06-Oct-09	11:14	96	1	MN4	CTD103	52	59 53.81 N	169 48.34 W	CTDB	Chlor, CTD, Fluor, PAR	
06-Oct-09	13:08	97	1	MN3	CTD104	45	59 53.73 N	169 12.34 W	CTDB	Chlor, CTD, Fluor, PAR	
06-Oct-09	13:20	97	2	MN3	BON057	45	59 53.84 N	169 12.37 W	20Bon	QTowF	
06-Oct-09	13:20	97	2	MN3	BON057	45	59 53.84 N	169 12.37 W	60Bon	QTowF	
06-Oct-09	13:20	97	2	MN3	BON057	45	59 53.84 N	169 12.37 W	CAT	CAT	
06-Oct-09	15:14	98	1	MN2	CTD105	39	59 54.09 N	168 35.97 W	CTDB	Chlor, CTD, Fluor, PAR	
06-Oct-09	15:26	99	1	MN1	CTD106	30	59 54.08 N	168 35.32 W	CTDB	Chlor, CTD, Fluor, PAR	
06-Oct-09	17:19	99	2	MN1	BON058	30	59 54.05 N	168 00.22 W	20Bon	QTowF	
06-Oct-09	17:19	99	2	MN1	BON058	30	59 54.05 N	168 00.22 W	60Bon	QTowF	
06-Oct-09	17:19	99	2	MN1	BON058	30	59 54.05 N	168 00.22 W	CAT	CAT	
07-Oct-09	22:00	100	1	CN2	CTD107	47	57 38.18 N	163 16.57 W	CTDB	Chlor, CTD, Fluor, PAR	
07-Oct-09	22:17	100	2	CN2	BON059	47	57 38.03 N	163 16.15 W	20Bon	QTowF	
07-Oct-09	22:17	100	2	CN2	BON059	47	57 38.03 N	163 16.15 W	60Bon	QTowF	
07-Oct-09	22:17	100	2	CN2	BON059	47	57 38.03 N	163 16.15 W	CAT	CAT	
08-Oct-09	0:33	101	1	CN3	CTD108	53	57 22.76 N	163 31.89 W	CTDB	Chlor, CTD, Fluor, PAR	
08-Oct-09	2:28	102	1	CN4	CTD109	67	57 07.76 N	163 47.79 W	CTDB	Chlor, CTD, Fluor, PAR	
08-Oct-09	2:45	102	2	CN4	BON060	67	57 07.84 N	163 47.62 W	20Bon	QTowF	

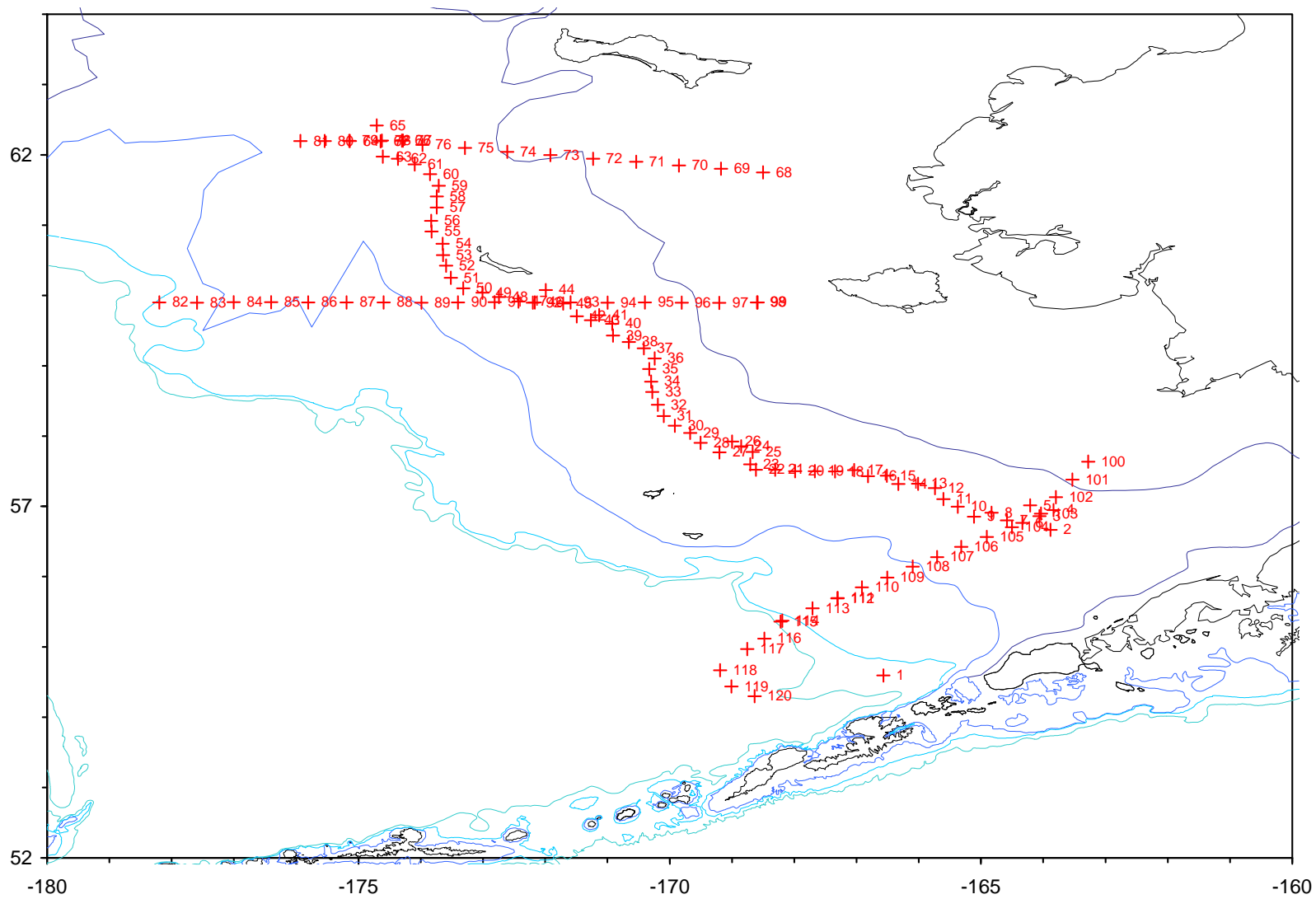
Cruise Summary For FOCI Cruise 2MF09 (MF0904L2)

Date (GMT)	Time (GMT)	Statio	Hau	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
08-Oct-09	2:45	102	2	CN4	BON060	67	57 07.84 N	163 47.62 W	60Bon	QTowF	
08-Oct-09	2:45	102	2	CN4	BON060	67	57 07.84 N	163 47.62 W	CAT	CAT	
08-Oct-09	5:08	103	1	CN5	CTD110	72	56 53.88 N	164 02.14 W	CTDB	Chlor, CTD, Fluor, PAR	
08-Oct-09	8:40	104	1	CN6	CTD111	76	56 42.15 N	164 30.16 W	CTDB	Chlor, CTD, Fluor, PAR	
08-Oct-09	8:55	104	2	CN6	BON061	76	56 42.18 N	164 29.93 W	20Bon	QTowF	3 jellies removed from 60Bon net 1.
08-Oct-09	8:55	104	2	CN6	BON061	76	56 42.18 N	164 29.93 W	60Bon	QTowF	3 jellies removed from 60Bon net 1.
08-Oct-09	8:55	104	2	CN6	BON061	76	56 42.18 N	164 29.93 W	CAT	CAT	3 jellies removed from 60Bon net 1.
08-Oct-09	10:38	105	1	CN7	CTD112	78	56 33.77 N	164 54.35 W	CTDB	Chlor, CTD, Fluor, PAR	
08-Oct-09	12:16	106	1	CN8	CTD113	85	56 25.39 N	165 19.01 W	CTDB	Chlor, CTD, Fluor, PAR	
08-Oct-09	12:38	106	2	CN8	BON062	85	56 25.17 N	165 18.95 W	20Bon	QTowF	
08-Oct-09	12:38	106	2	CN8	BON062	85	56 25.17 N	165 18.95 W	60Bon	QTowF	
08-Oct-09	12:38	106	2	CN8	BON062	85	56 25.17 N	165 18.95 W	60Bon	QTowF	1 jelly removed from 20Bon and 2 jellies removed
08-Oct-09	12:38	106	2	CN8	BON062	85	56 25.17 N	165 18.95 W	CAT	CAT	from 60Bon
08-Oct-09	14:19	107	1	CN9	CTD114	91	56 16.72 N	165 42.19 W	CTDB	Chlor, CTD, Fluor, PAR	
08-Oct-09	16:02	108	1	CN10	CTD115	109	56 08.51 N	166 05.81 W	CTDB	Chlor, CTD, Fluor, PAR	
08-Oct-09	16:22	108	2	CN10	BON063	109	56 08.44 N	166 05.93 W	20Bon	QTowF	
08-Oct-09	16:22	108	2	CN10	BON063	109	56 08.44 N	166 05.93 W	60Bon	QTowF	
08-Oct-09	16:22	108	2	CN10	BON063	109	56 08.44 N	166 05.93 W	CAT	CAT	
08-Oct-09	18:16	109	1	CN11	CTD116	128	55 59.19 N	166 30.32 W	CTDB	Chlor, CTD, Fluor, PAR	
08-Oct-09	20:11	110	1	CN12	CTD117	135	55 50.87 N	166 54.81 W	CTDB	Chlor, CTD, Fluor, PAR	
08-Oct-09	20:33	110	2	CN12	BON064	135	55 50.76 N	166 54.46 W	20Bon	QTowF	
08-Oct-09	20:33	110	2	CN12	BON064	135	55 50.76 N	166 54.46 W	60Bon	QTowF	
08-Oct-09	20:33	110	2	CN12	BON064	135	55 50.76 N	166 54.46 W	CAT	CAT	
08-Oct-09	22:21	111	1	CN13	CTD118	137	55 41.78 N	167 18.26 W	CTDB	Chlor, CTD, Fluor, PAR	
09-Oct-09	9:11	112	1	CN13	CTD119	137	55 41.49 N	167 18.28 W	CTD	CTD, Fluor, PAR	
09-Oct-09	11:09	113	1	CN14	CTD120	136	55 32.91 N	167 42.38 W	CTDB	Chlor, CTD, Fluor, PAR	
09-Oct-09	11:47	113	2	CN14	BON065	137	55 33.19 N	167 41.70 W	20Bon	QTowF	
09-Oct-09	11:47	113	2	CN14	BON065	137	55 33.19 N	167 41.70 W	60Bon	QTowF	
09-Oct-09	11:47	113	2	CN14	BON065	137	55 33.19 N	167 41.70 W	CAT	CAT	
09-Oct-09	14:23	114	1	CN16	CTD121	551	55 22.45 N	168 11.49 W	CTDB	Chlor, CTD, Fluor, PAR	
09-Oct-09	16:53	115	1	CN17	CTD122	1039	55 21.60 N	168 13.09 W	CTDB	Chlor, CTD	
09-Oct-09	17:37	115	2	CN17	BON066	966	55 21.67 N	168 12.69 W	20Bon	QTowF	
09-Oct-09	17:37	115	2	CN17	BON066	966	55 21.67 N	168 12.69 W	60Bon	QTowF	
09-Oct-09	17:37	115	2	CN17	BON066	966	55 21.67 N	168 12.69 W	CAT	CAT	
09-Oct-09	20:19	116	1	CN19	CTD123	1715	55 06.99 N	168 28.77 W	CTDB	Chlor, CTD	No 0 m bottle was tripped
09-Oct-09	23:00	117	1	CN20	CTD124	2018	54 58.22 N	168 45.38 W	CTDB	Chlor, CTD	
10-Oct-09	0:03	117	2	CN20	BON067	2035	54 57.94 N	168 45.55 W	20Bon	QTowF	
10-Oct-09	0:03	117	2	CN20	BON067	2035	54 57.94 N	168 45.55 W	60Bon	QTowF	

Cruise Summary For FOCI Cruise 2MF09 (MF0904L2)

Date (GMT)	Time (GMT)	Statio	Hau	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
10-Oct-09	0:03	117	2	CN20	BON067	2035	54 57.94 N	168 45.55 W	CAT	CAT	
10-Oct-09	3:08	118	1	CN21	CTD125	1688	54 40.10 N	169 11.42 W	CTDB	Chlor, CTD	
10-Oct-09	5:59	119	1	CN22	CTD126	1666	54 26.27 N	169 00.61 W	CTDB	Chlor, CTD	
10-Oct-09	8:48	120	1	CN23	CTD127	1806	54 18.00 N	168 38.16 W	CTDB	Chlor, CTD	

Chartlet:



2MF09 Stations